

# STATE OF COLORADO

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Colorado Department  
of Public Health  
and Environment

## Emergency Medical and Trauma Services System Annual Legislative Report

Submitted to the Colorado Legislature  
By the Emergency Medical and Trauma Services Section  
Health Facilities and Emergency Medical Services Division  
Colorado Department of Public Health and Environment

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State Emergency Medical and Trauma Services Advisory Council

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## **Executive Summary**

As a vital part of the statewide provision of health care services, Colorado's emergency medical and trauma services system provides transportation and immediate care to the sick and injured 24 hours a day, 365 days a year. Emergency medical and trauma care services are defined as the immediate health care services needed as a result of an injury or sudden illness, particularly when there is a threat to life or long-term functional abilities. The emergency medical and trauma services system also provides transportation of patients in non-emergency situations and supports long-term patient care goals. Patient survival depends on several factors, including the availability of appropriately trained health care providers and properly equipped and positioned ambulances, rescue units, trauma centers, general hospitals and other specialized health care facilities that are capable of treating time-sensitive, acute conditions such as injury, stroke and heart attacks. Colorado's coordinated emergency medical and trauma services system offers timely preventive, acute and rehabilitative health care services for the state's residents and visitors.

Each year, the emergency medical service (EMS) agencies in Colorado transport and provide high quality medical care to approximately 450,000 patients. Of these patients, approximately 23 percent are trauma (injured) patients and 77 percent are patients with medical or psychiatric conditions.

Injuries are the leading cause of death for Coloradans ages 1-44 and the third leading cause of death for all ages. Each year, approximately 3,300 people die from injuries in Colorado; only about a third of the people who die from injuries survive long enough to receive any type of medical care. In addition to injury deaths, nearly 35,000 people are hospitalized for acute injury in Colorado each year. The costs of injury are a significant economic burden. Based on national cost figures from 2000, the department estimates the total annual cost of injury in Colorado to be \$7.3 billion (\$1.5 billion in medical costs and \$5.8 billion in productivity losses). National experience clearly demonstrates that a coordinated and well-developed emergency medical and trauma services system results in a reduction in the number of preventable deaths as well as disability resulting from injury.

The Emergency Medical and Trauma Services Section at the Colorado Department of Public Health and Environment is responsible for reducing morbidity and mortality resulting from sudden illness and injury by overseeing the delivery of emergency medical and trauma services in Colorado. The regulatory responsibilities of the section include the certification of emergency medical technicians (EMTs) and paramedics, the recognition of educational institutions that deliver initial EMT training and continuing education, the licensure of air ambulance agencies, the administration and management of the EMS and Trauma Provider Grants program and the designation of hospitals as trauma centers.

The section improves access to health care services and/or medical interventions through the establishment, maintenance and control of emergency medical and trauma system components. These components are as follows:

- Public Education and Information
- Injury Prevention



- Communications
- Training and Certification of Emergency Medical Technicians
- Transportation Systems, including Air and Ground Ambulance Licensure Standards
- Trauma Center Designation for Acute Care Hospitals and Clinics
- Rehabilitative Care
- Medical Direction
- Disaster Medical Care
- Education and Research
- Trauma Registry and Prehospital Data Collection
- State and Regional Continuing Quality Improvement Systems
- Planning – State Emergency Medical and Trauma Services Advisory Council and Regional Emergency Medical and Trauma Advisory Councils

This report identifies the specific responsibilities of the department and provides a focused discussion of the utilization of state resources available for system development. The report concludes with a more detailed statement about future and ongoing challenges to system development.

The Emergency Medical and Trauma Services Section is funded almost exclusively from the Emergency Medical Services Account of the Highway Users Tax Fund, supplemented by the collection of trauma center designation fees, air ambulance licensure fees and a federal grant to support emergency care for children. Over the past two years, a \$100,000/year grant from the Colorado Department of Transportation has been received to support the integration of data collection and analysis systems regarding highway safety. The 2009 General Assembly passed, and Gov. Bill Ritter signed, Senate Bill 09-002, which added \$1 to the existing \$1 motor vehicle registration fee for support of the state's emergency medical and trauma services system. This bill also approved three additional staff positions within the Emergency Medical and Trauma Services Section. These positions will augment resources dedicated to the trauma, data collection and grant administration programs.

Collection of the \$2 per motor vehicle registration fees began on July 1, 2009. These additional funds will be used to expand grant and funding opportunities to emergency medical service agencies and trauma centers beginning in FY10. Funds will be allocated under the existing authority of the department to support the development of rural, frontier and underdeveloped trauma and emergency medical services systems and will be a keystone to the continued development of improved systems to care for the sick and injured patients in our state. Additionally, these funds will continue to support emergency medical services and trauma agencies in purchasing equipment, vehicles, radios and training as well as addressing the increasing need for personnel to staff ambulances and trauma centers in rural and frontier areas. The continued decline in the numbers of qualified emergency health care providers in frontier, rural and urban areas has long been identified as one of the most significant barriers to ensuring consistent emergency response and quality patient care.

Significant improvements in process and a sharpening of focus have resulted from the close coordination of both administrative and operational resources at the local, regional and state levels of the emergency medical and trauma services system. These many activities are

monitored to ensure that the organizational responsibilities of the Emergency Medical and Trauma Services Section are met with the highest levels of quality and accuracy. With the additional resources of funding and staff, the Emergency Medical and Trauma Services Section has reviewed its organizational processes and will allocate resources to priority projects generated by these new initiatives as well as maintain all core functions. The effectiveness of the Emergency Medical and Trauma Services Section has continued to improve as evidenced by better communication with community stakeholders and through the maintenance of processes that are both predictable and inclusive.

The effectiveness of the Emergency Medical and Trauma Services Section is evidenced by both the successful passage of Senate Bill 09-002 through cooperative coordination with all segments of the stakeholder community and by the completion of a statewide trauma system review conducted by the American College of Surgeons. Completion of these important projects is but the first step in the ongoing effort to support and enhance the state's emergency medical and trauma services system. Implementation of policies derived through these efforts will continue to be a major focus of the Emergency Medical and Trauma Services Section and statewide stakeholder community. Significant effort will be expended to ensure that resources continue to be allocated in ways that maximize patient transportation and care at the local, regional and state levels. Also, the recommendations provided through the American College of Surgeons review will require thoughtful vetting and analysis to ensure that appropriate system improvements are implemented.

In response to the ongoing concern regarding appropriate levels of revenue to support Colorado's emergency medical and trauma services system, during the 2009 legislative session, the EMS and trauma communities came together to support Senate Bill 09-002. The resultant doubling of funding will make an additional \$4.5 million available to trauma and emergency medical services providers in Colorado during fiscal year 2010. Combined with the \$2 million grant funds that have supported the statewide emergency medical and trauma services system since 1989, these funds will greatly enhance the opportunities for rural, frontier and underdeveloped emergency medical services and trauma systems to continue providing quality patient care and transportation.

The Colorado emergency medical and trauma services community, including EMTs, paramedics, nurses, physicians and agency chiefs/administrators, worked together to develop and support this critical increase in funding and is likewise committed to ensuring that these funds will be used as effectively as possible for many years to come. Work began almost immediately following Senate Bill 09-002's passage to develop mechanisms to not only expand funding support for equipment, radios and training, but to develop grant funding mechanisms to address the shortage of trained EMS personnel and medical specialists in many areas of the state. Although this work will take time, the Emergency Medical and Trauma Services Section and its stakeholder process will work to address these opportunities and ensure that use of the funds resulting from Senate Bill 09-002 are maximized to support patient care.

The challenge of continuing to review and update rules in certification, trauma center designation and grant funding remains a focus of the Emergency Medical and Trauma Services Section. Upcoming changes at the national level in EMT scopes of practice and education requirements

will necessitate significant rule changes over the next year. This process has been initiated through the State Emergency Medical and Trauma Services Advisory Council. A stakeholder task force has completed recommendations for changes in Colorado's certification policies to enable the state's compliance with new national EMT education standards that will be implemented over the next three years. A rule revision task force of the State Emergency Medical and Trauma Services Advisory Council will begin the technical development of these rule changes. Since the oversight of EMT and paramedic practice is shared between the Colorado Board of Medical Examiners and the department, these rule changes for certification will also require changes in rules governing the scope of practice for emergency medical services providers. The process for both rule development processes has been initiated and will be completed over the next 12–18 months.

The Emergency Medical and Trauma Services Section regularly conducts assessments of the statewide emergency medical and trauma services system and its components to ensure continued progress. In addition to the statewide trauma system review conducted by the American College of Surgeons, a multi-year effort to conduct a Standardized (Regional) Needs Assessment Project was initiated during fiscal year 2009. Although this project was planned as a three-year project, the availability of additional funding derived from the passage of Senate Bill 09-002 will facilitate completion of this project during fiscal year 2010. At the end of fiscal year 2009, three of Colorado's 11 Regional Emergency Medical and Trauma Advisory Councils completed their needs assessment under this project. The remaining eight Regional Emergency Medical and Trauma Advisory Councils will be reviewed by the end of fiscal year 2010. These assessment projects produce a comprehensive review and evaluation of system components in each of Colorado's regions with a specific focus on regionalized approaches to enhance EMS and trauma systems. Both the Standardized (Regional) Needs Assessment Project and the American College of Surgeons consultative visit are supported by current statutory language and will ultimately result in a comprehensive repository of information reflective of the current status of emergency medical services and trauma systems in the state and provide the basis for strategies to improve these systems. These processes will be key elements in guiding the allocation of resources to support both the EMS and trauma systems across Colorado.

In February 2006, the Emergency Medical and Trauma Services Section began licensing rotary- and fixed-wing ambulances that transport patients from any point within Colorado. At the present time, all Colorado-based air ambulances and several services based outside of the state are licensed. To fulfill licensure requirements, an air ambulance agency must either be accredited by the Commission on Accreditation of Medical Transport Systems or actively pursuing such accreditation as evidenced in writing by the commission. As a result of legislation in 2007, a rule revision process was completed in March 2008 to update the air ambulance licensing rules and maintain consistency with current statutory language. This important function provides a coordinated approach to the provision of air ambulance transportation and makes Colorado one of the leading states in terms of air ambulance regulation. Colorado's air ambulance licensing law has been challenged in federal court by a licensed air ambulance provider. The case is currently before the Tenth Circuit Court of Appeals after the department prevailed on mootness grounds at the district court level. This case will continue to be monitored closely, as the outcome may have a significant impact in Colorado, as well as in the United States.

The development of a comprehensive patient care reporting system by ambulance services has been an ongoing project during the past 10 years and has achieved significant success during the last three years. This project consists of a statewide database where information regarding individual patient care transports by ambulance services is collected and analyzed. Combined with the Colorado Trauma Registry that has been in existence for more than 12 years, these statutorily mandated data systems are pivotal in providing the information necessary for the department, stakeholders and partner organizations to measure the effectiveness of Colorado's emergency medical and trauma services system and to guide policy decision-making at the local, regional and state levels. Since January 1, 2006, more than 870,000 records have been submitted to the state emergency medical services database; since July 1, 1997, nearly 250,000 records have been submitted to the state trauma registry. Approximately 80 percent of the state's 190 ambulance services and 100 percent of the designated trauma centers submit data as required. As both of these databases continue to mature, analysis and use of these data will provide the scientific foundation for system modification that will ultimately lead to additional lives saved in Colorado.

The development of meaningful reports from both the emergency medical services database and the trauma registry for use at the local, regional and state levels continues as more information becomes available. With the addition of a new position to the data program, it is expected that the department's ability to provide timely and accurate data analysis to local and regional providers of emergency care and transportation will expand accordingly. The Emergency Medical and Trauma Services Section's ability to provide technical assistance to rural and frontier agencies will continue to expand as well. Many small rural agencies tend to lack the expertise locally to address technical problems in collecting, transmitting and analyzing data. Combined with additional expertise provided through the section's grants program, the department expects to provide significantly more support to these agencies in the future.

Given the continued potential for natural and/or man-made threats to our state and nation, the significance of ongoing coordination between state and local agencies in the development of multi-casualty plans and emergency response continues to be a vital component of the emergency medical and trauma services system. In August 2008, the Emergency Medical and Trauma Services Section played a contributing role in supporting the state's emergency response readiness during the Democratic National Convention. The Emergency Medical and Trauma Services Section was tasked with developing a comprehensive inventory of ambulance and trauma center resources that could be accessed by multiple users. The system that was designed and implemented provides rapid access to contact information for the state's ambulance and rescue services and remains an operational data source for future needs as might be necessary. The systems and collaborative processes established during the Democratic National Convention have resulted in improved integration of the state's emergency medical services system and the emergency management system that supports Colorado's all-hazards response.

The Emergency Medical and Trauma Services Section, in concert with the Regional Emergency Medical and Trauma Advisory Councils, continues the ongoing work and coordination with emergency managers and the Colorado All Hazards regions to ensure that emergency medical and trauma services resources are appropriately incorporated into state and local plans.

During the last year, the State Emergency Medical and Trauma Services Advisory Council completed a two-year project of strategic planning and reorganization. A revised committee structure has been implemented. This process has resulted in significant change in how issues are developed, considered and implemented. The council will continue to monitor these organizational changes to ensure appropriate effectiveness.

## **Colorado Department of Public Health and Environment Roles and Responsibilities**

The Colorado Department of Public Health and Environment shares regulatory responsibilities for the scope of practice of EMTs and oversight of EMS medical directors with the Colorado Board of Medical Examiners. The responsibility for the licensing of ground ambulances is shared with the governing bodies of Colorado's counties. Additionally, the State Emergency Medical and Trauma Services Advisory Council provides recommendations on department rules, utilization of the funds in the EMS Account, implementation of program activities, and assistance with the identification of system needs and priorities.

As set forth in the Colorado Revised Statutes and regulations promulgated pursuant thereto, the department's primary roles in the development, implementation and monitoring of a statewide emergency medical and trauma care system are as follows:

- Certification of EMTs, including processing applications, issuing certificates, investigating complaints and instituting disciplinary actions against certified EMTs
- Regulation of entities providing emergency medical technician training, including developing curricula, approving course content, monitoring the quality of instruction and investigating complaints involving training centers
- Administration and management of the Emergency Medical and Trauma Services Provider Grants Program
- Provision of community and regional technical support for emergency medical and trauma services across the state in coordination with the Regional Emergency Medical and Trauma Advisory Councils
- Development and implementation of a comprehensive EMS data collection system
- Designation of health care facilities trauma centers
- Analyses of the components' responses to injured patients using quality improvement models
- Licensure of air ambulance services that transport patients in Colorado
- Creation and maintenance of the Colorado Trauma Registry and ambulance data collection systems
- Evaluation of the emergency medical and trauma services system
- Maintenance of standards that address emergency care of children

## Legislative Background

The 1978 *Emergency Medical Services Act*, as amended, gives the department, the Colorado Board of Medical Examiners and individual counties, with advice from the State Emergency Medical and Trauma Services Advisory Council, limited authority to develop a coordinated emergency medical services system. In the original legislation, the department was given the primary responsibilities of certifying EMTs and of approving course content and curriculum prior to an institution providing training programs for EMTs. Additionally, the legislation mandated that all EMTs be subject to medical direction by a licensed physician; thus, the Colorado Board of Medical Examiners was given supervisory authority over medical directors. The Colorado Board of Medical Examiners was also charged with adopting rules defining the authorized acts and medications administered by EMTs. Finally, counties were given the responsibility of inspecting and licensing ground ambulances based in their respective counties.

In 1989, a stable, minimum level of funding for the state's emergency medical services system was established by inclusion of a \$1 fee in each annual motor vehicle registration. This revenue is deposited into the Emergency Medical Services Account of the Highway Users Tax Fund. Until July 1, 2002, the annual appropriation was distributed in a fixed ratio with 60 percent designated for distribution as grants to improve and maintain local emergency medical services systems; 20 percent for county planning and coordination of emergency medical services; and 20 percent for the direct and indirect costs of the department for planning, developing, implementing and maintaining the statewide system.

The *Trauma System Act of 1995* gave authority to the department to provide statewide leadership in the development of a coordinated statewide trauma system. The department, the Board of Health and all Colorado counties, with advice from the State Trauma Advisory Council, shared combined responsibility for system development. The Board of Health and the department established the trauma system's framework with the development of minimum system standards, including standards for hospitals and other health care facilities to become designated trauma centers. Area Trauma Advisory Councils were formed throughout the state in 1998 and were responsible for development of area plans for the coordinated delivery of care to trauma patients in their respective areas.

The *Colorado Emergency Medical and Trauma Services Act of 2000* created a merged state advisory council, the State Emergency Medical and Trauma Services Advisory Council (Appendix A). It also merged the regional efforts of the Area Trauma Advisory Councils and the voluntary efforts of the Emergency Medical Services Regional Councils to create the Regional Emergency Medical and Trauma Advisory Councils (Appendix B and Appendix C). The act also gave the new state council the responsibility of making recommendations for the utilization of the EMS Account funds beginning on July 1, 2002. The required 60/20/20 annual appropriation distribution, described above, was removed at that time, providing more appropriate flexibility in funding system development priorities. Finally, the legislation gave the department authority to designate Level V Trauma Centers and to license air (fixed- and rotor-wing) ambulance services.

In 2001, the Board of Health was given the authority to adopt rules for the utilization of the results of criminal background checks in the certification of EMTs.

In 2002, a technical bill was passed that rectified some housekeeping matters and eliminated inconsistencies as well as clarified the role, responsibilities and funding of the Regional Emergency Medical and Trauma Advisory Councils.

In 2003, legislation was passed implementing recommendations of a 2002 Legislative Audit. The Board of Health was given the authority to promulgate rules that define the review and designation cycles for Colorado's trauma centers. Other legislation removed the option of conducting name-based criminal background checks for EMT certification, instead requiring fingerprint-based criminal history record checks only. It also gave the Board of Health the authority to adopt rules enabling the department to consider crimes of moral turpitude in the certification of EMTs.

In 2005, the legislature passed two important bills affecting the emergency medical and trauma services system. The first bill clarified the licensing requirements of air ambulances in Colorado by requiring accreditation by the Commission on Accreditation of Medical Transport Systems for any air ambulance service transporting patients within or from the state of Colorado. The second bill increased and clarified the powers of the department in the investigation of allegations of misconduct by certified EMTs as well as required the reporting of misconduct by EMS medical directors, EMS agencies and certified EMTs.

In 2007, amendments were made to the air ambulance licensing statute and to the EMT certification statute. The air ambulance licensing statute was amended to clarify that the department may issue a conditional license to an air ambulance service that is actively working toward Commission on Accreditation of Medical Transport Systems accreditation, but has not yet achieved it. The service has two years to achieve the accreditation, after which it will not be issued a license until accreditation is achieved. Additionally, the Board of Health was given authority to promulgate rules defining exigent circumstances that would allow an unlicensed service to pick up patients in Colorado for a particular transport. The EMT certification statute was amended to provide the department with the ability to accept a name-based criminal history report after an applicant for EMT certification has twice submitted to a fingerprint-based report and the FBI or CBI has been unable to classify the fingerprints.

Two significant pieces of legislation were passed by the 2009 General Assembly. Broad support from the EMS and trauma communities led to the passage of Senate Bill 09-002, which added \$1 to the existing \$1 motor vehicle registration fee for support of the state's emergency medical and trauma services system. This bill, signed by Gov. Bill Ritter on May 19, 2009, effectively doubles the level of grant funding available to EMS and trauma agencies through the statewide grants process. These additional funds compensate for the erosion of the dollar's value since 1989 as well as expand support to rural and frontier facilities and agencies in developmental areas previously not addressed due to insufficient funding. Emergency medical and trauma system issues such as personnel, recruitment and retention, improved leadership development and long-term education support can be realized through this additional funding.



House Bill 09-1275, initiated by the Emergency Medical Services Association of Colorado, and recommended by the Legislature's Joint Select Committee on Job Creation and Economic Growth, authorizes the department to issue a provisional 90-day certification to an applicant for EMT certification. This statutory change allows an applicant to practice as an EMT with a provisional certification for up to 90 days while the department is awaiting the results of the applicant's fingerprint-based criminal history record check, which can take from several weeks to several months. The rules developed to implement this legislation will enable EMTs to more quickly begin work, allowing Colorado emergency medical and trauma service agencies more ready access to personnel recruited from other states. Provisional certification, not to exceed 90 days, will be issued to applicants upon request and requires that the applicant document satisfaction of all certification requirements, including a fingerprint-based criminal history record check.

## Part I

### Emergency Medical and Trauma Services Section Funding

#### Emergency Medical and Trauma Services Provider Grant Program

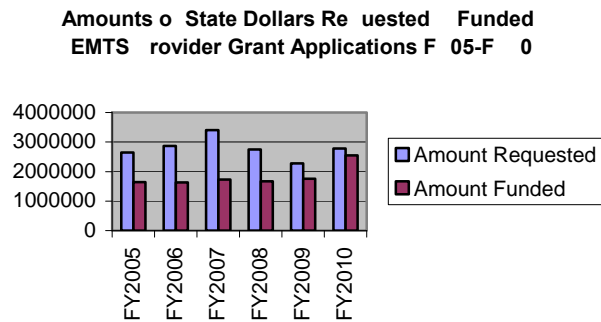
*\*Note – Figures reflect funding authorized prior to the passage of SB 09-002*

The FY10 budget from the Emergency Medical Services Account for the Provider Grants Program, prior to the passage of Senate Bill 09-002, was \$2,914,523, which includes the allocation of a minimum \$150,000 for emergency medical personnel training and \$100,000 reserved for emergency grant awards. The emergency fund was established to provide immediate financial assistance to emergency medical services provider agencies experiencing unexpected problems that compromise their ability to provide emergency medical services.

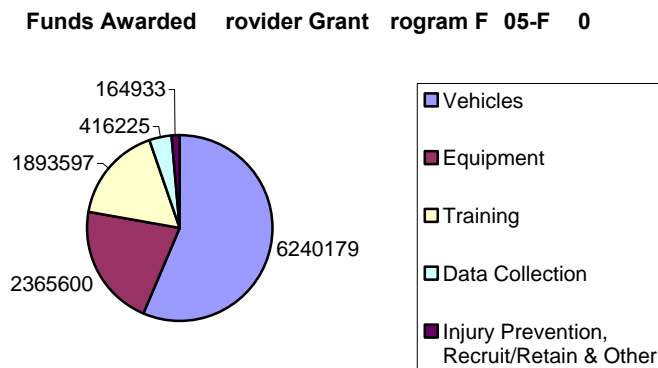
A complete list of the specific grant awards for FY10 can be found in Appendix D. The table below provides a summary of awards made prior to June 30, 2009.

<b>Emergency Medical and Trauma Service Grant Funding 2009-2010</b>		
	<b>Awarded</b>	<b>Award %</b>
<b>Provider Grants</b>		
Emergency vehicles	\$1,397,065	
EMS training	346,943	
Equipment: defibrillation/cardiac monitor, extrication, communication and general EMS and trauma equipment	655,842	
Data collection	132,907	
Injury prevention, recruitment/retention and other	18,766	
Provider Grants Subtotal	2,551,523	88%
Emergency Fund	100,000	3%
<b>Regional/Statewide Projects</b>		
Standardized Regional Needs Assessment	100,000	
EMS Suicide Prevention Project	50,000	
EMS Management/Leadership Seminar	33,000	
Second Annual Safety Summit	25,000	
CPR Directives	20,000	
RETAC Quarterly Forum Project	20,000	
EMS Educator Conference	15,000	
Regional/Statewide Projects Subtotal	263,000	9%
<b>Total</b>	<b>\$2,914,523</b>	<b>100%</b>

For the provider grants portion in FY10, the department received 88 grant applications requesting funding for projects totaling \$2,779,716 (amount requested as grant funding from the state). The department was able to fund 84 of these requests totaling \$2,551,523. Because of the successful passage of SB-09-002, this is the first year that the grant program had sufficient funds to award all appropriate grant applications. The following chart shows this significant impact on FY10 to the previous five years between what is requested and what is funded.



Emergency vehicles, the most requested and most expensive equipment, again topped the list of funded items in FY10. Over the past six years, \$6,240,179 has gone into funding emergency vehicles, thus helping to ensure safe and reliable transport vehicles are available throughout Colorado. Additionally, \$1,893,597 has been awarded to further the education of Colorado's more than 15,000 EMTs.



### Regional and Statewide Funding Projects

The department, in consultation with the State Emergency Medical and Trauma Services Advisory Council, funds regional and statewide projects that improve emergency medical and trauma services and impact multiple emergency medical and trauma service providers in Colorado. The following is a list of these projects slated for implementation in FY10:

- **Standardized (Regional) Needs Assessment Project - \$100,000:** This project, now in its second year, continues to support the active implementation of a standardized assessment of Colorado's 11 Regional Emergency Medical and Trauma Advisory Councils in support of statutory requirements. To date, three of the 11 regions have completed the assessment. The goal of this project is to develop and implement a methodology to conduct emergency medical and trauma services system needs assessments that provides accurate and timely information to counties, each regional council and the department. Originally designed as a three-year project, funds derived from the passage of SB 09-002 will allow this project to be completed during FY10. Thus, this project will be allocated an additional \$100,000 and be fully funded to support the assessment of the eight remaining regions over the next 12 months. This will ensure a more current and robust database of information that will be used to support local and regional emergency medical and trauma system development throughout Colorado.
- **EMS Suicide Prevention Project - \$50,000:** This project will help ensure that all EMS providers receive comprehensive suicide prevention training prior to certification. According to the Colorado Violent Death Reporting System, EMS was called to the scene for at least 80 percent of the 2,353 suicides occurring in Colorado from 2004-2006. Suicide and suicide attempts are difficult situations to respond to because suicide invokes a strong emotional reaction for family members in the aftermath of a completed suicide, for surviving suicide attempters, as well as for EMS providers. It is important that first responders understand the wide range of emotions that can be involved at the scene of a suicide or suicide attempt. The way first responders act at a scene can have a huge impact on everyone involved. At the same time, EMS providers have to know how to take care of themselves. First responders are at high risk of suffering secondary trauma after responding to a suicide. Twenty-three first responders completed suicide in 2004-2006. This underscores the need to educate EMS providers to recognize the risk factors and warning signs associated with suicide so they can assist their colleagues or others that may be struggling with thoughts of suicide.
- **EMS Management/Leadership Seminar - \$33,000:** Through a contract with the Emergency Medical Services Association of Colorado, this project will continue to provide reduced tuition for management training courses for EMS administrators and managers. This project has been well received in prior years and continues to benefit EMS agencies throughout the state. This year's offering will be conducted in multiple locations in Colorado, enhancing attendance by local EMS providers, and will be conducted by nationally recognized experts with a focus on the development of leadership and management skills to enhance individual service effectiveness at the local level.
- **Second Annual Safety Summit - \$25,000:** This project has been developed under the oversight of the State Emergency Medical and Trauma Services Advisory Council's ambulance safety subcommittee. The first annual conference was held in October 2008 in the Denver area and was attended by more than 100 participants as well as a large number of vendors. The expressed objective of the first conference was to develop a list of preferred safety strategies for ambulance vehicle operation. The conference accomplished this objective with the recommendations ultimately being adopted by the council and implemented in the FY10 EMS and trauma grants program. As a direct result of this effort,

ambulances purchased with the assistance of the EMS and trauma grants program must include specific safety equipment. Colorado is one of the first states to adopt this type of policy. This second conference is designed to provide a basis from which agencies can develop best practices, training programs and policies regarding the safe operation of emergency vehicles as well as guidance regarding the design features that improve operational safety for EMS and other emergency workers. The ambulance safety subcommittee, under the guidance of the council, will oversee this project and the expenditure of funds. This year's conference will expand and may include safety discussions of both ground and air ambulance operations.

- **Cardiopulmonary Resuscitation Directives - \$20,000:** This request is designed to support the development and implementation of an educational program for EMS providers pertaining to cardiopulmonary resuscitation directives. In 2008-2009, a task force of EMS providers, members of the Colorado Advanced Directive Consortium, State Emergency Medical and Trauma Services Advisory Council and Regional Emergency Medical and Trauma Advisory Council members, and representatives from the department proposed revisions to the rules regarding the "Implementation and Application of Advance Medical Directives for Cardiopulmonary Resuscitation by Emergency Medical Service Personnel," 6 CCR 1015-2. It is expected that the Board of Health will adopt these rules in late 2009 or early 2010. The requested funds will be utilized to contract with an approved provider for the development of a curriculum designed to educate EMS providers regarding cardiopulmonary resuscitation directives and the changes to the current rule. In addition to curriculum development, the contract will include development of educational materials, supporting educational documents and appropriate audiovisual aids. Due to the large number of EMS providers statewide and the diverse geographical locations of the providers, this funding will also be used to disseminate the educational materials and provide continuing education opportunities in each of the 11 regions.
- **Regional Emergency Medical and Trauma Advisory Council Quarterly Forum Project, Statewide Meetings - \$20,000:** For the past nine years, quarterly Regional Emergency Medical and Trauma Advisory Council meetings have been conducted to enhance the development of the regional councils and offer technical assistance. The department contracts with the regional council selected to host each forum to coordinate the meetings. Department staff, State Emergency Medical and Trauma Services Advisory Council members, regional council coordinators, regional council executive council members, county commissioners and members of the public routinely attend these meetings and provide collective input and direction to support the local implementation of emergency medical and trauma services system goals. This process has been extremely beneficial in terms of improving organizational communications between the Emergency Medical and Trauma Services Section, the Regional Emergency Medical and Trauma Advisory Councils and the State Emergency Medical and Trauma Services Advisory Council. In addition, it has become a medium for the development of strategic goals that will ultimately benefit the entire emergency medical and trauma services system.
- **EMS Educator Conference - \$15,000:** This funding continues the annual educator conference, historically contracted with Health One EMS. Lodging and meal costs are offset

for EMS educators to attend and receive targeted continuing education designed specifically to update training programs and teachers who provide both initial and continuing education to Colorado's EMS providers. The value of this effort is evidenced by the outstanding support shown by Colorado EMS educators who have participated to date, and every effort should be made to ensure that important information regarding the education of EMTs at all levels continues. This is the only statewide continuing education offering targeted to address the needs of EMS educators.

## **Regional Emergency Medical and Trauma Advisory Council Development**

### **Summary of Legislation**

The *Colorado Emergency Medical and Trauma Services Act of 2000* created Regional Emergency Medical and Trauma Advisory Councils. There are 11 Regional Emergency Medical and Trauma Advisory Councils. Each regional council consists of a minimum of five counties (Appendices B and C) with the board members being appointed by the counties that make up the region.

Regional councils are responsible for creating, supporting and implementing a regional plan for improving the delivery of emergency medical and trauma care at the local/county level. These efforts will be further refined during the coming year, and appropriate adjustments will be made as data become available. At a minimum, each regional council must

- provide a biennial plan that details the regional emergency medical services plan;
- provide an annual financial report that details the expenditures of money received.

The State Emergency Medical and Trauma Services Advisory Council reviews the plan and financial reports.

### **Current Funding Distribution**

Based on the *Colorado Emergency Medical and Trauma Services Act*, since July 1, 2002, each regional council has received annually \$75,000 plus \$15,000 for each county within the region. These funds are for administrative costs, planning and, to the extent possible, the coordination of services in and between counties. Total FY10 funding for the Regional Emergency Medical and Trauma Advisory Council is \$1,785,000. (Appendix E)

## **Trauma Center Designation**

### **Summary of Legislation**

In 1995, trauma system legislation created a Trauma System Cash Fund and authorized the Board of Health to establish a schedule of fees based on the direct and indirect costs incurred in the designation of trauma centers. The fee schedule was adopted in January 1998, with the collection of fees beginning in April 1998; the fee structure has not been changed since that time. However, a fee-setting project is beginning with a planned implementation date of July 2011 for fee

adjustments. This project will include the development of a model, based on 10 years of experience, to estimate costs for trauma designation. This model then can be used for future and more frequent setting of appropriate fees.

Senate Bill 09-002, passed by the 2009 General Assembly, adds \$1 to the existing motor vehicle licensing fee to support the emergency medical and trauma services system. The majority of the funding will go back to rural and frontier areas of the state to fund improvements in the emergency medical and trauma services system; however, there are three additional staff positions established within the Emergency Medical and Trauma Services Section as a part of Senate Bill 09-002. One of those positions will focus on trauma system development including providing technical assistance to facilities that enter a plan of correction for regulatory deficiencies, providing on-site training to rural and frontier facilities on trauma quality improvement and quality trauma care, and working with the trauma system as a whole to establish better trauma quality indicators.

This new position will fill one of the greatest needs in the current trauma system and address a gap that has existed since the establishment of a system. This gap was identified as a priority need in the recent American College of Surgeons Trauma System Consultation (May 2009.) In addition, another of the three positions will be working with trauma and EMS data to assist the section and, more importantly, the community with using the data collected to understand and improve the emergency medical and trauma services system.

Several other gaps still exist, as the original legislation and fee-setting did not anticipate the costs associated with system development, including rule development/modification, processing of appeals or waiver requests, attorney fees and provision of training and technical assistance. Such activities are included in the jobs of current employees but occur at a slower pace than they would if they were adequately funded and staffed.

### Current Funding Distribution

The FY09 spending authority for trauma designation includes site review teams; administrative costs, including the cost of providing a state observer; rule development; system development and assessment; and the indirect cost assessment.

During the past year, a grant to fund a trauma system consultation visit was successfully secured and implemented. The Caring For Colorado Foundation provided funding for the American College of Surgeons to bring a review team to Colorado to assist in planning for the next stages in Colorado's trauma system development. The consultation visit occurred May 17-20, 2009. The Emergency Medical and Trauma Services Section and stakeholders developed a 120-page history and analysis of the current emergency medical and trauma system. More than 140 constituents attended or submitted written comments to the team for its analysis. The team prepared a list of recommendations for the state to consider and presented several of the key recommendations to the community on May 20. The team continued its report-writing through the end of the fiscal year. A final version of the written report

([http://www.cdph.state.co.us/em/traumaconsultation/Colorado\\_TSC\\_Report\\_Final.pdf](http://www.cdph.state.co.us/em/traumaconsultation/Colorado_TSC_Report_Final.pdf)) was received by the department and released to the emergency medical and trauma community on

August 27, 2009. A task force of constituents, members of the State Emergency Medical and Trauma Services Advisory Council and subject matter experts was appointed to serve as the organizational body to receive the report, analyze the recommendations and develop a statewide strategy to address the American College of Surgeons recommendations. This group began its deliberation in September 2009 and will have a report for the state council and the department in early 2010.



## **Part II**

### **Evaluation of the Emergency Medical and Trauma Services System**

The following sections briefly describe the status of each component of Colorado's emergency medical and trauma services system. Each section includes the contributions made toward system development by the department's Emergency Medical and Trauma Services Section, working in coordination with the State Emergency Medical and Trauma Services Advisory Council and the Regional Emergency Medical and Trauma Advisory Councils. The components are as follows:

- Public Education and Information
- Injury Prevention
- Communications Systems
- Training and Certification of Emergency Medical Technicians
- Transportation Systems, Including Air and Ground Ambulance Licensure Standards
- Trauma Center Designation for Acute Care Hospitals and Clinics
- Rehabilitative Care
- Medical Direction
- Disaster Medical Care
- Education and Research
- Trauma Registry and EMS Data Collection
- State and Regional Continuing Quality Improvement Systems
- Planning by the State Emergency Medical Trauma Services Advisory Council and Regional Emergency Medical and Trauma Advisory Councils

#### **Public Education and Information**

Since the July 2005 inaugural edition of its newsletter *On the Scene: Covering EMS and Trauma in Colorado*, the Emergency Medical and Trauma Services Section has incorporated regular articles from the Regional Emergency Medical and Trauma Advisory Council coordinators, the section chief and the state Emergency Medical and Trauma Services Section medical director. In addition, the publication includes guest columns; agency highlights; injury prevention and recruitment/retention spotlights; data collection highlights and trends; upcoming events; and other timely, pertinent emergency medical and trauma service-related information. The newsletter serves as a direct communication between the department and emergency medical and trauma service providers and has been well received by the communities of interest throughout Colorado. The Emergency Medical and Trauma Services Section also keeps its website current, participates in town hall style meetings and issues press releases for news and events the public might find useful.

#### **Current Activities:**

- The section continues to distribute press releases as appropriate based on current news and events.
- The section's website, located at [www.coems.info](http://www.coems.info), continues to grow and expand. Recent additions to the site include the Web portal, which allows anyone to check the current

certification of Colorado EMTs, complete an agency profile or complete a grant application. The most recent version of the EMT Certification Application is always available at this website, as are draft rules and regulations, information on upcoming meetings and general information that stakeholders will find useful. Section staff ensures that the site contains timely and useful information.

- The section's quarterly newsletter, *On the Scene*, is distributed through e-mail and is posted to the Internet at [www.coems.info](http://www.coems.info). The newsletter contains feature articles on emergency medical and trauma services issues statewide, as well as regular announcements and program updates.
- "Town hall" style meetings are scheduled in different regions across the state based on local demand for the meetings. They provide a venue for staff and stakeholders to discuss issues of interest at the local level.
- As a follow-up to the intensive communication activities throughout the emergency medical and trauma system during the 2009 legislative session, monthly teleconference calls have been established between the section and Regional Emergency Medical and Trauma Advisory Council coordinators and chairmen and chairwomen. This effort is designed to enhance ongoing communications and information flow between the 11 regions and the section. Combined with the quarterly Regional Emergency Medical and Trauma Advisory Council forum meetings, routine communication between all parties has been greatly enhanced.

#### Opportunities:

- The Emergency Medical and Trauma Services Section continues to raise community-based awareness about the complexities of the emergency medical and trauma services system as well as identify and maintain ongoing support for these activities.
- As the process moves forward of redeveloping the grants program to more accurately address contemporary issues with the newly realized funding, concentrated efforts to keep the statewide emergency medical and trauma community informed of these activities will be a priority.

## Injury Prevention

Injury prevention efforts at the state level are coordinated through the Injury, Suicide and Violence Prevention Unit in the Prevention Services Division at the department. This unit builds capacity and sustainability at the community and state levels by providing culturally appropriate programming, quality technical assistance, and by maintaining diverse community partnerships. The Injury, Suicide and Violence Prevention Unit has 11 staff members who work on a variety of unintentional and intentional injury prevention issues including general unintentional injury prevention, childhood injury prevention, teen driver alliance, elderly fall prevention, suicide prevention, sexual assault prevention, child abuse prevention, and youth and adolescent violence prevention.

Funding for the department's injury prevention activities comes primarily through grants and cooperative agreements between the department and federal agencies such as the Centers for Disease Control and Prevention, Maternal and Child Health, Substance Abuse and Mental Health Services Administration, and the Health Resources and Services Administration. Limited state

general funds are provided to the Office of Suicide Prevention for its activities and to the Injury, Suicide and Violence Prevention Unit for prevention of child abuse. State funds have also been distributed through the Emergency Medical and Trauma Services Provider Grants Program to providers interested in implementing local injury prevention programs.

The Injury, Suicide and Violence Prevention Unit coordinates activities with the trauma community through the Injury Community Planning Group, a standing committee of the State Emergency Medical and Trauma Services Advisory Council. This group meets quarterly to coordinate injury prevention initiatives with Regional Emergency Medical and Trauma Advisory Councils, EMS and trauma providers, facilities, nonprofits, public health organizations and others. In April 2003, the group completed the Colorado Injury Prevention Strategic Plan 2003-2008 (<http://www.cdphe.state.co.us/em/SEMTAC/icpg/IPStrategicPlan.pdf>), which provided a comprehensive framework for injury prevention efforts at both the state and local levels, focusing on broad, system-level initiatives that address the priority needs of all Colorado citizens. This strategic plan was revised and extended in 2008 to serve as a blueprint to guide Colorado's injury prevention activities through 2010. Recognizing that a strategic planning effort cannot solve all of the state's injury prevention issues, the *Revised Colorado Injury Prevention Strategic Plan, 2003–2010* prioritizes the types of injuries to be addressed based on the leading causes of injury deaths and hospitalizations in Colorado. These include motor vehicle-related injuries, falls, suicide and unintentional poisoning.

Recent Injury, Suicide and Violence Prevention Unit programs/projects include the following:

- **Promoting a Marketing Plan for Injury Prevention.** Contents of this plan have been introduced to the injury prevention community through a series of marketing symposia.
- **Teen Motor Vehicle Leadership Alliance.** This multidisciplinary, statewide coalition formed in November 2005 with the purpose of bringing together state agencies, local agencies and private partners concerned about teen driving safety. During the last three years, the alliance has completed its own strategic plan to improve teen motor vehicle safety statewide. Components of the plan include increasing enforcement of Colorado's Graduated Drivers Licensing law, increasing safety belt use statewide and providing technical assistance and consultation to local Colorado communities. Alliance members participate on work groups that focus on social marketing, community programs, legislative issues and technical assistance. Additionally, the alliance works to leverage funding and resources to complete a variety of teen driving safety projects.
- **Marketing Fall Prevention Classes to Older Adults in Faith-Based Congregations.** There is good evidence that community-based group exercise classes focusing on strength and balance prevent older adult falls, but participation by older adults is limited. This pilot project tests a new approach to promote participation in group balance-retraining exercise classes, using social marketing to target older adults in faith-based congregations.
- **Project Safety Net.** The Office of Suicide Prevention received a grant from the Substance Abuse and Mental Health Services Administration to facilitate a youth suicide prevention initiative called Project Safety Net. This program has trained more than 2,000 people in Colorado in suicide awareness and intervention skills, in addition to building community networks to connect at-risk youth to care and resources. A robust evaluation

of the suicide awareness and intervention skill training has shown that the training increases adults' confidence and willingness to intervene with youth who are suicidal.

- **Office of Suicide Prevention Grant Program.** The Office of Suicide Prevention was established by the 2000 Colorado General Assembly to reduce the number of suicide deaths in Colorado by providing resources, outreach, training and funding for prevention and intervention activities across the state. Colorado's annual suicide rate declined by 6.5 percent between 1998 and 2007. During this time, the Office of Suicide Prevention has funded several successful projects, including the Pueblo Suicide Prevention Center Hotline. The number of calls coming into the Pueblo Suicide Prevention Hotline increased from 2,018 in 2002 to 6,068 in 2007. The suicide rates in Pueblo remained steady between 2002 and 2007, suggesting that more people are seeking help.

By providing data, technical assistance and education, staff in the Injury, Suicide and Violence Prevention Unit and the Emergency Medical and Trauma Services Section provide support to members of the emergency medical and trauma communities in planning community-based injury prevention activities. Many trauma centers are actively involved in collaborative efforts with organizations in their communities to identify and implement prevention programs that meet local priorities and needs.

## Communication Systems

### Public Access- 911

Public access in the EMS setting is defined as the ability of an individual to secure prompt and appropriate emergency medical care. For nearly 30 years, 911 has been designated as the national emergency telephone number. The single most important piece of information provided during an emergency call is the location of the person(s) requiring help. At 911 communication centers, the caller's telephone number and location are provided automatically. Such systems are called enhanced 911 or E911. Initially, E911 was available to telephone line phones.

In 1996, the Federal Communications Commission acted to improve the E911 service available to cellular telephone users. Wireless E911 is being implemented in two phases.

Phase 1 provides a call-back number and the location of the cellular tower that received the call to a Public Safety Answering Point. Phase 2 requires that caller's latitude and longitude information be provided to the Public Safety Answering Point and, depending upon the technology used, the location accuracy is within 50 meters to 300 meters of the cellular phone location.

All counties in the state have E911 telephone line services. As of July 2009, seven counties were E911 wireless Phase 1 compliant, and 52 were E911 wireless Phase 2 compliant.

In addition to regular telephone lines and cellular phones, a third technology is used to place telephone calls. This technology, known as Voice over Internet Protocol, uses a broadband Internet connection to transport telephone calls. A May 2005 Federal Communications Commission order directs interconnected Voice over Internet Protocol providers to supply E911 services to their customers.

A reliable public safety communications system is an essential component of the overall emergency medical and trauma services system in a catastrophic event. Recent experiences, such as the World Trade Center attacks and the I-35W bridge collapse in Minnesota, highlight the fact that regular telephone lines and cellular phone services are vulnerable to traffic overload. These public access systems may not be available for EMS use during an emergency. A radio-based communications system that has reliable access and provides interoperability between responding agencies is a necessity for a robust EMS communications system.

The existing Colorado Digital Trunked Radio system provides statewide, two-way communications to state government, local government, tribal governments, and a limited number of federal government agencies over a shared communications platform. The Digital Trunked Radio system is based on Association of Public-Safety Communications Officials Project 25 standards. A standards-based system is ranked as the optimum level on the Homeland Security Interoperability Continuum. Standards basing has resulted in multiple manufacturers being able to build equipment for use on the Digital Trunked Radio system and other Association of Public-Safety Communications Officials Project 25 systems.

The Digital Trunked Radio system consists of more than 188 remote tower sites, 1,000 agencies and 47,000 subscriber units throughout the state that are spread across four zones. (Appendix F, page 1.) The Digital Trunked Radio system carried more than 68 million calls in 2008. The zones are networked to form the system. Radio traffic is able to pass between the zones. This allows a radio user to communicate to another user across Colorado. The Digital Trunked Radio Project outlines predicted radio coverage throughout the state. (Appendix F, page 2.)

The Public Safety Interoperable Communications will provide additional funding to support the Colorado Wireless Interoperability Network and Homeland Security grant programs. There are nine additional Digital Trunked Radio tower sites scheduled to be built in the near future. The majority of the tower sites will be constructed in the western and southwestern areas of the state. Future plans include adding a fifth zone controller to increase the system's capacity.

The EMS and Trauma Provider Grants Program has helped improve and expand communications throughout the state. Funding has provided equipment to agencies so they can utilize the Digital Trunked Radio system and is keeping many existing legacy communication systems operational. The department, the State Emergency Medical and Trauma Services Advisory Council and the liaison from the Governor's Office of Information Technology continue to provide technical assistance and financial resources to local communities in improving radio communications.

The Democratic National Convention was supported by two new temporary sites in downtown Denver, including one site on wheels and channel expansions at two existing sites. Communication Services programmed and provided 1,300 loaner radios to participating agencies, including the City and County of Denver. The Digital Trunked Radio system also provided support to the Democratic National Convention Committee during all events, and the public safety communications could not have been supported without the use of the Digital Trunked Radio system.

NetworkFirst, the Harris Enhanced Digital Access Communications Systems interoperability gateway, was permanently expanded prior to the Democratic National Convention. The expansion included the addition of mutual aid talk groups (Green 1 and Green 2 for EMS and Grey for federal interoperability) to the Digital Trunked Radio system for interoperability in routine and emergency situations.

#### Current Activities:

- The Digital Trunked Radio system has zone controllers located in the Denver metropolitan area, north central, south central and western Colorado. The feasibility of adding zone 5 is being evaluated.
- A Wireless Interoperability Network grant is underway and is expected to continue into 2010, in addition to the Public Safety Interoperable Communications grant that has provided funding in 2009.
- The Emergency Medical and Trauma Services Section, through its liaison representative from the Governor's Office of Information Technology, works with emergency medical and trauma services agencies throughout the state to provide ongoing technical assistance and guidance to agencies and hospitals with regard to implementation of the Digital Trunked Radio system.

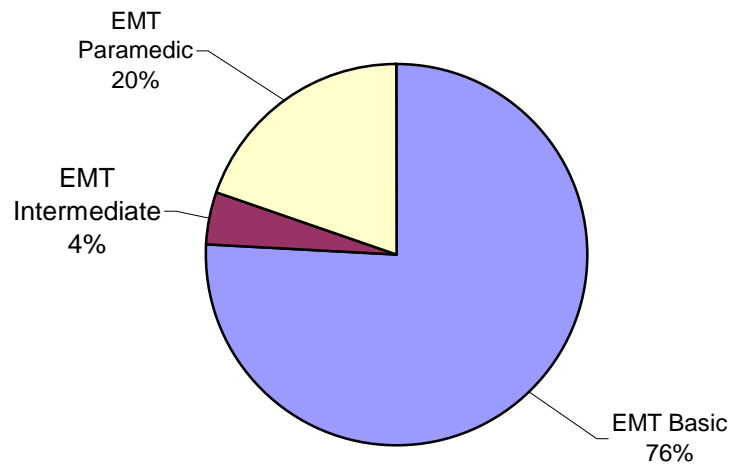
#### Opportunities:

- The current utilization of cell phones, used by ambulance services to communicate directly with hospitals, is a point of vulnerability in the response system. Alternative systems must be in place to support this particular method of ambulance-to-hospital communication.
- There is ongoing discussion about whether to require every Level I – Level V designated trauma center to have installed, at a minimum, one Digital Trunked Radio system radio to be used for transport communications and interoperability during large-scale emergencies. Issues of cost and ongoing maintenance are of concern to local facilities, and efforts continue to seek appropriate mechanisms to meet the interoperability goals.

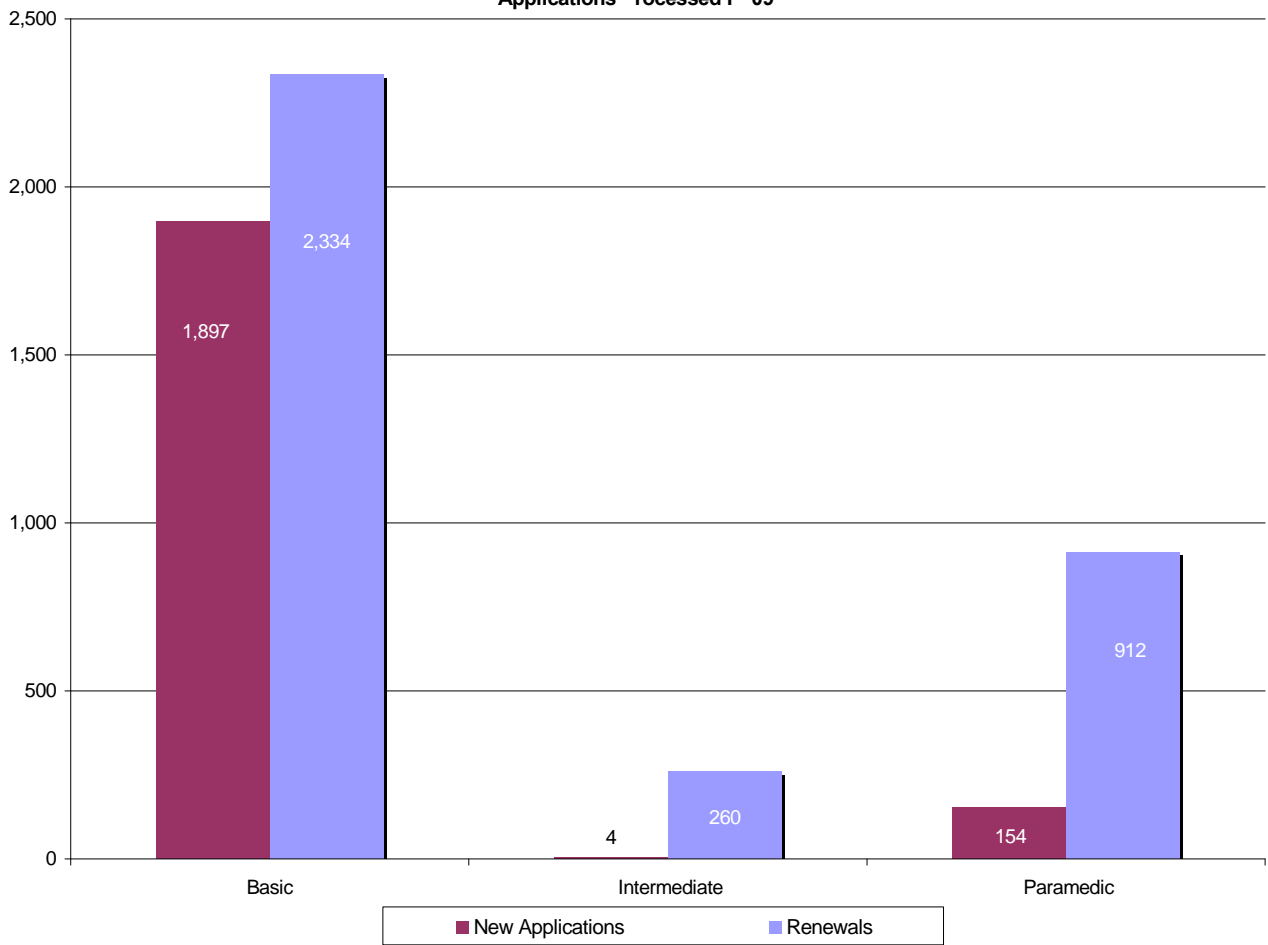
### Training and Certification of Emergency Medical Technicians

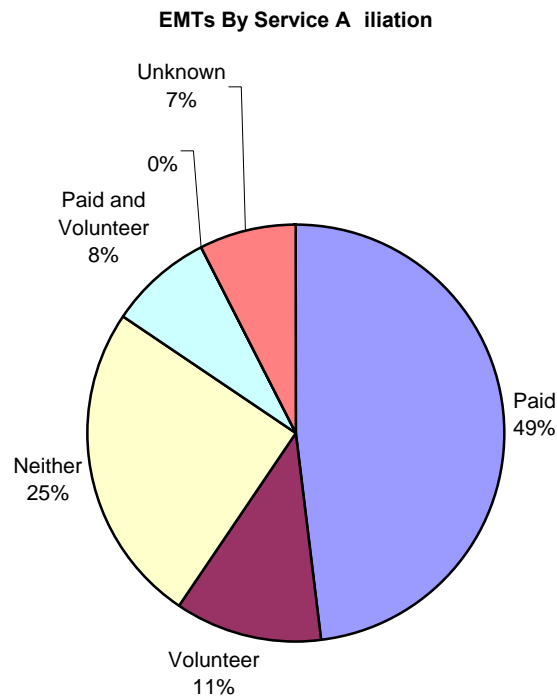
The department is the state agency responsible for the certification of EMTs in Colorado. The department processes approximately 5,500 applications for certification or certification renewal each year for the three practice levels of EMTs: EMT-Basic, EMT-Intermediate and EMT-Paramedic. The department's certification responsibilities include processing applications, developing standards and education requirements for initial certification and certification renewal, investigation of regulatory violations by EMTs, the imposition of disciplinary sanctions, litigation of appeals, and certification determinations resulting from criminal background record checks. The following graphs provide information as to the number of EMTs certified at each level as of June 30, 2009, the number of applications received by the department last year and information on volunteer versus career EMTs.

Total Certified EMTs as of 6/30/09



Applications processed F 09





In addition to EMT certification, the department is responsible for the oversight of 120 programs that provide education for EMTs. The department provides technical assistance to the education programs and supports instructor training programs and curricula approved by the State Emergency Medical and Trauma Services Advisory Council and the Colorado Board of Medical Examiners. During the past fiscal year, updated education standards have been implemented to better define the expectations and directions of Colorado's training programs. These revised standards, based on the standards established by the Commission on Accreditation of Allied Health Education Programs, provide the framework and guidelines for programs providing initial and continuing education at all EMT levels. As new national EMS education standards are implemented across the United States over the next two years, these standards will ensure that Colorado remains at the forefront of contemporary patient care and transportation in the prehospital environment.

Employers and EMTs continue to utilize the online system created in 2009 to verify the status of an EMT's certification, with the service receiving an average of 6,000 hits each month. This automated system is free of charge and simple to use and has continued to provide immediate information to agencies and employers in terms of personnel management at the local level. On two occasions over the last year, the online service was instrumental in alerting employers to fraudulent credentials.

The discipline and enforcement functions of the Emergency Medical and Trauma Services Section continue to require a significant amount of resources. On average, per quarter, 150



background reports and complaints are received that require some level of investigation. Additionally, in the last fiscal year, the department concluded 24 disciplinary actions against certified EMTs.

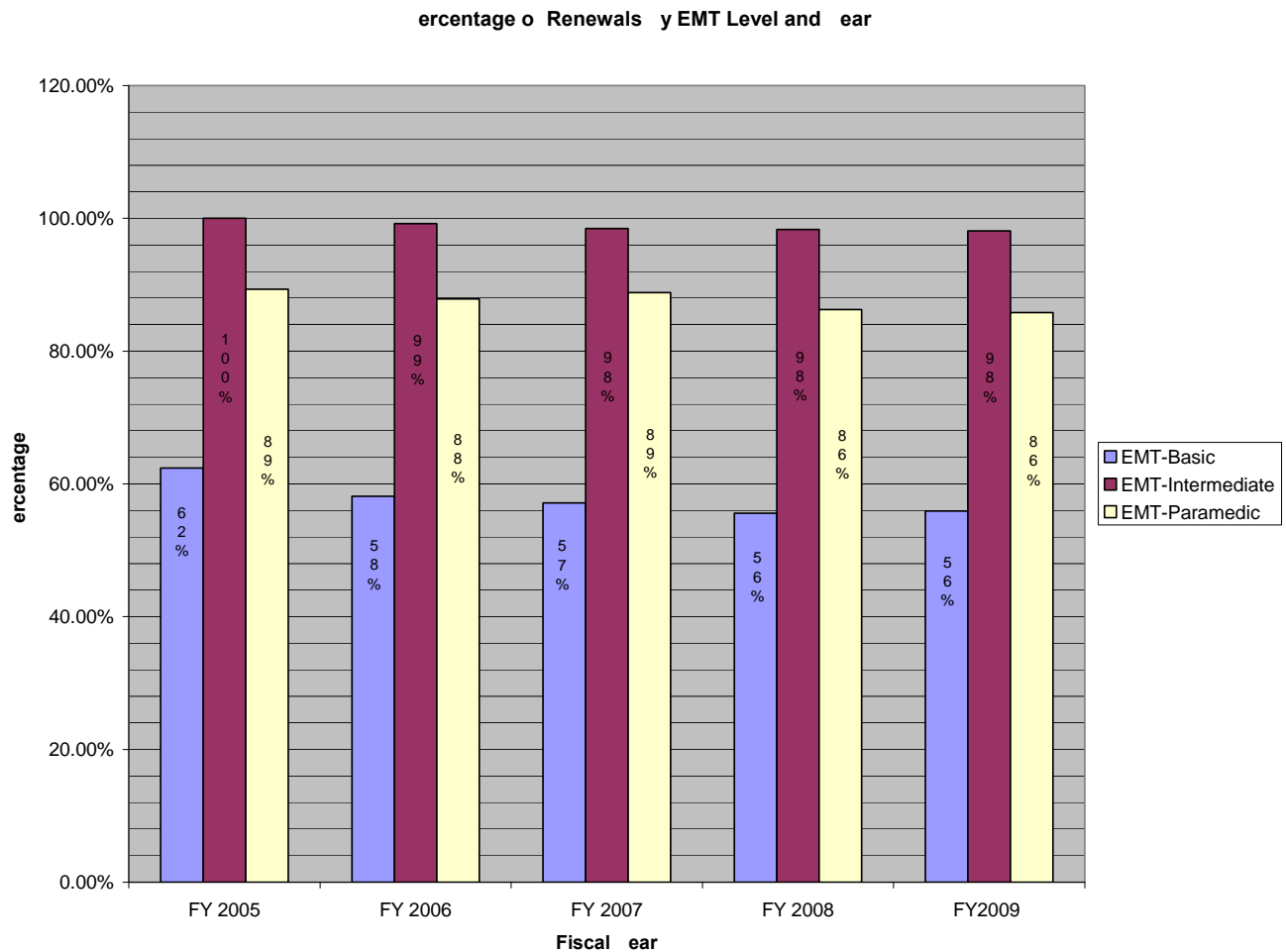
The National Emergency Medical Services Scope of Practice Model as published by the National Highway Traffic Safety Administration's Office of Emergency Medical Services in February 2007 continues to be a focal point of effort by most states. The model calls for the reconfiguration of EMS provider levels in the United States and is based on the National EMS Core Content document published in 2005. While the model describes the provider levels and general scope of practice for each level, states are responsible for accepting and adopting scope of practice regulations within their existing regulatory structures.

During the past fiscal year, the National Highway Traffic Safety Administration published the national EMS education standards. These guidelines reflect the education components of the EMT practitioner levels described in the national model and drive the next generation of textbooks and provider course content. Pursuant to the recommendations of a task force of the State Emergency Medical and Trauma Services Advisory Council during FY09, the department and a broad cross section of system stakeholders are presently beginning the process of rule-making and policy development to ensure the smooth implementation of these new training and patient care standards. This project requires a revision of both the rules governing the certification of emergency medical technicians as administered by the Board of Health as well as the scope of practice of EMTs as administered by the Colorado Board of Medical Examiners. Completion of this extensive process is anticipated during FY10 and FY11.

The department has continued to work with stakeholders on revising the rules pertaining to the implementation of cardiopulmonary resuscitation by EMS personnel. Draft rules have been developed, circulated broadly throughout the many stakeholder organizations and will be brought before the Board of Health in early 2010 for consideration. The Cardiopulmonary Resuscitation Directive Task Force consists of EMS providers, members of the Colorado Advanced Directive Consortium, State Emergency Medical and Trauma Services Advisory Council members, Regional Emergency Medical and Trauma Advisory Council members and representatives from the department. The new rules will provide greatly increased access to cardiopulmonary resuscitation directive forms and will provide more accurate guidance to patients and their families. In addition, the department has committed to develop and distribute updated educational modules to all segments of the emergency medical and trauma services system on this topic to ensure enhanced understanding by local EMS and trauma providers.

The State Emergency Medical and Trauma Services Advisory Council and the department dedicate one of the categories in the Provider Grants Program for recruitment and retention. This program has been designed to assist local EMS agencies in assessing current work force needs and in establishing a plan for creation of a stable work force. The ability to train, retain and provide continuing education to rural and frontier services continues to be the primary focus of the recruitment and retention category in the grants program. In many areas of Colorado, there are insufficient personnel to staff some agencies. Issues of work force development within the emergency medical and trauma services industry have been identified as a priority for further

program resources and development. The graph below provides information on the number of certified EMTs who renew their certifications for each of the levels over the past five years.



#### Current Activities:

- The Emergency Medical and Trauma Services Section will continue to work with stakeholders, including the State Emergency Medical and Trauma Services Advisory Council, to develop and implement appropriate rules to support the education and certification of EMTs in a consistent manner with both national standards and the needs of patients in Colorado.
- The recently revised directive rules will be completed and brought before the Board of Health for promulgation in early 2010, enhancing the availability of both information and document requirements to patients and medical personnel. Additionally, an updated education program directed at EMS personnel will be completed and deployed during 2010.
- The department and the State Emergency Medical and Trauma Services Advisory Council Education Subcommittee continue to work on preparing supporting documents and policies to assist training programs in meeting the revised Colorado education program recognition standards approved by the State Emergency Medical and Trauma

Services Advisory Council.

- The department regularly partners with stakeholders to present courses designed to train EMS educators. Members of the Emergency Medical and Trauma Services staff actively participate in these courses to ensure continuity in instructor education. Efforts will be undertaken to ensure that funding realized from the passage of Senate Bill 09-002 is appropriately directed to increase the support of EMT education.
- The department continues timely and accurate handling of complaints regarding EMTs, including coordination with the Colorado Office of the Attorney General and disposition of cases in a manner that is focused on the protection of patients and service to stakeholders.
- The process of implementing provisional certification for EMTs as required by the passage of House Bill 09-1275 will continue. Rules are expected to be in place in late 2009.

#### Opportunities:

- The department will facilitate stakeholder discussions and develop processes and rules for implementation of the upcoming changes to the national education curricula and scope of practice for EMTs.
- There is an urgent need to find ways to alleviate the shortage of qualified and interested physicians, nurses and EMTs in urban, rural and frontier communities. Opportunities exist to expand efforts to strengthen recruitment and retention programs to address local work force needs. Particular focus on methodologies to use some of the new financial resources provided by the passage of Senate Bill 09-002 will be a priority in this process.
- Although the Emergency Medical and Trauma Services Section has effective investigative and disciplinary processes relating to its statutory mandate of reviewing criminal history background reports received from the Colorado Bureau of Investigation on EMT applicants and certified EMTs, efforts to ensure this process remains effective will remain a priority.
- Efforts to expand educational support of both EMS and trauma personnel will continue to be a primary focus of the Emergency Medical and Trauma Services Section. The wise and appropriate use of funds to not only support initial education, but the lifelong learning process that is critical to the maintenance of quality prehospital and facility care will be further developed.

### Transportation Systems, Including Air and Ground Ambulance Licensure Standards

Safe, reliable ambulance transportation is a critical component of an effective emergency medical and trauma services system. This includes the regulation, inspection and licensure of ambulance services and vehicles; provision for uniform coverage 24 hours a day; a protocol for air medical dispatch; and a mutual aid plan. The primary objective of the transportation component is to provide a minimum level of emergency medical and trauma care to all residents and visitors throughout Colorado.

Authority for the regulation, inspection and licensure of ground ambulances lies with each respective Colorado county or joint city and county. The department provides technical

assistance to the counties in applying state regulations to the local licensure of ambulance services. Statute establishes minimum requirements for ambulance personnel such as driver's licensure and certification. For the trauma patient, specific minimum standards have been adopted for ambulance and first response unit staffing, agency response and scene times, and patient triage and transport destination protocols.

The Emergency Medical and Trauma Services Section, through a cooperative effort with Colorado Counties, Inc., surveyed all counties and determined their level of activity and compliance regarding ambulance licensing. The Colorado Emergency Medical and Trauma Services Act gives the department authority to promulgate rules for minimum standards to be used by counties in their local ambulance licensing process. The Board of Health promulgated these rules in October 2005 with implementation required by counties within one year of rule promulgation.

During the first quarter of 2009, the department surveyed all Colorado counties regarding their ambulance licensing processes and compliance with the regulations promulgated in 2005. Of the 60 counties that responded to a short, six-question survey, 30 counties (50 percent) reported they had updated their ambulance licensing resolutions and/or regulations since October 2006. Four counties did not respond to the survey, and five counties responded that they do not have current resolutions and/or regulations governing the licensure of ground ambulances. Fifty-four (90 percent) of the respondents reported they have some form of inspection process for ground ambulance licensing; however, when asked who within their counties is responsible for this process, an extremely wide diversity of responses was received. This survey suggests there may be little standardization in the ground ambulance inspection/licensing process among counties across Colorado.

The *Colorado Emergency Medical and Trauma Services Act of 2000* created authority for the department to develop minimum license standards for air ambulances in Colorado. Statutory amendments in 2005 amended this authority to include mandatory national accreditation as the basis for air ambulance licensing. The licensing process was started in February 2006.

Colorado Board of Health rules were promulgated in March 2008 to implement 2007 statutory amendments clarifying that the department may issue conditional licenses for those applicants who have not achieved national accreditation at the time of application and allowing for the department to authorize a transport by an unlicensed service for exigent circumstances.

#### Current Activities:

- The department has licensed a total of 13 fixed- and rotor-wing air ambulance services that provide patient transportation to patients in Colorado (Appendix G). Nine of these services are based in Colorado, and the remainders are based out of state. There are 19 rotor-wing aircraft and 23 fixed wing aircraft based within the boundaries of the state and two rotor-wing and 15 fixed wing aircraft based out of state.
- An information audit of county activity regarding the local adoption of standards was completed in 2009. This information is being used to facilitate technical assistance to local authorities regarding their ambulance licensing activities.
- The department, in conjunction with the Mile-High Regional Emergency Medical and

Trauma Advisory Council, hosted an EMS Safety Summit in 2008 that focused on ground ambulance safety issues. This conference was extremely well received, and the Second Annual EMS Safety Summit was held on October 8 and 9, 2009. The first conference resulted in the development of policies to require enhanced driver safety/feedback systems on all ambulance vehicles purchased with Emergency Medical and Trauma Services Provider Grants Funds. This program was initiated with the fiscal year 2010 grants and makes Colorado one of the first states to develop policies that will enhance ambulance response safety.

#### Opportunities:

- No entity is identified in statute as being responsible for ensuring the provision of emergency medical transportation services (ground ambulance services) to the citizens of, or visitors to, the state of Colorado. Some geographic areas of the state are technically “uncovered,” creating financial as well as response challenges to nearby provider agencies.
- Efforts to improve operational safety standards throughout the prehospital care industry have been identified as a priority by the State Emergency Medical and Trauma Services Advisory Council and the department. Improved safety designs of ambulances, increased driver safety training programs and the increased use of driver surveillance systems are strategies that have a positive impact in the reduction of ambulance crashes. Additional resources to support the implementation of these programs in all Colorado ambulance services have been identified.
- Strategies should be developed to support Colorado counties in meeting their ambulance licensing responsibilities. The informational survey results indicated there is little standardization between counties in meeting these responsibilities. This results in no standard method to ensure that all ambulances responding to emergencies throughout the state meet minimum equipment standards to support the care being provided.

#### Trauma Center Designation for Acute Care Hospitals and Clinics

The purpose of a trauma system is to get the right person to the right facility at the right time. The trauma designation program works with facilities, large and small, across the state to improve their capacity to identify and care for trauma patients. Beginning with extensive technical assistance and mentoring offered to facilities and ending with the regulatory function of trauma designation, the program seeks to ensure that trauma care standards are met in each facility. From the facility perspective, designation of hospitals and clinics as trauma centers identifies those facilities that have made a commitment to maintain a level of trauma care resources, including trained staff, equipment, policies and procedures.

In Colorado, health care facilities receiving trauma patients by ambulance or other means must participate in the trauma system by agreeing to follow rules regarding the care of those patients. Facilities may choose to be “non-designated” and thus agree not to keep any trauma patients with complex injuries. Facilities that agree to care for trauma patients receive site reviews and are designated by the state as Level I (highest) through Level V trauma centers. As of June 30, 2009, there were 70 designated trauma centers in Colorado with the majority of acute care general hospitals and critical access hospitals participating. See Appendices H and I for a listing and map

of trauma centers in Colorado.

The Emergency Medical and Trauma Services Section's Trauma Program continues to work with facilities to assess their readiness to become a trauma center and to encourage appropriate care even at non-designated facilities.

#### Current Activities:

- Coordinated by the section, designation review teams of physicians and nurses reviewed the care provided by three Level I facilities and the Regional Pediatric Trauma Center (a Level I facility for children), two Level II facilities, eight Level III facilities, and 15 Level IV facilities in the past year.
- The section provided technical assistance to virtually every designated facility in the state during the past year.
- Current plans include 35 trauma designation site reviews during FY10 plus additional technical assistance visits.
- The section worked with a consultative team from the American College of Surgeons to conduct a review of Colorado's trauma system. Stakeholders anticipate that many of the recommendations contained within this report will impact various aspects of the trauma designation process as well as other trauma system development activities.

#### Opportunities:

- The trauma program has received funding for an additional FTE, provided in Senate Bill 09-002, to help provide technical assistance and training to small facilities and to assist in understanding, planning and implementing effective quality improvement programs.
- Additional resources allocated to the section's Emergency Medical and Trauma Data Program will also support the trauma center designation effort by making accurate data more readily available to system participants. This position will be able to increase the availability of standard reports to the entities submitting trauma data. The data can then be used for quality improvement on both the trauma and emergency medical fronts. In addition the data will greatly enhance the system's capability to accurately assess the effectiveness of Colorado's trauma and prehospital care system and make informed policy decisions regarding changes and improvements to the overall emergency medical and trauma services system.
- The results from the American College of Surgeon's consultative visit will provide an opportunity for discussion regarding trauma system improvements that will benefit trauma and emergency medical patients. A task force has been convened to consider the report's recommendations and recommend priorities for future trauma system enhancements.

## Rehabilitative Care

Adequate rehabilitative care is critical to the goal that each trauma patient returns to a productive life. Most trauma facilities in Colorado can offer inpatient rehabilitative services such as physical, occupational and speech therapy. Early therapy services result in more favorable functional outcomes. In larger trauma centers, such services often begin when a patient is in the intensive care unit and continue into the outpatient setting. More seriously injured patients move

from an inpatient bed in an acute care hospital to an inpatient rehabilitation facility or to a rehabilitation bed at a skilled nursing facility. Additional specialized services for head and spinal cord rehabilitation are offered by several well-respected inpatient facilities. However, not all Coloradans have access to the full spectrum of services. Many are uninsured or have insurance that limits the scope of rehabilitative services that can be accessed.

#### Current Activities:

- The trauma rules require that trauma centers provide rehabilitative services for trauma patients and maintain transfer agreements for rehabilitation services they do not provide. These agreements are produced for inspection at trauma site reviews. In addition, patient charts are reviewed during trauma designation surveys, and experienced clinicians check to see that appropriate rehabilitative care is carried out in the inpatient setting and that further care is recommended upon discharge.
- Many rural facilities are finding that, as they expand rehabilitative services, more patients can be returned to the community for those services.
- During the trauma system consultation in May 2009, a rehabilitation expert was available to the consultation team to describe the status of rehabilitation in Colorado.

#### Opportunities:

- The lack of resources to support access to rehabilitation services continues to hinder patients in some areas.
- While inpatient acute care facilities and rehabilitation facilities coordinate care on a regular basis, there is little coordination, on a system level, between EMS, trauma facilities and the rehabilitation community. The rehabilitation community is not regularly involved in system planning efforts.
- There is little information available about outcomes for trauma patients undergoing rehabilitation. Information on physical, mental and functional status is unavailable. What information is collected in the rehabilitation system is not linked to other trauma data.

## Medical Direction

Medical direction is the process of providing the aspects of leadership, clinical oversight, best practices, system quality management, and education and research to assure quality patient care. Colorado's statewide emergency medical and trauma services system currently has several components of medical direction. The oversight of emergency medical services has its core at the individual EMS agency level, while the oversight of trauma care has its core at the individual trauma facility level. In addition to this core medical oversight, there is system oversight at both the regional and statewide levels. The regional oversight is handled through Colorado's 11 Regional Emergency Medical and Trauma Advisory Councils. At the state level, there is a state emergency medical and trauma services medical director responsible for medical oversight of both the EMS and trauma systems in Colorado.

Colorado statute (C.R.S. § 25-3.5-203) and Colorado Board of Medical Examiners Rule 500 require all EMTs providing patient care services to function under the supervision and authorization of a physician medical director. This medical direction typically takes place at the EMS agency level under an established relationship between an EMS agency and a Colorado

licensed physician who meets the Board of Medical Examiners requirements of being an EMS medical director.

Colorado currently has nearly 200 active EMS medical directors who are responsible for the medical oversight of approximately 15,000 EMTs. The agency EMS medical director is responsible for the medical oversight of all EMTs for whom the physician extends his or her authorization to provide patient care in the field. Every physician medical director must establish a medical continuous quality improvement program for each EMS service agency supervised, which ensures the continuing competency of the performance of that agency's certified EMTs.

At the regional level, Colorado's 11 Regional Emergency Medical and Trauma Advisory Councils are responsible for establishing a continuous quality improvement program designed to evaluate the effectiveness and quality of the regional EMS system. Several regions have developed regional EMS medical direction committees, made up of medical directors from the EMS agencies within their region, responsible for the medical oversight of the EMS system from a regional perspective.

The state emergency medical and trauma services medical director is responsible for the medical oversight of the EMS and trauma system from a statewide perspective, and works closely with the Colorado Board of Medical Examiners in the review and approval of EMS medical director applications. This individual provides training and consultation to local EMS medical directors in the supervision of EMS personnel throughout the state.

The department has several mechanisms for quality assurance and continuous performance improvement. (See Section: State and Regional Continuing Quality Improvement Systems.) The department's EMTs data registry provides information necessary to evaluate both regional and statewide systems. To improve clinical care, the department also utilizes the Medical Direction Committee, which provides clinical expertise and advice to the Emergency Medical and Trauma Services Section and the Colorado Board of Medical Examiners on matters related to the provision of emergency medical services. The Medical Direction Committee is chaired by the state EMTs medical director and is made up of four EMS medical directors and four EMS field providers from throughout the state. (See Appendix J.) The State Emergency Medical and Trauma Advisory Council recommends appointments to the committee, which uses an open, transparent and consistent process, and, whenever possible, uses evidence-based medicine to support its recommendations to the Colorado Board of Medical Examiners.

The Medical Direction Committee provides valuable input on "scope of practice" issues and makes recommendations to the Board of Medical Examiners to keep Rule 500, which defines the authorized medical acts ("Acts Allowed") of EMTs, synchronized with current standards of medical care in the prehospital environment. The Colorado Board of Medical Examiners Rule 500 states that EMTs may, under the supervision and authorization of a medical director, perform emergency medical acts defined within the rule. However, Rule 500 also states EMTs may perform specific skills and administer specific medications not listed under the "Acts Allowed" in Rule 500, only if their medical director has been granted a waiver by the Colorado Board of Medical Examiners. The Medical Direction Committee reviews all waivers submitted by EMS medical directors and makes recommendations to the Colorado Board of Medical



Examiners regarding the appropriateness of these individual requests. During FY08-09, the committee reviewed 60 waivers and provided recommendations regarding approval of these requests.

## Trauma Medical Direction

Under Colorado statute and Board of Health rules, oversight of trauma care is a core responsibility of all designated trauma facilities and the facilities' trauma service medical director. The trauma medical director at each designated Level I, II and III center is a board certified general surgeon who is responsible for service leadership, overseeing all aspects of trauma care and administrative authority for the hospital trauma program, including the trauma multidisciplinary committee, trauma quality improvement program, policy and procedure enforcement, peer review and the trauma research program.

### Current Activities:

- During FY08-09, the state EMTS medical director met with six of the 11 Regional Emergency Medical and Trauma Advisory Councils and their medical directors to discuss the concept of regionalization of medical direction. Several of the regions have developed regional medical director councils, and some have optimized their regional medical direction by appointing a regional medical director. Both activities are designed to coordinate and standardize education, protocols and medical oversight throughout the region.
- An EMS Medical Director Internet talk group (list serve) was created to provide timely communication with local EMS medical directors and to allow for a professional closed forum among medical directors to discuss EMS oversight issues.
- The department completed an extensive review of Rule 500 and successfully completed a rulemaking change through the Colorado Board of Medical Examiners that consisted of nearly 50 changes in the rule to bring it up to current standards of care.
- The department developed a medical direction database to more efficiently track the activities of the nearly 200 EMS medical directors in the state, including medical director registration information, affidavits of medical oversight programs and agencies for which the medical director provides medical oversight. The database also organized the nearly 350 waivers approved by the Colorado Board of Medical Examiners since 2000.

### Opportunities:

- The American College of Surgeons completed a consultative review of the Colorado EMS and Trauma System in May, 2009. Three of the key recommendations define opportunities for improvement of Colorado's medical oversight for EMS and trauma:
  1. Employ a full-time physician state EMTS medical director to oversee the clinical aspects of the trauma and EMS system.
  2. Consolidate all regulatory oversight of EMS and trauma system functions within EMTS. Relative to medical direction, consolidation of Colorado Board of Medical Examiners and EMTS activities would improve efficiency of the system.
  3. Develop a statewide trauma system performance improvement plan in collaboration with trauma system constituents within the next 12 months.

The results from the American College of Surgeons' consultative visit will provide an opportunity for discussion regarding medical direction improvements that will benefit trauma and emergency medical patients. A task force has been convened to consider the report's recommendations and recommend priorities for future system enhancements and medical direction.

## Disaster Medical Care

The Colorado Division of Emergency Management is responsible for the state's comprehensive emergency management program that supports state and local agencies during the four phases of emergency management: preparedness, prevention, response and recovery for disasters such as flooding, tornadoes, wildfire, hazardous materials incidents and acts of terrorism. During an actual emergency, the Division of Emergency Management coordinates the state response and recovery program in support of local governments that helps ensure the effective use of resources.

The department's Emergency Preparedness and Response Division is the lead state agency responsible for coordinating the public health and medical response activities for all-hazard emergencies or disaster events. The Emergency Medical and Trauma Services Section assists when a statewide response of EMS or trauma resources to a local emergency or disaster is necessary. This year the department participated in preparing for a statewide response to an emergency during two major events: the Democratic National Convention and the recent H1N1 outbreak.

The state's 11 Regional Emergency Medical and Trauma Advisory Councils continue to work toward coordinating the medical components of these local plans and will assist in creating them where needed, for both multi-casualty and bioterrorism response. Specific efforts have been made over the past several years to formalize and increase participation and communication among Colorado's 11 EMTS regions and the Emergency Management All-Hazards regions. The close coordination between emergency managers and the emergency medical and trauma services system is vital to the success of these efforts. Regional planning will mitigate the impact of the lack of centralized and coordinated communication systems and community responses to either of these types of events.

Homeland Security Presidential Directive 5 requires federal departments and agencies to make adoption of the National Incident Management System by state and local organizations a condition for federal preparedness assistance through grants, contracts and other activities beginning in FY05. To help meet this need, the United States Fire Administration and the National Highway Traffic Safety Administration provided assistance to the Emergency Medical and Trauma Services Section for two staff members to become certified as National Incident Management System trainers. Staff of the Emergency Medical and Trauma Services Section has completed its required levels of National Incident Management System certification. The Emergency Medical and Trauma Services Section and the Colorado Division of Fire Safety collaborate on providing National Incident Management System programs throughout Colorado.

#### Current Activities:

- Regional Emergency Medical and Trauma Advisory Councils are coordinating with the State All-Hazards Advisory Committee and local and federal agencies on a regular basis to generate regional emergency management plans that include the medical component in the event of an all-hazards response.
- The department continues to work with the State Emergency Medical and Trauma Services Advisory Council's Mass Casualty Incident plan to ensure ongoing consistency with the State Emergency Operations Plan.
- The section has certified National Incident Management System trainers available for requested training programs, and staff have achieved the required levels of certification as identified by department policy.
- Staff participates in state All-Hazards Advisory Committee as appropriate.
- Regional Emergency Medical and Trauma Advisory Councils are providing EMS transport information for inclusion in the Resource Ordering and Status System database for the state.
- Development and maintenance of the medical annex or medical response for the state Emergency Operations Plan continues as appropriate.

#### Opportunities:

- Medical responses throughout the state to either a multi-casualty or bioterrorism event must continue to be coordinated at the local, regional and state levels.

### Education and Research

Education and research are important components of the emergency medical and trauma services system and provide the foundation for the development and maintenance of quality patient care. The Emergency Medical and Trauma Services Section is responsible for the oversight of EMS education programs, both initial training of EMTs as well as their continuing medical education. (See Training and Certification of EMTs.) The section is also responsible for ensuring that trauma surgeons have received and maintain appropriate trauma training through trauma center designation criteria set by Board of Health rule. Trauma education and research is typically handled at the trauma facility level. The states' three Level I adult trauma centers along with the Level I pediatric trauma center are the lead resources for trauma education and research.

#### Current Activities:

- The section supports the annual Colorado State EMS Conference that is held in Keystone. This is a four-day event that provides continuing education for nearly 800 EMS providers from throughout the state.
- The section presented its Second Annual EMS Safety Summit. The goal of this two-day meeting was to improve the safety of ambulances and EMS personnel. The meeting gathered safety experts from throughout the United States who presented the latest information on current safety equipment for EMS. A thorough investigation of this information led to the development of EMS safety requirements for equipment purchased by grant funds from the department.
- Education in trauma clinical care is provided by many of the larger trauma centers across the state and is offered, often at no cost, to many of the more remote trauma centers.

- Research in trauma clinical care is required of and carried out by each of the Level I trauma centers and the regional Level I pediatric trauma center.
- The Emergency Medical and Trauma Services Section, along with various education programs and agencies throughout the state, sponsors numerous instructor development courses and continues to expand outreach activities.
- The Emergency Medical and Trauma Services Section maintains an ongoing communication process among the state's trauma centers, academic institutions and other sources of research to provide a conduit of information to all components of the emergency medical and trauma services system, as new research develops improved techniques in trauma care.
- The Emergency Medical and Trauma Services Section provides technical assistance and support to educational institutions and organizations throughout Colorado. These activities include providing technical materials to educational programs and other appropriate activities to ensure the dispersal of educational information.

Opportunities:

- Staff members at rural trauma centers often do not know about educational offerings or are unable to participate due to time constraints.

## Trauma Registry and EMS Data Collection

Comprehensive data systems are essential to effectively plan, implement and evaluate a statewide emergency medical and trauma care system. Critical components include the Colorado Trauma Registry and the EMS Ambulance Trip Report Information Exchange, as well as appropriate resources and staff for efficient data management, analysis and use of the data to evaluate the delivery of patient care.

The Colorado Trauma Registry is a unique database designed to capture information on the care of trauma patients and on the leading causes of injury hospitalizations and deaths. The data in the Colorado Trauma Registry are used not only to evaluate the effectiveness of the trauma system but also to identify and monitor the impact of injury prevention strategies. Each licensed facility, clinic or prehospital transport agency that provides services or care to a trauma patient is required to submit a limited set of patient-specific information to the department. These data, combined with hospital discharge data from the Colorado Hospital Association and death certificate data from the department's Health Statistics Vital Records Section, are used to evaluate and monitor the emergency medical and trauma care system's response to trauma patients and their needs. The Colorado Trauma Registry has been in existence since July 1997 and currently contains more than 247,000 records. The data elements required in the Colorado Trauma Registry were recently updated to be compliant with the National Trauma Data Standards (<http://www.ntdsdictionary.org/>) developed by the American College of Surgeons.

Collection and analysis of information from prehospital transport agencies allow evaluation of care provided prior to arrival at the hospital for both trauma and non-trauma patients.

The EMS Ambulance Trip Report Information Exchange is the statewide database that contains patient-level information on prehospital care. Local ambulance agencies submit their data to the state database in one of three ways: 1) via a free Web-based data entry system, maintained by staff in the Emergency Medical and Trauma Services Section; 2) via a free PC-based data entry software, maintained by section staff; and 3) via download of XML files in a specified format from third party vendor software. Agencies are required to collect the National Elements subset of the National Emergency Medical Services Information System dataset (see <http://www.nemsis.org/>), the national data standards for prehospital data collection developed by the National Highway Traffic Safety Administration. Approximately 75 percent of the prehospital transport agencies in Colorado routinely download data to the state database. Since January 2006, prehospital agencies have submitted reports on more than 807,000 patient encounters. The majority of the prehospital reports (80 percent) involve non-trauma patients.

### Current Activities – Trauma Registry:

- Trauma Registry data have been used to evaluate several components of the trauma system including the following:
  - ▶ **Trauma center volume**, by injury severity, percent of patients with traumatic brain injury and death rates.
  - ▶ **Trauma triage criteria** – an assessment of the accuracy of current triage criteria in identifying severely injured trauma patients.

- ▶ **Prehospital mode of transport of trauma patients.** Members of the trauma community expressed concerns about possible overutilization of air medical services. Assessment using trauma registry data found that 65 percent of trauma patients are transported from the scene to the trauma facility by ground ambulance, 25 percent are transported by private vehicle, and 6 percent are transported by helicopter. Older patients are more likely to be transported by ground ambulance. In urban areas, 70 percent of trauma patients are transported by ground ambulance while in rural/wilderness areas, nearly 50 percent of trauma patients are transported by helicopter. In general, trauma patients who are transported by helicopter are more severely injured than patients transported by ground ambulance or private vehicle.
- ▶ **Pediatric trauma admissions.** Death rates by age and injury severity, number of admissions for non-accidental trauma (child abuse).
- ▶ **Falls among older adults, resulting in hospitalizations.** Number of patients with hip fractures, cervical spine injury or traumatic brain injury; hospital length of stay; death rates; payer source; discharge disposition.
- ▶ **Pedestrian and bicycle-related injuries resulting in hospitalization.**
- Emergency Medical and Trauma Services Section staff has worked with a software vendor to develop an online data entry system to collect detailed trauma registry data from rural hospitals and clinics.

#### Current Activities – EMS Data Collection:

- EMS data have been used to evaluate several components of the prehospital care system:
  - ▶ An assessment of the leading reasons for EMS calls (provider's primary impression), leading reasons for the use of lights/sirens from the scene, use of medications and patient disposition.
  - ▶ An assessment of patient care times (response time, scene time and transport time) by population density (urban, suburban, rural and frontier) for both medical and trauma patients. Compliance with state rules regarding response and scene times was evaluated. Colorado's results were also compared to results using data from the national NEMSIS database.
  - ▶ An assessment of the characteristics of cardiac arrest patients. Colorado's results were compared to results using data from the national EMS database. Compared to national results
    - i. cardiac arrest patients in Colorado tended to be younger;
    - ii. a higher percent had "trauma" as the etiology of the cardiac arrest;
    - iii. response and scene times were shorter in Colorado; transport times in Colorado were comparable to the national results;
    - iv. cardiac resuscitation was less likely to be attempted; ventilation was more likely to be attempted;
    - v. sixty-two percent of cardiac arrest patients were treated and transported by EMS; 34 percent died at the scene.
- The department is collaborating with the Colorado Department of Transportation on developing a virtual data warehouse containing data related to traffic crashes. In conjunction with the Governor's Office of Information Technology, data from several state agencies including the Department of Revenue, Department of Transportation,

Colorado State Patrol, the Department of Public Health and Environment, the Department of Human Services and the Judicial branch will be integrated to create a comprehensive picture of traffic crashes in Colorado. The integrated system will be used to develop effective prevention and intervention strategies to reduce traffic crashes in Colorado and to improve the prehospital care of individuals injured in a motor vehicle crash.

#### Opportunities:

- There remain a number of prehospital transport agencies that do not currently submit data to the state database. Many agency needs are unique, and some agencies, particularly small volunteer services, do not have local resources to participate. Technical assistance for these rural and frontier agencies is important to ensure that the information available to policymakers is accurate and comprehensive

### State and Regional Continuing Quality Improvement Systems

A comprehensive evaluation program is essential to effectively monitor and improve the delivery of emergency medical and trauma care and must occur at several levels. While each facility and transport agency is responsible for quality improvement efforts at its own institution, the department has been given the responsibility of monitoring the quality of care both regionally and statewide.

For several reasons, system evaluation at the state and regional levels remains at a developmental stage. Until recently, comprehensive statewide data collection systems, particularly for prehospital care, were not available. Although significant improvements have been made in statewide prehospital and trauma data collection, there is a need for further maturation and refinements to the systems, including data integration, improvements in data quality, expansion of the data set to allow for broader clinical questions to be answered, improvements in developing state and regional benchmarks and a more consistent loop closure process.

Data collected under the continuous quality improvement process, as described in statute, is considered confidential. However, issues of discoverability and protection outside of state government present concerns to system stakeholders that frequently results in reluctance to participate in many aspects of the continuous quality improvement process. Additionally, limited resources and competing priorities influence the progress in developing state and regional quality improvement processes.

#### Current Activities:

- Data from the EMS Ambulance Trip Reporting Information Exchange and the Colorado Trauma Registry are reported regularly to the State Emergency Medical and Trauma Services Advisory Council and have been used to identify important strengths and weaknesses in the emergency medical and trauma system.
- The results from the American College of Surgeons consultative visit will provide an opportunity for discussion regarding system improvements that will benefit trauma and emergency medical patients. A task force has been convened to consider the report's recommendations and recommend priorities for future system enhancements and continuous quality improvement.

Opportunities:

- The newly created System Continuous Quality Improvement Committee gathers stakeholders from both the EMS and trauma communities in developing a coordinated statewide quality improvement plan and process.
- Additional resources are needed to ensure the development and maintenance of a statewide quality improvement system is successful and improves quality of care in both EMS and trauma.
- The issue of discoverability and liability, whether real or perceived, continues to present a challenge to honest and open exchange of information.
- Development of an optimal continual quality improvement process needs to be designed and then each aspect of that process can be evaluated for whether or not discoverability and liability exist at each step.



## **Part III**

# **Challenges for Colorado's Emergency Medical and Trauma Services System**

## **Emergency Medical Technician Education and Certification**

A significant upcoming challenge for the department is completing the stakeholder and administrative processes for implementation of the national educational standards and scope of practice. Although these changes will most likely be minimal at the EMT-Basic and EMT-Paramedic levels of certification, the national standards for what Colorado now calls "EMT-Intermediate" will change. Each state is clearly entitled to make individual decisions regarding these issues. The impact of these changes in terms of reciprocity, national disaster response capabilities and standardized care throughout the United States must be taken into consideration. The task force that considered policy changes during the last year recommended maintenance of the EMT-Intermediate level of practice in Colorado. However, it also recommended the addition of a new level of prehospital practitioner that will be called "Advanced Emergency Medical Technician." This adjustment in EMT certification levels will ensure Colorado's consistency with national standards while remaining respectful of the importance of the EMT-Intermediate level of practice throughout rural parts of the state. The department will continue to provide leadership and structure to these discussions in Colorado and work to ensure the integrity of the profession and the credentialing system are maintained. Rule-making by both the Board of Health and the Colorado Board of Medical Examiners will be required, and effectively communicating all of the changes to the system stakeholders will be critical.

An important project this year is the rule and process implementation of the 2009 bill authorizing provisional EMT certification. Rules and policies creating an effective and timely process are critical to ensuring the intent of the new law: enabling EMTs to more quickly begin work. Those rules are scheduled to be adopted by the Board of Health at the end of the current year.

The shortage of qualified and interested physicians, nurses and EMTs in urban, rural and frontier communities continues to be a challenge. Volunteerism is on the decline nationwide and in Colorado. Approximately 60 percent of Colorado's 189 licensed ambulance services are staffed primarily by volunteer EMTs who provide care in rural and frontier counties. The problems these services face with recruiting and retaining skilled work force members are well-identified. Opportunities exist to expand efforts to develop strategies that will strengthen recruitment and retention programs to address local work force needs.

## **Resources**

Historically, the amount of revenue generated from the Emergency Medical Services Account was a concern for the program. However, SB-09-002 successfully passed and Gov. Bill Ritter signed into law an additional dollar added to the current \$1 fee on motor vehicle registrations. The additional funds became available starting July 1, 2009, and have already begun to flow into the community through the EMTS grants program. The additional funds will help support and improve local agencies and regional/statewide emergency medical and trauma services systems.

Although the additional funds are already beginning to help Colorado's EMS and trauma system, the challenge becomes using these resources appropriately and efficiently. The department will continue to work closely with the State Emergency Medical and Trauma Services Advisory Council, stakeholders and partners as we collectively make improvements to the grants program to ensure all funds are distributed in a way that maximizes benefits.

## Recruitment and Retention

The issue of recruiting and retaining qualified personnel to staff local emergency medical and trauma services systems continues to plague Colorado. Recruitment and retention have been identified as two of the most significant threats to the long-term stability of the prehospital care system by many national organizations and were highlighted by the Institute of Medicine report of 2006. Over the past two years, several ambulance services have been forced to reduce services by becoming "first response" or "quick response" services due to a lack of trained personnel to staff the agency needs. The causes of these problems are multifaceted and include an aging work force, failing volunteerism, cultural and population changes, and a host of other societal and economic issues. Mechanisms to more thoroughly understand the issues and develop appropriate interventions should be developed at the state, regional and local levels to ensure existing agencies are able to continue their service to Colorado communities.

## Preparedness: Multi-Casualty Plans

The potential threats to our state and nation require ongoing coordination between state and local agencies in the development and maintenance of state and local multi-casualty plans, which make up the medical annex of a state or local emergency management plan. Enhancing the integration of cooperative activities between the state's EMS and trauma system and emergency management system is vital to the overall preparedness of Colorado.

## Data Collection and Analysis

The ability to collect and analyze information regarding the effectiveness of the Colorado emergency medical and trauma services system is vital to the system's continued improvement. With timely and accurate information, stakeholders can make appropriate decisions to ensure that quality care and transportation are available to all residents and visitors throughout Colorado. Although significant progress has been achieved in the past several years, ongoing resources will be needed to maintain and continually improve these emergency medical and trauma services information systems. Both the trauma registry and EMS databases are based on national standards. In particular, the state EMS database follows the National EMS Information System standards. The national standards are currently in the process of being modified and updated to Version 3. In order to remain compliant with the national standard, the department and local providers will require significant resources and technical support to update equipment and software. This conversion is anticipated to occur in 2011.

Implementation of the American College of Surgeons Report

## Implementation of the American College of Surgeons Report

One of the significant opportunities facing the Emergency Medical and Trauma Services Section in the next year is the wise implementation of recommendations provided by the American College of Surgeons Trauma System Consultation Team. The final report was made available in August 2009. During FY10, the department will convene a panel of experts representing the full spectrum of trauma system participants including members of the State Emergency Medical and Trauma Services Advisory Council, representatives of each of the Level I trauma centers and representatives of other constituents responsible for the emergency and inpatient care of trauma patients.

This panel will be responsible for reviewing the recommendations in the report and identifying those that are most important to improving the trauma system in the short and long terms. The group will select priority areas for short-term implementation that are seen to make a positive contribution to the system immediately, and it will identify and suggest strategies for those recommendations that are extremely important to trauma system development but which require more time and effort for implementation.

The department will be ultimately responsible for the implementation of recommendations of the report; however, many other entities will have either a supportive or a lead role depending on the issue. Partners will include the Colorado Rural Health Center, the Colorado Hospital Association, the Emergency Medical Services Association of Colorado and 70 designated trauma centers. The report and activities to implement its recommendations should result in system improvements that will benefit patient care over the next decade.

## Standardized (Regional) Needs Assessment Project

Three of the 11 Regional Emergency Medical and Trauma Advisory Council regions have participated in the Standardized (Regional) Needs Assessment Project, and the remaining eight regions are slated for completion prior to June 30, 2010. Minimum funding for the regions has been established in statute (section 25-3.5-603, C.R.S.), and no change has been made since its inception in 2002. Consequently, the challenge will be in supporting the areas of need identified by the assessment that come with a financial impact. Regional medical direction is an example of a program that demonstrated outstanding success when a pilot project was funded by the Southern Colorado Regional Emergency Medical and Trauma Advisory Council. However, lack of stable funds threatens its continued operation. Regional medical direction has also been identified as an area of need in the other regions already assessed. Other shared examples of need that have attached costs to the system include activities such as practice drills for multi-casualty exercises, public education awareness campaigns and state-of-the-art dispatch centers. However, the identification of these needs will present significant opportunities for future actions.

## Medical Direction

Medical oversight is one of the keys to ensuring access to quality patient care for the citizens and visitors of Colorado. One of the most important challenges over the next year will be continued

improvements and enhancements for medical direction in EMS and trauma systems at local, regional and state levels.

## System Oversight

The Emergency Medical and Trauma Services Section shares roles traditionally found within a lead agency with other regulatory agencies in state government. The Colorado Board of Medical Examiners regulates both scope of practice for EMTs as well as the roles and responsibilities for EMS medical directors. The licensure of ambulance services occurs at the county level based on standards set by the Board of Health. The certification of first responders is assigned to the Department of Public Safety. This fragmentation of regulatory roles leads to significant inefficiencies and inconsistencies in how regulations are applied and/or enforced.

The ongoing challenge is to ensure that these multiple system oversight mechanisms work together in a productive and effective manner.

## Communications

On January 1, 2013, radios in the VHF and UHF radio spectrum bands will be mandated to meet the Federal Communications Commission narrowband requirements. Narrowbanding has been in the works for several years by the commission and means that the radio frequency spectrum will be divided in half to create more radio frequency capacity. Currently radio frequencies are spread with 25 kHz channel spacing between them. In the future, the commission is instituting a 12.5 kHz channel spacing technology requirement and then, in phase II, a 6.25 kHz channel spacing technology (Appendix F, page 3). Planning should begin soon to cover the Federal Communications Commission's mandate.

The radio spectrum bands that are affected are as follows:

- Very High Frequency (VHF) 150 MHz to 174 MHz
- Ultra High Frequency (UHF) 421 MHz to 512 MHz

Some things to consider for agencies and facilities that will be affected by the mandate include the following:

- The narrowbanding mandate is not optional. Possible Federal Communications Commission fines may be imposed on those who are not compliant.
- Increasing interference may be an issue with equipment that has been narrowbanded. Interoperability may be negatively impacted by causing low and/or distorted receive audio.
- Coverage with the 12.5 kHz technology may not have the same transmit pattern as the 25 kHz channel spacing.
- After January 1, 2011, the Federal Communications Commission will no longer accept modified or new license applications that exceed the narrowbanding guidelines.

- Agencies and facilities purchasing used communications equipment must make sure it will be in compliance with the federal mandate and will operate in the 12.5 kHz and/or 6.25 kHz channel spacing.
- Most radio equipment purchased after 1997 can support narrowbanding simply by reprogramming.
- Consider using 700/800 MHz if VHF or UHF won't meet local agency or facility long-term goals.
- There will be Federal Communications Commission fees for license modifications.
- Agencies must decommission and surplus old radio equipment.

## Appendices

# State Emergency Medical And Trauma Services Advisory Council

**November 2009**

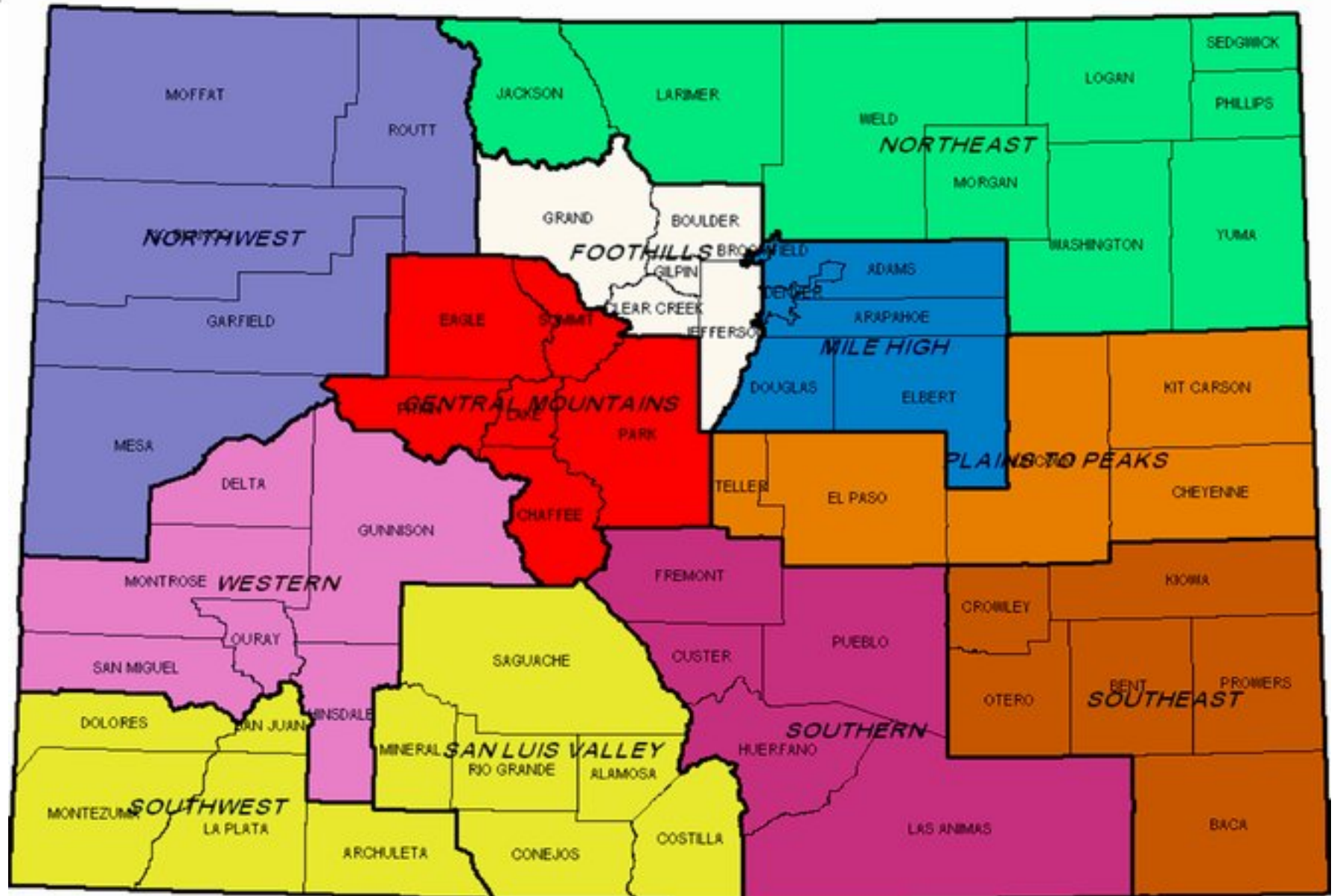
<b>Appointed Member</b>	<b>Representing</b>	<b>RETAC</b>
Walter Biffl, MD	Board certified surgeon providing trauma care at a Level I Trauma Center	Mile-High
Scott Bourn, PhD, RN	Officer or employee of a public provider of prehospital care	Mile-High
Sean Caffrey	Representative of a government provider of prehospital care	Central Mountains
Brandon Chambers	Regional council chair	Southern Colorado
Ray Coniglio, RN	Trauma nurse coordinator	Mile-High
Eugene Eby, MD	Board certified emergency physician	Mile-High
Nancy Frizell, RN	Registered nurse involved in rural emergency medical and trauma services care	Northwest
John Hill	Administrative representative of an urban trauma center	Mile-High
Ray Jennings	County emergency manager	Central Mountains
Linda Joseph, RN	County commissioner, or council member, representing a rural county or city and county	Southern Colorado
Richard Kinser	Officer or employee of a private provider of prehospital care	Western
Natalie Lamberton	Administrative representative of a rural trauma center	Northeast Colorado
Kathleen Mayer, RN	Flight nurse of an emergency medical service air team or unit	Mile-High
John Nichols, MD, PhD	Board certified neurosurgeon involved in providing trauma care at a Level I or II Trauma Center	Mile-High
Daniel Noonan	Fire chief of a service that provides prehospital care in a rural area	Southwest
Open	County commissioner, or council member, representing an urban county or city and county	
Lara Rappaport, MD	Board certified physician certified in pediatrics or a pediatric subspecialty	Mile-High
Larry Reeves	Officer or crew member of a volunteer organization who provides prehospital care	Southeastern Colorado
William Rodman, MD	Board certified surgeon providing trauma care at a Level III Trauma Center	Central Mountains
David Ross, DO	Licensed physician who is a prehospital medical director	Plains to Peaks
Joel Schaefer, MD	Board certified surgeon providing trauma care at a Level II Trauma Center	Northwest Colorado
Nancy Stuart	County commissioner, or council member, representing a rural county or city and county	Foothills
Michele Sweeney, MD	Member of the general public from an urban area	Southern
Ralph Vickrey, Jr.	Fire chief of a service that provides prehospital care in an urban area	Mile-High
Todd Wright	Member of the general public from a rural area	San Luis Valley



Colorado Department  
of Public Health  
and Environment

# Regional Emergency Medical and Trauma Advisory Councils

November 2009





# Colorado RETAC Chair Contact Directory

## November 2009

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### Central Mountains RETAC

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[dzaitz@svghd.org](mailto:dzaitz@svghd.org)

### Foothills RETAC

Sue Kirk, RN  
Avista Hospital Trauma Coordinator  
100 Health Park Drive  
Louisville, CO 80027  
303-673-1124  
[suekirk@centura.org](mailto:suekirk@centura.org)

### Mile-High RETAC

Charles Mains, MD  
St. Anthony's Central Hospital  
4231 W 16<sup>th</sup> Avenue  
Denver, CO 80204  
303-629-4222  
[charleswmains@centura.org](mailto:charleswmains@centura.org)

### Northeast Colorado RETAC

Dave Bressler  
Weld County Paramedic Services  
1121 M. Street  
Greeley, CO 80631  
970-353-5700  
[dbressler@co.weld.co.us](mailto:dbressler@co.weld.co.us)

### Northwest Colorado RETAC

Chairman, Tom Soos  
The Memorial Hospital  
785 Russel Street  
Craig, CO 81625  
970-826-3131  
[tom.soos@tmhcraig.org](mailto:tom.soos@tmhcraig.org)

### Plains to Peaks RETAC

Ted Foth  
Kit Carson County EMS  
257 15<sup>th</sup> Street  
Burlington, CO 80807  
719-346-7878  
[kccems@kitcarsoncounty.org](mailto:kccems@kitcarsoncounty.org)

### San Luis Valley RETAC

Jeff Babcock  
Homeland Security  
8900 Independence Way  
Alamosa, CO 81101  
719-480-1767  
[slv.hls@amigo.net](mailto:slv.hls@amigo.net)

### Southeastern Colorado RETAC

Larry Reeves  
Crowley County Ambulance  
611 E 3<sup>rd</sup> Street  
Ordway, CO 81063  
719-267-5230  
[larry@crowleycounty.net](mailto:larry@crowleycounty.net)

### Southern Colorado RETAC

Brandon Chambers  
Trinidad Ambulance District  
7022 County Road KK  
Manzanola, CO 81058  
719-846-6886 Ext. 130  
[bchambers@trinidadambulance.com](mailto:bchambers@trinidadambulance.com)

### Southwest RETAC

Dan Noonan, Chief  
Durango Fire and Rescue Authority  
142 Sheppard Drive  
Durango, CO 81303  
970-382-6005  
[noonandj@ci.durango.co.us](mailto:noonandj@ci.durango.co.us)

### Western RETAC

Rob Fiedler  
Delta County Emergency Preparedness  
PO Box 172  
Delta, CO 81416  
970-874-2004  
[fiedler@deltacounty.com](mailto:fiedler@deltacounty.com)

**F 20 0 EMTS Provider Grant Program - Public Notice of Awards**

AgencyName	CatName	ReqAmt	AgncyAmt	StateAmt	AmntFunded
Alamosa County Ambulance	EMS Equipment	\$14,933.65	\$7,466.82	\$7,466.82	\$7,467.00
Alamosa County Ambulance	EMS Training	\$13,400.00	\$6,700.00	\$6,700.00	\$6,700.00
Arvada Fire District	EMS Equipment	\$30,000.00	\$15,000.00	\$15,000.00	\$0.00
Baca Grande Property Owners Assn	Ambulance/Vehicle	\$155,268.84	\$76,139.42	\$79,129.42	\$78,808.00
Bennett Fire Rescue	Ambulance/Vehicle	\$178,316.00	\$85,627.25	\$92,688.75	\$92,689.00
Bent County Ambulance Service	Data Collection	\$67,123.00	\$33,561.50	\$33,561.50	\$29,812.00
Bent County Ambulance Service	EMS Training	\$2,840.00	\$1,420.00	\$1,420.00	\$1,420.00
Beulah Ambulance District	Defibrillation	\$23,950.44	\$11,832.16	\$12,118.28	\$12,119.00
Beulah Ambulance District	EMS Equipment	\$8,132.60	\$4,066.30	\$4,066.30	\$4,067.00
Burning Mountain Fire Department	Ambulance/Vehicle	\$179,010.00	\$87,716.00	\$91,294.00	\$79,779.00
Burning Mountain Fire Department	EMS Equipment	\$27,174.00	\$13,587.00	\$13,587.00	\$13,587.00
Calhan Fire Protection District	Data Collection	\$1,652.00	\$826.00	\$826.00	\$826.00
Calhan Fire Protection District	EMS Equipment	\$758.00	\$379.00	\$379.00	\$379.00
Carbondale and Rural FPD	Data Collection	\$3,780.00	\$1,890.00	\$1,890.00	\$1,890.00
Carbondale and Rural FPD	Defibrillation	\$11,288.00	\$5,644.00	\$5,644.00	\$5,644.00
Cascade Volunteer Fire Department	EMS Equipment	\$698.00	\$349.00	\$349.00	\$349.00
Cascade Volunteer Fire Department	EMS Training	\$5,155.00	\$2,577.50	\$2,577.50	\$2,578.00
Chaffee County EMS	EMS Equipment	\$4,054.90	\$2,027.45	\$2,027.45	\$2,028.00
Chaffee County EMS	EMS Training	\$4,845.00	\$2,422.50	\$2,422.50	\$2,423.00
City of Evans Fire Department	EMS Equipment	\$15,285.00	\$7,642.50	\$7,642.50	\$7,643.00
City Of Wray Ambulance	Communications	\$58,160.00	\$29,080.00	\$29,080.00	\$8,724.00
City Of Yuma Ambulance Service	Defibrillation	\$68,100.00	\$34,050.00	\$34,050.00	\$34,050.00
Clear Creek EMS	Ambulance/Vehicle	\$141,006.00	\$69,801.50	\$71,204.50	\$70,754.00
Clear Creek EMS	EMS Equipment	\$17,149.00	\$8,574.50	\$8,574.50	\$7,896.00
Clifton Fire District	EMS Equipment	\$12,163.84	\$6,081.92	\$6,081.92	\$6,082.00
Clifton Fire District	Other	\$6,515.96	\$3,257.98	\$3,257.98	\$3,258.00
Colorado Northwestern Comm College	EMS Training	\$41,892.20	\$20,946.10	\$20,946.10	\$20,947.00
Crowley County Ambulance	Data Collection	\$13,996.98	\$6,998.49	\$6,998.49	\$6,999.00
Crowley County Ambulance	Defibrillation	\$22,536.25	\$11,043.38	\$11,492.88	\$11,493.00
Crystal Park Volunteer Fire Dept	EMS Equipment	\$7,327.87	\$732.79	\$6,595.08	\$6,596.00
Cunningham Fire Protection District	Data Collection	\$28,628.00	\$14,314.00	\$14,314.00	\$14,314.00
Custer County Search and Rescue	Ambulance/Vehicle	\$34,317.00	\$17,158.50	\$17,158.50	\$0.00
Delta County Ambulance District	Data Collection	\$62,296.00	\$31,148.00	\$31,148.00	\$31,148.00
Delta County Ambulance District	EMS Equipment	\$21,970.00	\$10,985.00	\$10,985.00	\$10,985.00
East Phillips County Ambulance	EMS Equipment	\$12,163.84	\$6,081.92	\$6,081.92	\$6,082.00
Elk Creek Fire Protection District	Ambulance/Vehicle	\$135,136.00	\$67,568.00	\$67,568.00	\$67,568.00
Elk Creek Fire Protection District	EMS Equipment	\$26,600.58	\$9,925.29	\$16,675.29	\$16,551.00
Fairmount Fire District	Defibrillation	\$7,600.00	\$3,800.00	\$3,800.00	\$3,800.00
Fairmount Fire District	EMS Training	\$8,800.00	\$4,400.00	\$4,400.00	\$4,400.00
Federal Heights Fire Department	EMS Equipment	\$12,500.00	\$6,250.00	\$6,250.00	\$6,250.00
Florissant Fire Protection District	EMS Equipment	\$3,576.50	\$1,788.25	\$1,788.25	\$1,789.00
Florissant Fire Protection District	EMS Training	\$5,000.00	\$2,500.00	\$2,500.00	\$2,500.00
Fort Lewis Mesa FPD	Defibrillation	\$27,966.00	\$8,389.80	\$19,576.20	\$19,577.00
Fort Lewis Mesa FPD	EMS Equipment	\$3,611.32	\$1,083.40	\$2,527.92	\$2,528.00

F 20 0 EMTS Provider Grant Program - Public Notice of Awards					
AgencyName	CatName	ReqAmt	AgncyAmt	StateAmt	AmntFunded
Gateway Unaweeep FPD	Defibrillation	\$2,995.00	\$1,497.50	\$1,497.50	\$1,498.00
Gateway Unaweeep FPD	Extrication Equipment	\$21,256.00	\$10,628.00	\$10,628.00	\$10,628.00
Gunnison Valley Hospital - EMS	Data Collection	\$24,526.00	\$12,263.00	\$12,263.00	\$12,263.00
Gunnison Valley Hospital - EMS	EMS Equipment	\$18,800.00	\$4,900.00	\$13,900.00	\$13,900.00
Hanover Fire Protection District	Defibrillation	\$6,000.00	\$3,000.00	\$3,000.00	\$3,000.00
Hanover Fire Protection District	EMS Equipment	\$3,900.00	\$1,950.00	\$1,950.00	\$1,950.00
Haxtun Ambulance Service	Ambulance/Vehicle	\$122,000.00	\$59,165.75	\$62,834.25	\$61,085.00
Hinsdale County EMS	Communications	\$6,090.00	\$3,045.00	\$3,045.00	\$3,045.00
Huerfano County Ambulance Service	EMS Equipment	\$26,787.68	\$13,393.84	\$13,393.84	\$13,394.00
Inter-Canyon Fire/Rescue	EMS Training	\$31,500.00	\$15,750.00	\$15,750.00	\$15,750.00
Jackson 105 Fire Protection District	Defibrillation	\$21,637.25	\$10,765.50	\$10,871.75	\$10,872.00
Jackson 105 Fire Protection District	Extrication Equipment	\$7,200.00	\$3,600.00	\$3,600.00	\$3,600.00
Kiowa County Ambulance Service	EMS Equipment	\$10,545.00	\$5,272.50	\$5,272.50	\$5,273.00
Kit Carson County Ambulance Svc	Ambulance/Vehicle	\$68,989.00	\$34,019.50	\$34,969.50	\$34,970.00
La Veta Fire Protection District	Data Collection	\$22,560.85	\$2,256.08	\$20,304.77	\$20,305.00
La Veta Fire Protection District	EMS Equipment	\$25,993.00	\$2,599.30	\$23,393.70	\$23,394.00
Lake Dillon Fire Protection District	Extrication Equipment	\$24,155.00	\$12,077.50	\$12,077.50	\$12,078.00
Lamar Community College	EMS Equipment	\$5,952.92	\$2,976.46	\$2,976.46	\$2,977.00
Lamar Community College	EMS Training	\$17,181.30	\$8,590.65	\$8,590.65	\$8,591.00
Lamar Fire and EMS	Ambulance/Vehicle	\$140,575.00	\$68,716.25	\$71,858.75	\$71,859.00
Lamar Fire and EMS	Other	\$6,165.00	\$3,082.50	\$3,082.50	\$3,083.00
lefthand FPD	Communications	\$7,289.00	\$3,644.50	\$3,644.50	\$3,645.00
lefthand FPD	EMS Equipment	\$4,044.65	\$2,022.32	\$2,022.32	\$0.00
Life Care Medical, Inc.	Ambulance/Vehicle	\$131,528.00	\$65,734.75	\$65,793.25	\$65,794.00
Life Care Medical, Inc.	Communications	\$27,243.00	\$13,621.50	\$13,621.50	\$13,622.00
Lincoln Community Hospital Trans Svc	Defibrillation	\$27,950.00	\$13,687.50	\$14,262.50	\$14,263.00
Los Pinos Fire Protection District	Defibrillation	\$9,000.00	\$4,500.00	\$4,500.00	\$4,500.00
Lower Valley Fire Protection District	Ambulance/Vehicle	\$137,513.00	\$68,756.50	\$68,756.50	\$68,757.00
Mancos Ambulance Association	EMS Equipment	\$18,084.30	\$9,042.15	\$9,042.15	\$9,043.00
Mineral County Ambulance Service	Ambulance/Vehicle	\$119,330.00	\$59,665.00	\$59,665.00	\$59,665.00
Morgan Community College	EMS Training	\$144,500.42	\$72,250.21	\$72,250.21	\$57,800.00
Morgan County Ambulance Service	EMS Equipment	\$29,420.00	\$14,710.00	\$14,710.00	\$14,710.00
Morgan County Ambulance Service	Other	\$19,465.72	\$9,732.86	\$9,732.86	\$0.00
North Fork Ambulance Association	Communications	\$29,659.00	\$14,829.50	\$14,829.50	\$14,830.00
North Metro Fire Rescue District	Defibrillation	\$93,100.00	\$45,975.00	\$47,125.00	\$0.00
North Park Hospital District	Data Collection	\$30,700.00	\$15,350.00	\$15,350.00	\$15,350.00
North Park Hospital District	Defibrillation	\$51,857.40	\$25,703.70	\$26,153.70	\$23,376.00
North Routt Fire Protection District	EMS Equipment	\$7,008.00	\$3,504.00	\$3,504.00	\$3,504.00
North Washington FPD	Ambulance/Vehicle	\$134,701.52	\$65,540.76	\$69,160.76	\$69,161.00
Northeastern Junior College	EMS Training	\$51,424.80	\$25,712.40	\$25,712.40	\$25,713.00
Northwest Colorado RETAC	Other	\$14,050.00	\$7,025.00	\$7,025.00	\$7,025.00
Norwood Fire Protection District	EMS Equipment	\$7,594.74	\$3,797.37	\$3,797.37	\$3,798.00
Nucla-Naturita Fire Dept Amb Svc	Communications	\$50,634.00	\$25,317.00	\$25,317.00	\$5,626.00
Nucla-Naturita Fire Dept Amb Svc	EMS Equipment	\$5,694.00	\$2,847.00	\$2,847.00	\$2,847.00

# F 20 0 EMTS Provider Grant Program - Public Notice of Awards

AgencyName	CatName	ReqAmt	AgncyAmt	StateAmt	AmntFunded
Otero Junior College	EMS Equipment	\$10,497.95	\$5,248.98	\$5,248.98	\$5,249.00
Ouray County EMS	Communications	\$4,896.15	\$2,448.07	\$2,448.08	\$2,449.00
Ouray County EMS	EMS Equipment	\$4,173.90	\$2,086.95	\$2,086.95	\$2,087.00
Pikes Peak Community College	EMS Equipment	\$12,620.00	\$6,310.00	\$6,310.00	\$6,310.00
Plains to Peaks RETAC	EMS Equipment	\$114,090.45	\$57,045.23	\$57,045.22	\$57,046.00
Plateau Valley Fire Protection District	Defibrillation	\$12,000.00	\$6,000.00	\$6,000.00	\$6,000.00
Platte Canyon Fire Protection District	Ambulance/Vehicle	\$131,484.00	\$13,148.40	\$118,335.60	\$118,336.00
Platte Canyon Fire Protection District	Defibrillation	\$22,700.00	\$2,270.00	\$20,430.00	\$20,430.00
Pleasant View Fire District	Extrication Equipment	\$27,000.00	\$13,500.00	\$13,500.00	\$13,500.00
Poudre Canyon Fire Protection District	Ambulance/Vehicle	\$55,000.00	\$5,500.00	\$49,500.00	\$49,500.00
Poudre Canyon Fire Protection District	EMS Training	\$5,660.00	\$566.00	\$5,094.00	\$4,752.00
Poudre Valley Health System	Ambulance/Vehicle	\$137,300.00	\$68,650.00	\$68,650.00	\$68,650.00
Poudre Valley Health System	EMS Equipment	\$12,866.04	\$3,216.51	\$9,649.53	\$9,650.00
Ramrod Inc Arkansas Valley Amb	Defibrillation	\$22,261.13	\$11,130.56	\$11,130.56	\$11,131.00
Ramrod Inc Arkansas Valley Amb	EMS Training	\$6,846.00	\$3,423.00	\$3,423.00	\$2,896.00
Rattlesnake Fire Rescue	EMS Equipment	\$5,782.65	\$2,891.32	\$2,891.32	\$2,892.00
Routt County Search & Rescue Team	Communications	\$28,789.50	\$14,394.75	\$14,394.75	\$0.00
San Juan Basin Area Vo Tech School	EMS Equipment	\$4,026.00	\$2,013.00	\$2,013.00	\$2,013.00
San Juan Basin Area Vo Tech School	EMS Training	\$130,026.00	\$65,013.00	\$65,013.00	\$52,011.00
San Luis Valley RETAC	EMS Equipment	\$40,000.00	\$20,000.00	\$20,000.00	\$20,000.00
Sedgwick County Ambulance Service	Ambulance/Vehicle	\$134,519.00	\$67,259.50	\$67,259.50	\$67,260.00
Sedgwick County Ambulance Service	EMS Equipment	\$6,365.85	\$3,182.92	\$3,182.92	\$3,183.00
Southeast Colorado RETAC	EMS Training	\$34,500.00	\$17,250.00	\$17,250.00	\$17,250.00
Southeast Colorado RETAC	Recruitment Retention	\$6,000.00	\$600.00	\$5,400.00	\$5,400.00
Southwest Teller County EMS	EMS Equipment	\$10,565.00	\$2,641.25	\$7,923.75	\$7,924.00
Springfield EMS Association, Inc.	EMS Training	\$6,761.76	\$3,380.88	\$3,380.88	\$3,381.00
St. Vincent Hospital Ambulance Svc	Defibrillation	\$46,000.00	\$22,850.00	\$23,150.00	\$23,150.00
St. Vincent Hospital Ambulance Svc	EMS Equipment	\$14,800.00	\$3,700.00	\$11,100.00	\$11,100.00
Steamboat Springs Fire and Rescue	EMS Equipment	\$4,003.00	\$2,001.50	\$2,001.50	\$2,002.00
Tri County Fire Protection District	Communications	\$4,000.00	\$2,000.00	\$2,000.00	\$2,000.00
Tri County Fire Protection District	EMS Equipment	\$2,154.25	\$1,070.14	\$1,084.11	\$1,085.00
Trinidad State Junior College	EMS Training	\$209,970.00	\$104,985.00	\$104,985.00	\$73,490.00
Upper San Juan Hospital District	Ambulance/Vehicle	\$152,198.00	\$72,646.00	\$79,552.00	\$78,650.00
Ute Mountain Ute Tribal EMS	EMS Equipment	\$63,163.52	\$31,581.76	\$31,581.76	\$31,582.00
Ute Mountain Ute Tribal EMS	EMS Training	\$6,300.00	\$3,150.00	\$3,150.00	\$3,150.00
Walsh Ambulance Service	Ambulance/Vehicle	\$156,170.00	\$76,867.50	\$79,302.50	\$78,650.00
Washington County Ambulance Svc	Ambulance/Vehicle	\$136,760.00	\$68,380.00	\$68,380.00	\$68,380.00
Weld County Paramedic Services	Ambulance/Vehicle	\$93,500.00	\$46,750.00	\$46,750.00	\$46,750.00
Western RETAC	EMS Training	\$82,381.60	\$41,190.80	\$41,190.80	\$41,191.00

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**Regional Emergency Medical and Trauma Advisory Councils  
Funding Summary November 2009**

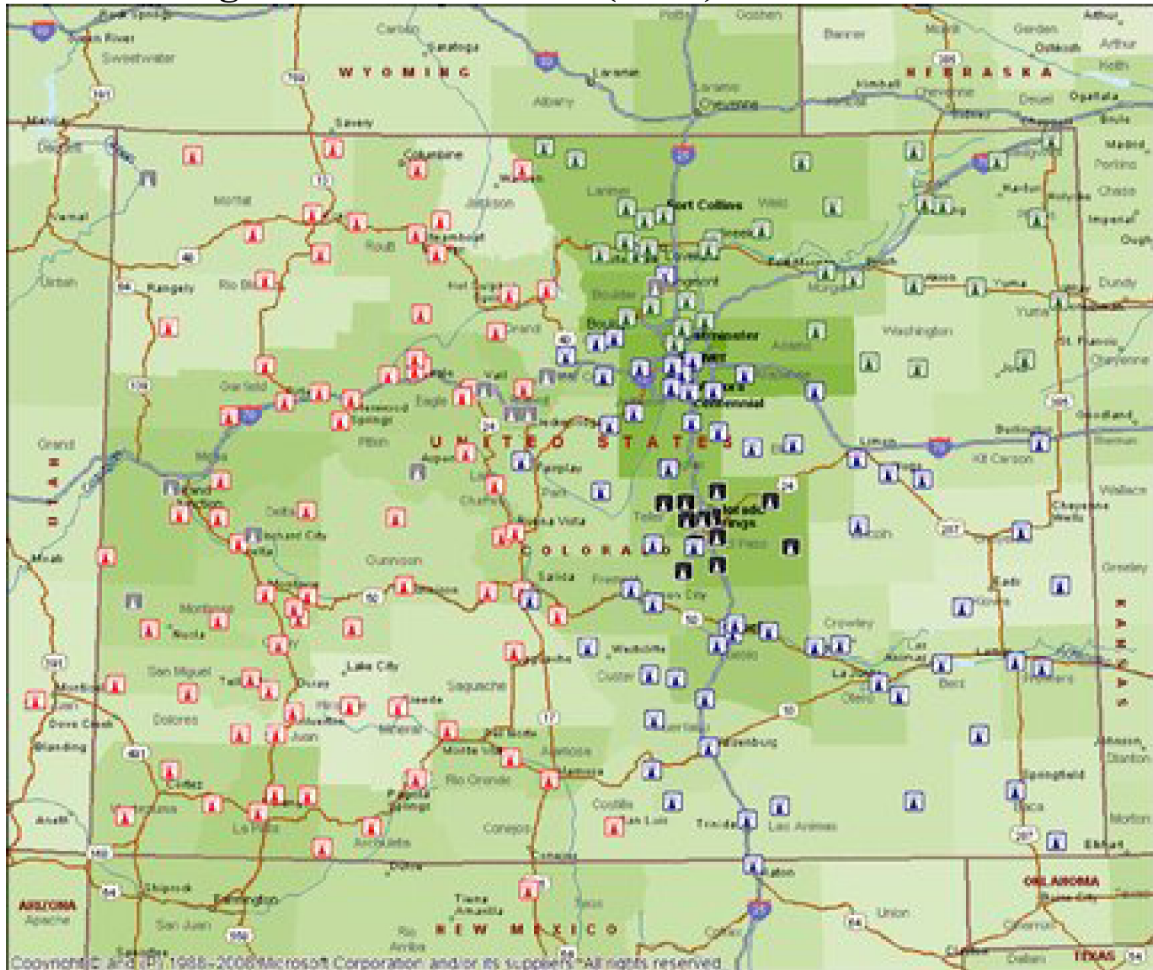
<b>RETAC Name</b>	<b>Participating Counties</b>	<b>Funding</b>
Central Mountains RETAC	Chaffee, Eagle, Lake, Park, Pitkin, Summit	\$165,000.00
Foothills RETAC	Boulder, Clear Creek, Gilpin, Grand, Jefferson	\$150,000.00
Mile-High RETAC	Adams, Arapahoe, Broomfield, Denver, Douglas, Elbert	\$165,000.00
Northeast CO RETAC	Jackson, Larimer, Logan, Morgan, Phillips, Sedgewick, Washington, Weld, Yuma	\$210,000.00
Northwest RETAC	Garfield, Mesa, Moffat, Rio Blanco, Routt	\$150,000.00
Plains to Peaks RETAC	Cheyenne, El Paso, Kit Carson, Lincoln, Teller	\$150,000.00
San Luis Valley RETAC	Alamosa, Conejos, Costilla, Mineral, Rio Grande, Saguache	\$165,000.00
Southeastern CO RETAC	Baca, Bent, Crowley, Kiowa, Otero, Prowers	\$165,000.00
Southern CO RETAC	Custer, Fremont, Huerfano, Las Animas, Pueblo	\$150,000.00
Southwest RETAC	Archuleta, Dolores, La Plata, Montezuma, San Juan	\$150,000.00
Western RETAC	Delta, Hinsdale, Gunnison, Montrose, Ouray, San Miguel	\$165,000.00

**Total RETAC Funding**

**\$1,785,000.00**



## Digital Trunked Radio (DTR) Site Locations



Blue on White indicates Sites on Zone 1

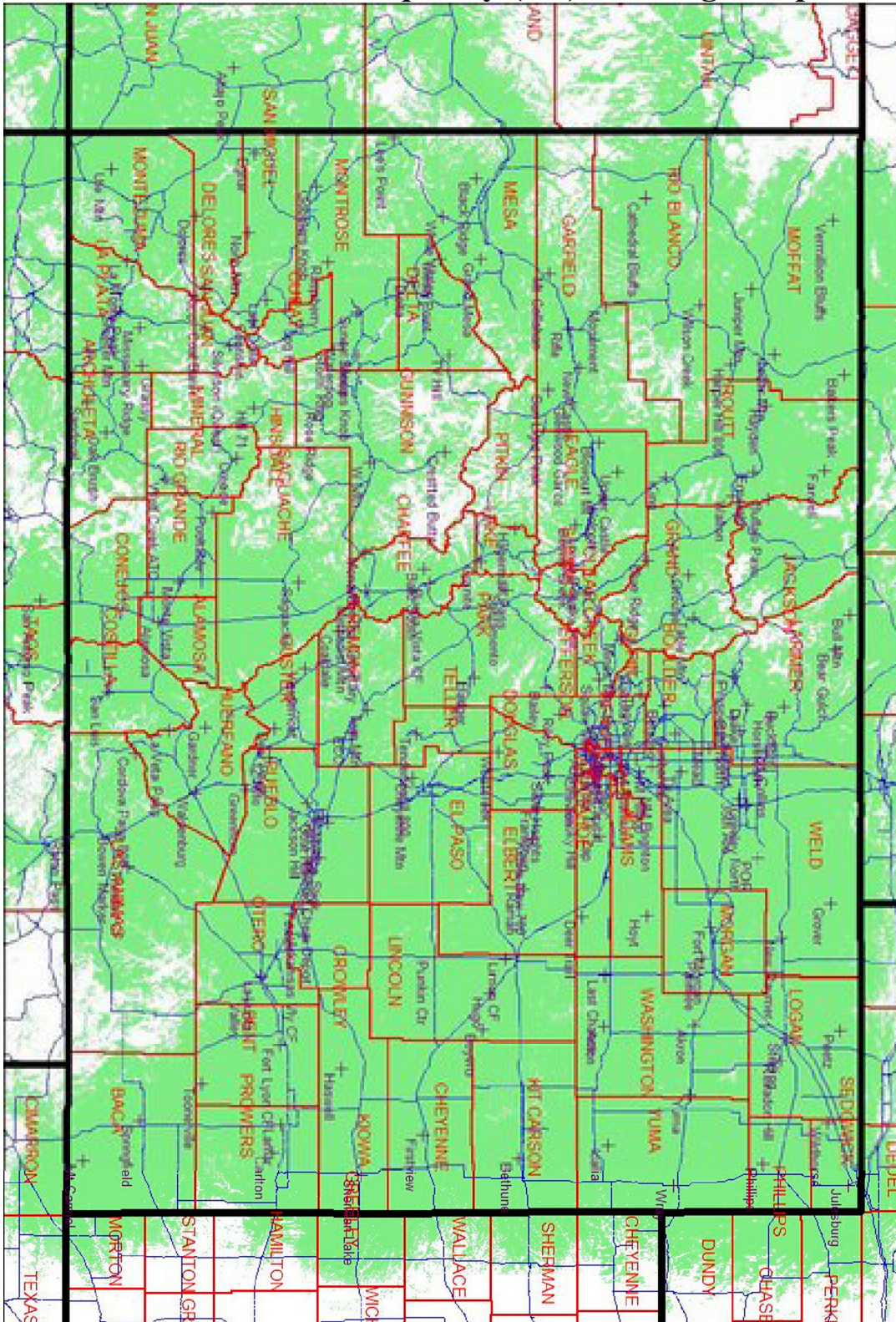
Red on White indicates Sites on Zone 2

Green on Cream indicates Sites on Zone 3

White on Black indicates Sites on Zone 4

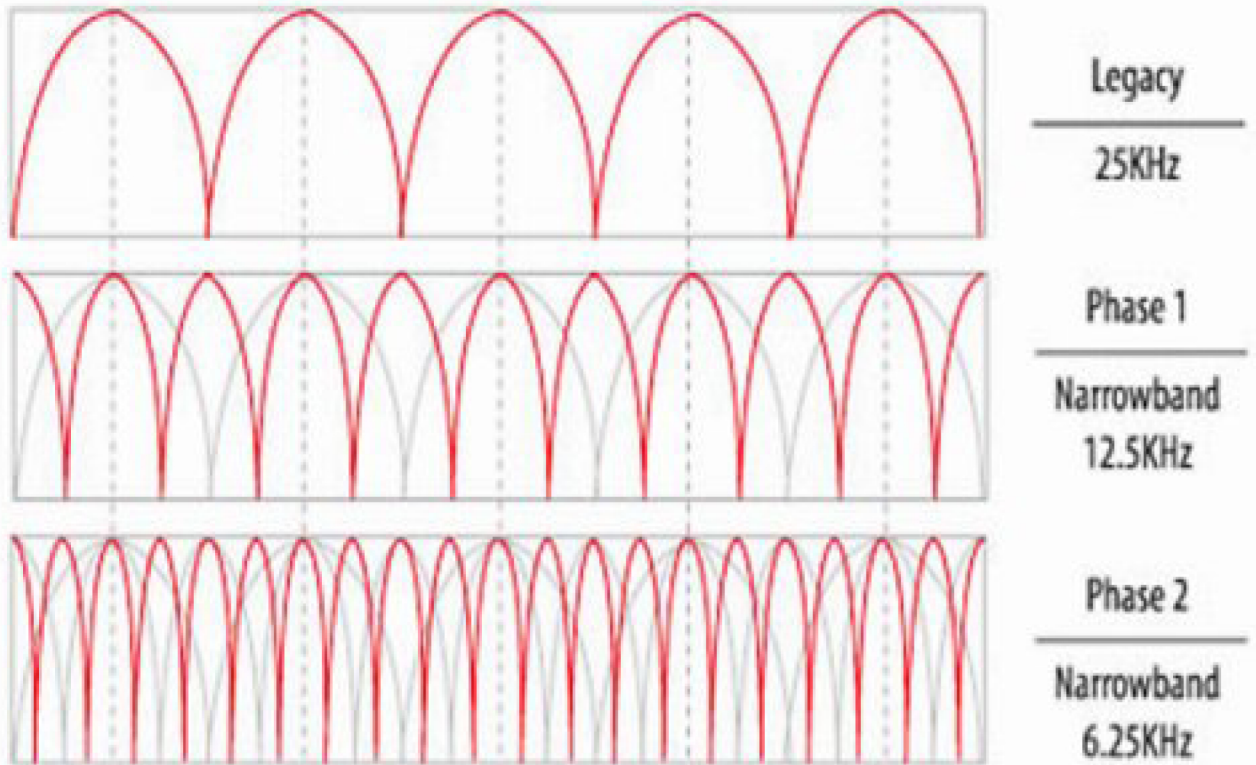
White on Grey indicates planned sites

## DTR Radio Frequency (RF) Coverage Map





## Radio Frequency Channel Spacing







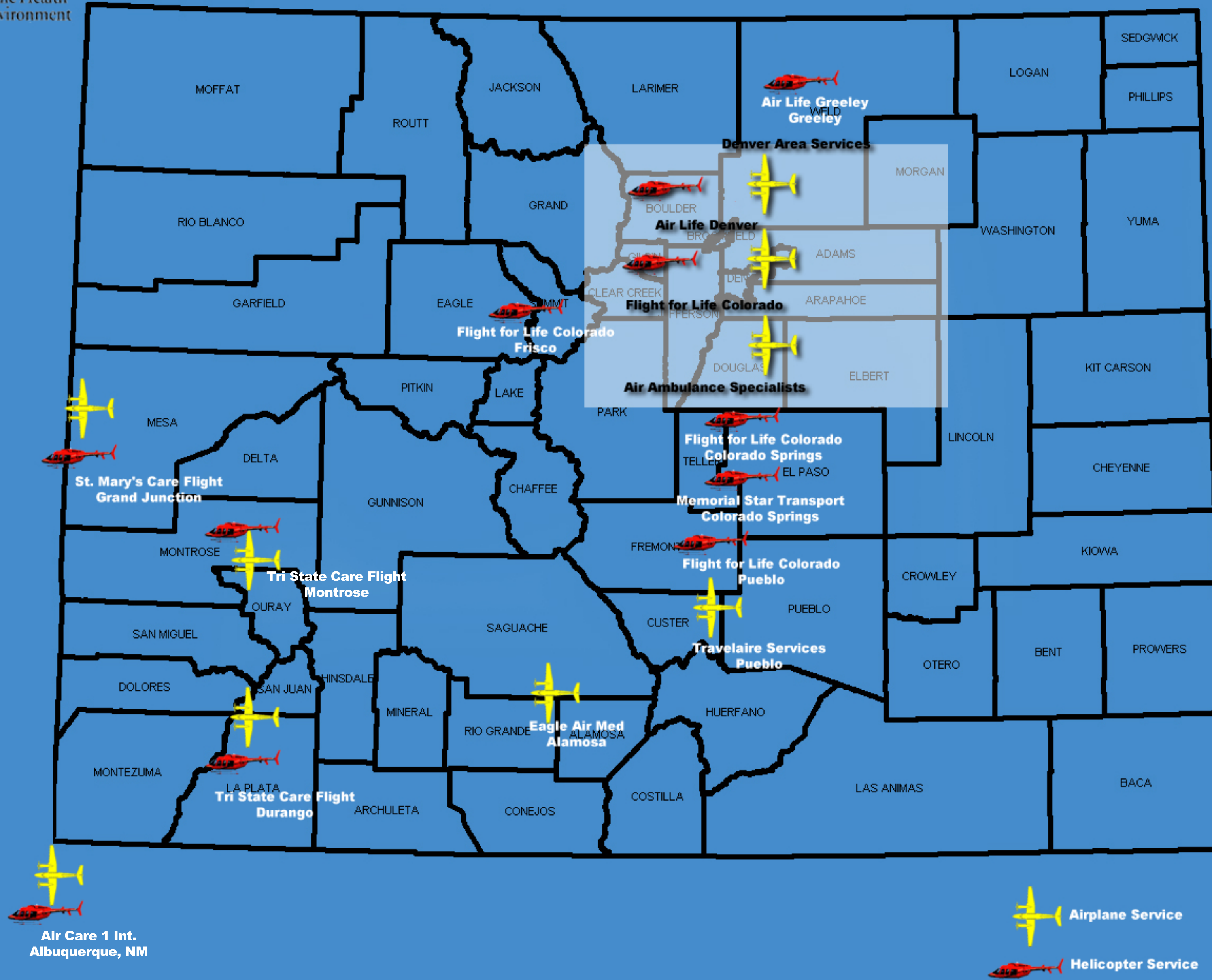
Colorado Department  
of Public Health  
and Environment

# Emergency Medical and Trauma Services Section

## Air Ambulance Program

### Colorado and Adjacent States

  
**Air Link**  
Scottsbluff, NE





## DESIGNATED TRAUMA CENTERS-By Name

Updated August 2009

Level	Facility Name	City	Zip
NonD	Animas Surgical Hospital	Durango	81301
IV	Arkansas Valley Regional Medical Center	La Junta	81050
III	Aspen Valley Hospital (CAH)	Aspen	81611
III	Avista Adventist Hospital	Louisville	80027
NonD	Avon Medical Center (CCEC)	Avon	81620
NonD	Basin Clinic (CCEC)	Naturita	81422
III	Boulder Community Hospital	Boulder	80301
NonD	Boulder Community Hospital-Foothills Campus	Boulder	80303
V	Breckenridge Medical Clinic (CCEC)	Breckenridge	80443
NonD	Centennial Medical Plaza (CCEC)	Englewood	80112
NonD	Colorado Orthopaedic & Surgical Hospital	Denver	80218
III	Colorado Plains Medical Center	Fort Morgan	80701
IV	Community Hospital	Grand Junction	81502
IV	Conejos County Hospital (CAH)	La Jara	81140
NonD	Crested Butte Medical Center (CCEC)	Mount Crested Butte	81225
IV	Delta County Memorial Hospital	Delta	81416
I	Denver Health Medical Center	Denver	80204
IV	East Morgan County Hospital (CAH)	Brush	80723
IV	Estes Park Medical Center (CAH)	Estes Park	80517
NonD	Family Health West Hospital (CAH)	Fruita	81521
III	Good Samaritan Medical Center	Lafayette	80026
IV	Granby Medical Center (CCEC)	Granby	80446
IV	Grand River Medical Center (CAH)	Rifle	81650
IV	Gunnison Valley Hospital (CAH)	Gunnison	81230
IV	Haxtun Hospital District (CAH)	Haxtun	80731
IV	Heart of the Rockies Regional Medical Center (CAH)	Salida	81201
IV	Keefe Memorial Hospital	Cheyenne Wells	80810
V	Keystone Medical Center (CCEC)	Keystone	80435
IV	Kit Carson County Memorial Hospital (CAH)	Burlington	80807
IV	Kremmling Memorial Hospital District (CAH)	Kremmling	80459
IV	Lincoln Community Hospital (CAH)	Hugo	80821
II	Littleton Adventist Hospital	Littleton	80122
III	Longmont United Hospital	Longmont	80501
III	Lutheran Medical Center	Wheatridge	80033
III	McKee Medical Center	Loveland	80538
II	Medical Center of the Rockies	Loveland	80538
IV	Melissa Memorial Hospital (CAH)	Holyoke	80734
II	Memorial Health System	Colorado Springs	80909
NonD	Memorial Health System North	Colorado Springs	80920
III	Mercy Regional Medical Center	Durango	81301
IV	Montrose Memorial Hospital	Montrose	81404
NonD	Mountain Family Health	Glenwood Springs	81601
IV	Mt San Rafael Hospital (CAH)	Trinidad	81082
NonD	National Jewish Medical & Research Center	Denver	80206



## DESIGNATED TRAUMA CENTERS-By Name

Updated August 2009

Level	Facility Name	City	Zip
II	North Colorado Medical Center	Greeley	80631
IV	North Suburban Medical Center	Thornton	80229
NonD	Pagosa Mountain Hospital (CAH)	Pagosa Springs	81147
III	Parker Adventist Hospital	Parker	80138
II	Parkview Medical Center	Pueblo	81003
NonD	Parkview Pueblo West Emergency Services	Pueblo West	81007
II	Penrose St Francis Health Services	Colorado Springs	80907
IV	Pikes Peak Regional Hospital (CAH)	Woodland Park	80863
IV	Pioneers Medical Center (CAH)	Meeker	81641
IV	Platte Valley Medical Center	Brighton	80601
NonD	Porter Adventist Hospital	Denver	80210
III	Poudre Valley Hospital	Fort Collins	80524
NonD	Presbyterian/St Luke's Medical Center	Denver	80218
NonD	Prowers Medical Center (CAH)	Lamar	81047
IV	Rangely District Hospital (CAH)	Rangely	81648
IV	Rio Grande Hospital (CAH)	Del Norte	81137
NonD	Rose Medical Center	Denver	80277
NonD	Saint Joseph Hospital	Denver	80218
IV	San Luis Valley Regional Medical Center	Alamosa	81101
IV	Sedgwick County Memorial Hospital (CAH)	Julesburg	80737
V	Seven Mile Clinic (CCEC)	Winter Park	80482
III	Sky Ridge Medical Center	Lone Tree	80124
NonD	Southeast Colorado Hospital (CAH)	Springfield	81073
IV	Southwest Memorial Hospital (CAH)	Cortez	81321
IV	Spanish Peaks Regional Health Center (CAH)	Walsenburg	81089
I	St Anthony Central Hospital	Denver	80204
IV	St Anthony North Hospital	Westminster	80031
IV	St. Francis Medical Center	Colorado Springs	80933
III	St Mary-Corwin Medical Center	Pueblo	81004
II	St Mary's Hospital	Grand Junction	81501
IV	St Thomas More Hospital	Canon City	81212
IV	St Vincent General Hospital District (CAH)	Leadville	80461
NonD	St. Anthony @ Copper Mountain (CCEC)	Copper Mountain	80443
III	Sterling Regional Medical Center	Sterling	80751
III	Summit Medical Center	Frisco	80443
I	Swedish Medical Center	Englewood	80110
NonD	Swedish SW ER	Littleton	80123
V	Telluride Medical Center (CCEC)	Telluride	81435
RPTC	The Children's Hospital	Aurora	80045
NonD	The Children's Hospital at Parker	Parker	80138
NonD	The Children's Hospital at St. Joseph Hospital	Denver	80218
II	The Medical Center Of Aurora	Aurora	80012
IV	The Memorial Hospital (CAH)	Craig	81625
NonD	Uncompahgre Medical Center	Norwood	81423
II	University of Colorado Hospital	Aurora	80045



# DESIGNATED TRAUMA CENTERS-By Name

Updated August 2009

Level	Facility Name	City	Zip
III	Vail Valley Medical Center	Vail	81657
III	Valley View Hospital	Glenwood Springs	81601
NonD	Weisbrod Memorial County Hospital (CAH)	Eads	81036
IV	Wray Community District Hospital (CAH)	Wray	80758
IV	Yampa Valley Medical Center	Steamboat Springs	80477
IV	Yuma District Hospital (CAH)	Yuma	80758

*RPTC (Regional Pediatric Trauma Center)	1
Level I	3
Level II	9
Level III	17
Level IV	36
Level V	4
<b>Total Designated Trauma Centers</b>	<b>70</b>
<b>Total Non-Designated Facilities</b>	<b>25</b>
<b>Total</b>	<b>95</b>

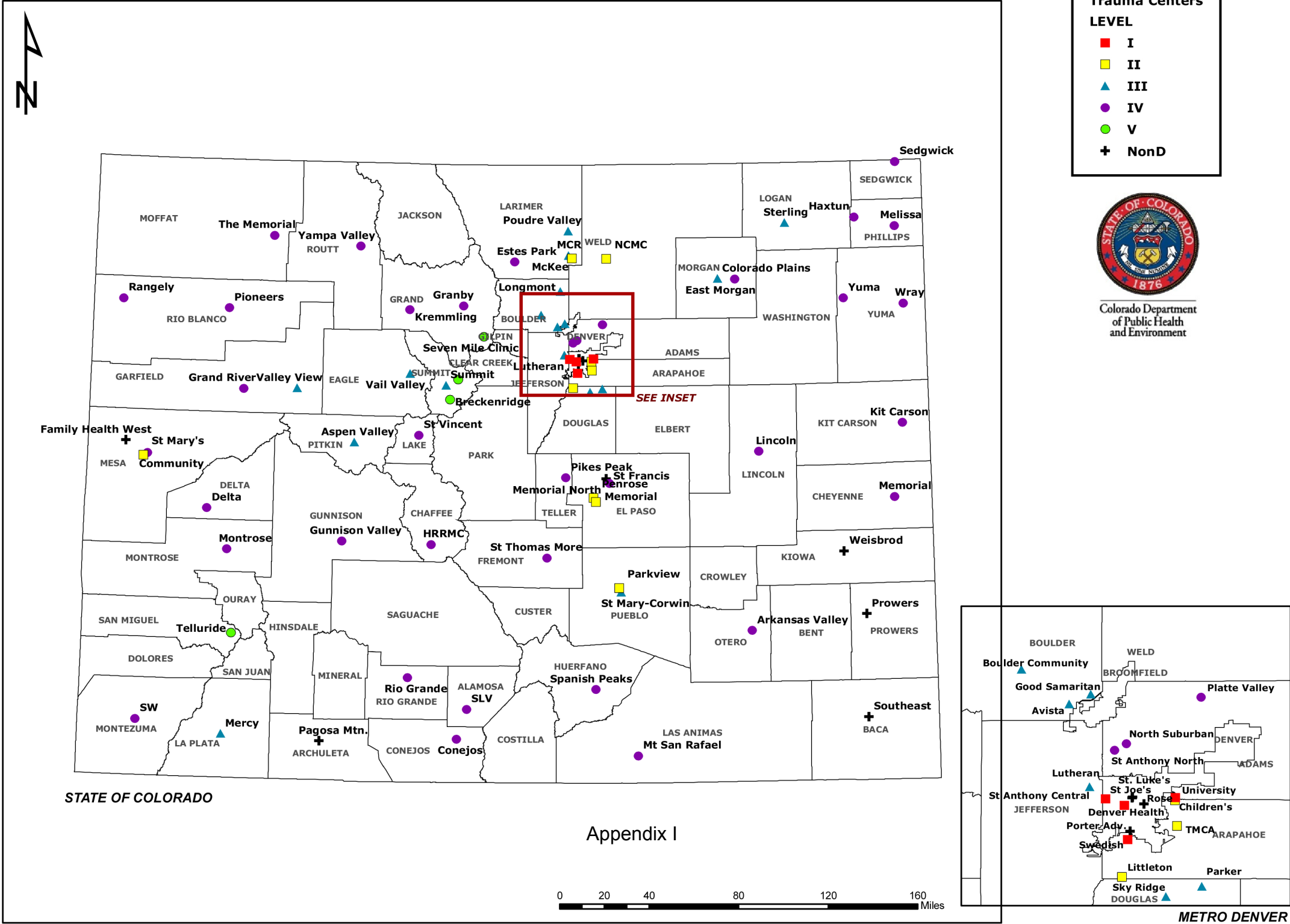
(CCEC indicates licensure as community clinic with emergency care)

(CAH indicates licensure as a Critical Access Hospital)

All other hospitals are licensed as acute care hospitals.



# Trauma Centers in Colorado, August 2009



## **2009 -2010 Appointments Medical Direction Committee**

To provide clinical expertise and advice to the Colorado Department of Public Health Emergency Medical and Trauma Services Section (CDPHE-EMTS) and the Board of Medical Examiners (BME) on matters related to the provision of emergency medical services (EMS) in order to improve clinical care. The committee will use an open, transparent and consistent process, and whenever possible, will use evidence based medicine to support their recommendations.

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Emergency Medical and Trauma Services Section Organizational Chart

