

STATE OF COLORADO



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
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Executive Summary

Colorado's emergency medical and trauma services (EMTS) 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. In addition, this comprehensive system provides transportation in non-emergent settings that 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 and other specialized health care facilities. A coordinated emergency medical and trauma services system offers timely preventive, acute and rehabilitative health care services for Colorado's residents and visitors.

The *Emergency Medical Services Act of 1978*, the Emergency Medical Services Account in 1989, the *Trauma Act of 1995*, the *Colorado Emergency Medical and Trauma Services Act of 2000* and 2005 legislation addressing emergency medical technician (EMT) investigations and discipline, provide authority and limited funding for the development of a comprehensive emergency medical and trauma service system for Colorado.

The number of injury deaths in Colorado was 2,674 in 2005, making trauma the leading cause of death for Coloradans ages 1-44. Studies indicate that 30 percent to 40 percent of all trauma deaths occur within one hour of injury, and that 30 percent to 40 percent of these deaths are preventable if timely, appropriate care is received. In 2002, based on trauma registry data, the department estimated that the lifetime earnings lost due to premature death from injury in Colorado was \$1.8 billion. National experience clearly demonstrates that a coordinated and well-developed emergency medical and trauma services system can result in a reduction of the number of preventable deaths and in disability resulting from injury.

The individual program components that make up Colorado's emergency medical and trauma services system include:

- 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
- 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 Services Advisory Councils

The first part of the report identifies the specific responsibilities of the department and is followed by a focus on the utilization of state resources available for system development. This section is followed by a summary of the status of each component. The report concludes with a more detailed statement about future and ongoing challenges to system development.

Funding

The Emergency Medical and Trauma Services (EMTS) Section continues to be funded predominately from the Emergency Medical Services Account of the Highway Users Tax Fund (HUTF), supplemented by the collection of trauma center designation fees and limited short-term federal grants. A \$1 fee included in each motor vehicle's annual registration funds the Emergency Medical Services Account, established in 1989.

Challenges

Significant improvements in process and a sharpening of focus have been implemented and closely monitored to ensure that the organizational responsibilities of the EMTS Section are met with the highest levels of quality and accuracy. Among the most significant improvements has been the reorganization of work unit responsibilities to more closely align with organizational goals and responsibilities. This action supports the section's commitment to protecting the safety and welfare of the public while also serving the needs of the stakeholders of the community. Over the past year, several staff positions have been reorganized to better capture efficiencies in workload and eliminate duplication of effort. Specific examples of these improvements are discussed in more detail in other parts of this document.

Although improvements in the department's service to the emergency medical and trauma services community have continued during the past year, opportunities for further enhancements to this system present themselves. Many enhancements are accomplished by updating rules and regulations promulgated in support of legislative direction. A number of these rules and regulations are in need of updating to stay abreast of current standards of medical practice as well as to make them more user-friendly.

The section has made progress in this arena by completing a comprehensive update of the rules governing the certification of EMTs. These rules were considered by the Board of Health in October 2006 with wide support of the affected groups of interest throughout Colorado. A statewide task force to review and update the rules governing the designation of Level I and Level II trauma centers was started in January 2006 and will result in draft rules for consideration by the board some time during 2007. Finally, the department has undertaken the development of new rules governing the designation of new or replacement trauma center facilities.

Rules governing the licensing of air ambulances in Colorado were completed and promulgated by the Board of Health in November 2005. The EMTS Section began the licensing of rotary and fixed wing ambulances that pick up patients at any point within Colorado in February 2006. At the present time, all Colorado-based air ambulances, in addition to several services based outside of the state that routinely pick up patients in Colorado, are licensed. Licensing has resulted in a standardized expectation of minimum requirements in that air ambulance agencies must either be accredited by the Commission on the Accreditation of Medical Transport Services (CAMTS), or actively pursuing such accreditation as evidenced by the CAMTS organization.

The challenge of continuing to review and update rules in certification, trauma center designation, grant funding and certification enforcement remains a primary focus of the EMTS Section.

The revenue generated from the Emergency Medical Services Account is a persistent, significant concern. The various programs that depend on this funding are operating within a very narrow margin, and a small shift in expenses or revenue can easily create an unexpected shortfall. The department and the State Emergency Medical and Trauma Services Advisory Council monitors the situation and will be prepared to make adjustments as needed in the grants program, regional funding, certification, training and other program activities.

Given the status of potential natural and/or man-made threats to our state and nation, the importance of ongoing coordination between state and local agencies in the development of mass casualty plans is critical. The EMTS Section, in concert with the Regional Emergency Medical and Trauma Advisory Councils, will continue their work with emergency managers and the All Hazards regions to ensure that EMTS resources are appropriately incorporated into both state and local plans.

The State Emergency Medical and Trauma Services Advisory Council (SEMTAC) has undertaken a major commitment to develop a five year strategic plan for the further development of EMS and Trauma in Colorado. This effort will involve all SEMTAC members, committees and stakeholders focusing on the identification of priorities at the constituent level being passed upward through the organizational structure. This methodology is designed to ensure that those stakeholders most affected by regional and state policies have the most significant voice in the process. The EMTS Section will support this effort by providing technical assistance and information as appropriate.

Colorado Department of Public Health and Environment Roles and Responsibilities

The Colorado Department of Public Health and Environment shares regulatory responsibilities for the practice of emergency medical technicians and oversight of emergency medical services (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.

Originally defined by the *Emergency Medical Services Act of 1978*, and *Trauma System Act of 1995*, modified by the *Colorado Emergency Medical and Trauma Services Act of 2000* and again by the passage of Senate Bill 01-174 in 2001, the department's primary roles in the development of emergency medical and trauma services throughout the state are as follows:

- Certification of emergency medical technicians, including processing applications, issuing emergency medical technician certificates and investigating complaints involving emergency medical technicians.
- Regulation of institutions 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 Services Provider Grants Program.
- Provision of community and regional technical support for the development and provision of 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 prehospital care data collection system.
- Designation of health care facilities as one of six possible levels of trauma centers.
- Analyses of the components' responses to injured patients using quality improvement models.
- Creation and maintenance of the Colorado Trauma Registry.
- Evaluation of the emergency medical and trauma services system.
- Targeted program activities based on available federal funding.

Legislative Background

The *Emergency Medical Services Act*, passed in 1978, gave the department, the 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. The department was given the responsibility of certifying emergency medical technicians. Department approval is required for course content and curriculum prior to an institution providing training programs for emergency medical technicians. All emergency medical technicians are required to have a medical director. The Colorado Board of Medical Examiners was given supervisory authority over medical directors who provide medical direction for emergency medical technicians. The Colorado Board of Medical Examiners also defines the scope of practice for emergency medical technicians. 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. After July 1, 2002, the annual appropriation continued to be governed by normal state budgeting processes. The State Emergency Medical and Trauma Services Advisory Council provides recommendation for use of the EMS Account funds.

The *Trauma System Act of 1995* gave authority to the department to assist in the development of a coordinated statewide trauma system. System development was the combined responsibility of the department, the Board of Health and all Colorado counties, with advice from the State Trauma Advisory Council. 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. Funding for the designation of trauma centers is derived from fees paid by facilities seeking designation. This fee was intended to address the direct and indirect costs of designation activities. 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 administrative, regulatory and Area Trauma Advisory Council components of the trauma program were funded within the EMS Account appropriations as authorized in an FY98 decision item. In addition, a short-term, state grant provided partial support of the trauma registry and initial development of a prehospital trauma data collection system.

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 *Colorado Emergency Medical and Trauma Services Act of 2000* 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. The legislation also 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 emergency medical technicians.

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 introduced to implement recommendations of a 2002 Legislative Audit. HB03-1370 gave the Board of Health the authority to promulgate rules that define the review and designation cycles for Colorado's trauma centers. Another bill, SB03-009, removed the option of conducting name-based criminal background checks for emergency medical technician 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 emergency medical technicians. Both of these bills were adopted.

In 2005, the legislature approved two important bills that affect the emergency medical and trauma services system. HB05-1302 was introduced to clarify the licensing requirements of air ambulances in Colorado by allowing the department to require accreditation by the Commission on the Accreditation of Medical Transport Systems (CAMTS) by any air ambulance service transporting patients within or from the state of Colorado. Governor Bill Owens signed this bill, and rules were promulgated by the Board of Health in November 2005. The second bill, SB05-231, was submitted by the department to increase and clarify the investigative powers of the department in the investigation of allegations of misconduct by certified emergency medical technicians as well as require the reporting of misconduct by emergency medical services medical directors, emergency medical service agencies, and certified emergency medical technicians. Governor Owens signed this bill, and this authority has become an integral part of the overall investigation process used by the department to follow up on reports of misconduct by emergency medical technicians certified in Colorado.

Part I

Emergency Medical and Trauma Services Section Funding

Overview of Fiscal 2007 Funding

The Emergency Medical and Trauma Services Section's programs are funded primarily from the Emergency Medical Services Account and the collection of trauma center designation fees. A \$1 fee set in 1989 that is included in each motor vehicle's annual registration funds the Emergency Medical Services Account. The Emergency Medical Services Account supports the Emergency Medical Services Provider Grants Program, funding for the Regional Emergency Medical and Trauma Advisory Councils, the direct and indirect expenses of program administration and the development aspects of the emergency medical and trauma services system. Program administration includes certification of emergency medical technicians, oversight of training programs, operation of the State Emergency Medical and Trauma Services Advisory Council, and provision of technical assistance to emergency medical service providers and to Regional Emergency Medical and Trauma Advisory Councils. The trauma program is also supported by fees collected from health care facilities that apply to be designated as trauma centers. The section currently receives one federal grant: an Emergency Medical Services for Children grant. State licensure of fixed- and rotor-wing ambulance services became operational during FY06. Fees collected from air ambulance services that apply to be licensed in Colorado support this activity. Table 1 outlines the spending authority for FY07.

| | HUTF / EMS Account | Trauma Center Designation Fees | Federal Grants | Air Ambulance Fee |
|---|-------------------------------|---|---------------------------|------------------------------|
| EMS Provider Grants | \$1,928,793 | | | |
| RETAC Funding | \$1,785,000 | | | |
| Program Administration | \$912,179 | | \$138,000 | \$30,151 |
| Division of Information Technology (Telecomm.) | \$67,756 | | | |
| Trauma Center Designation (program administration and survey team expenses) | | \$386,882 | | |
| Indirect Cost Assessment | \$235,062 | \$32,907 | \$23,566 | \$6,241 |
| Total | \$4,928,790 | \$419,789 | \$161,566 | \$36,392 |

Table 1: Fiscal Year 2007 Long Bill Appropriations

Emergency Medical Services Provider Grants Program

Summary of Legislation

The *Colorado Emergency Medical and Trauma Services Act of 2000* continued the appropriation of funds from the Emergency Medical Services Account for distribution as grants to local emergency medical and trauma services providers. It also gave the State Emergency Medical and Trauma Services Advisory Council the responsibility of making recommendations for the utilization of the Emergency Medical Services Account funds beginning on July 1, 2002.

The department administers a competitive grants program to distribute the grants program funding. Per statute, a minimum of \$150,000 must be used for the training of emergency medical personnel; and \$100,000 must be reserved for emergency grant awards. The priorities for distribution of the remaining grant monies, as defined in the statute, include updating underdeveloped emergency medical and trauma services systems and replacing aging and outdated equipment. The grant money is distributed based on substantiated need as defined in the grant application. This grant program requires a local cash match of 50 percent. Based on financial need, there is an opportunity for applicants to request a waiver of the cash match requirement. Members of the State Emergency Medical and Trauma Services Advisory Council are an integral part of the waiver process to ensure appropriate determination of financial need.

Funding Distribution

The FY07 budget from the Emergency Medical Services Account for the Provider Grants Program is \$1,928,793, which includes the allocation of a minimum \$150,000 for emergency medical personnel training and \$100,000 reserved for emergency grant awards.

The department received 105 provider grant applications for FY07. Four of these applications failed waiver review and did not continue through the grant scoring process. The 101 remaining applications requested funding for projects totaling \$3,169,037 (amount requested as grant funding from the state). Emergency vehicles, the most requested and most expensive equipment, topped the list of funded items. A complete list of the specific grant awards can be found in Appendix D. The table below provides a summary of awards.

| Emergency Medical Services Grant Funding 2006- 2007 | | |
|--|---------------------|----------------|
| | Awarded | Award % |
| Provider Grants | | |
| Communications | \$50,776 | |
| Defibrillation | 99,846 | |
| Emergency Medical Services Equipment | 102,873 | |
| Emergency Vehicles | 994,781 | |
| Training | 296,089 | |
| Data Collection | 53,100 | |
| Injury Prevention | 17,999 | |
| Extrication Equipment | 43,671 | |
| Provider Grants | \$1,659,135 | |
| Recruitment and Retention | 10,053 | |
| Grants Subtotal | \$1,669,188 | 85% |
| Emergency Fund | \$100,000 | 5% |
| Special Projects | | |
| EMS Data Collection | \$182,635 | |
| RETAC Forum Project | 18,000 | |
| EMS Management/Leadership Seminar | 5,000 | |
| Special Projects Subtotal | \$205,635 | 10% |
| Total | \$1,974,823* | 100% |

* Historically, reversions (the unused amount of the annual appropriation) from the grants program have been larger than desirable. The program has adopted several strategies to manage utilization of grant funding. One strategy is to over-budget by a modest amount, with the expectation that the difference will be made up through turn-back of funds by grant recipients. Turn-back of funds results from a number of factors, including actual grantee costs being less than budgeted, unavailability of course instructors or equipment, and changes in recipient's needs. The program has increased its efforts toward urging recipients to identify turn-back funds early in the year.

The \$100,000 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. This fund is used to address emergency requests when the grant funding processing deadlines have passed. Applicants for funding under the emergency fund are required to submit an application that clearly outlines the nature of the need, and the department determines awards.

Statewide Funding Projects

The department, in consultation with the State Emergency Medical and Trauma Services Advisory Council, funds statewide projects that improve emergency medical services and impact all emergency medical service providers in Colorado. The following is a list of these projects slated for implementation in FY07:

- **EMS Data Collection - \$205,635**
Each transporting ambulance service is required by statute to submit patient care records to the department. In 1998, development of a prehospital care data collection system began. Due to legislative budget constraints, full implementation of this program on a statewide basis has been difficult to accomplish. This project has been reorganized, however, and is making significant progress. These funds, combined with support from the Emergency Medical Services for Children grant, will help the department establish a system to receive specified data from all of Colorado's ambulance services. All project goals to date have been accomplished. Continuation of these activities is contingent upon finding a long-term funding source, as current funding is inadequate to sustain the program for more than three years.
- **RETAC Forum Project – Statewide Meetings - \$18,000**
For the past six years, quarterly Regional Emergency Medical and Trauma Advisory Council meetings have been held to further 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. Agendas and minutes of each meeting are posted for the public on the department's web site.
- **EMS Management/Leadership Seminar - \$5,000**
Through a contract with the Emergency Medical Services Association of Colorado, this project provides reduced tuition for a management training course for emergency medical services administrators and managers. This project has been well received in prior years and continues to benefit emergency medical service agencies throughout the state.

Regional Emergency Medical and Trauma Advisory Council Development

Summary of Current Legislation

The *Colorado Emergency Medical and Trauma Services Act of 2000* created Regional Emergency Medical and Trauma Advisory Councils. Regional councils have the responsibility for creating and supporting a regional implementation plan for delivery of emergency medical and trauma care at the local/county level. Each regional council implements plans that improve patient transportation and care at the local level. These efforts will be further refined over the coming year, and adjustments will be made as

appropriate 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. 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.

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 a regional council. These funds are for administrative costs, planning and, to the extent possible, the coordination of services in and between counties. Prior to 2002, these funds were distributed as systems development grants to the Area Trauma Advisory Councils and the Regional Emergency Medical Services Councils and as specific county funding for local emergency medical services planning. Total FY07 funding for the Regional Emergency Medical and Trauma Advisory Council is \$1,785,000.

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. However, the fee basis did not include the costs associated with rule development or modification; processing of appeals or waiver requests; attorney fees; ongoing monitoring; or provision of technical assistance. These costs are being covered by fee revenue at this time. However, within the next three years current fee levels may not be adequate to support these activities. The fee basis also did not include and does not fund any of the trauma registry costs.

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 through Level V trauma centers. As of November 1, 2006, there are 68 designated trauma centers in Colorado with the majority of acute care general hospitals and critical access hospitals participating and about half of the community clinics with emergency care also participating.

Since the last report, one facility, Exempla Good Samaritan, has achieved Level III trauma designation status. See Appendices H and I for a listing and map of trauma centers in Colorado.

System development has been furthered this year through the development and clarification of a variety of trauma rules. The goal of this process is to further improve and standardize trauma care in the state. Additionally, the trauma program has actively provided technical assistance to almost every trauma center in the state on a variety of issues that range from orientation of new trauma nurse coordinators at rural hospitals to dealing with physician availability issues. Since the last report, staff members have been on-site at more than 30 facilities, providing technical assistance and regulatory oversight. Current plans include 38 trauma designation site reviews during the next fiscal year.

Trauma program staff has worked with the injury epidemiology staff to improve various aspects of the trauma registry and to seek funds for additional work that remains to be done. The loss of federal funding for the trauma registry came when the Health Resources and Services Administration's trauma program was omitted from the federal budget. Finding additional funding for trauma registry data analysis remains a program priority.

Funding Distribution

The FY07 spending authority for designation-related costs and utilization of fee revenue is \$419,719 and includes site review teams; administrative costs, including the cost of providing a state observer; and the indirect cost assessment.

Part II

Evaluation of the Emergency Medical and Trauma Services System

In 1978 and 1989, legislation adopted by the Colorado legislature established several sub-systems, including treatment, transportation, telecommunications, local emergency medical services and documentation, and created the grant program funded by the Emergency Medical Services Account.

In 1995, the trauma system was defined in state statute as including the following components: injury prevention, communication systems, prehospital care, designated trauma centers, rehabilitative care, access to medical response systems in a disaster, trauma education and research, data collection and analysis, quality improvement systems and regional planning councils.

The *Colorado Emergency Medical and Trauma Services Act of 2000* created the Colorado Emergency Medical and Trauma Services System, integrating the components and development efforts identified above.

This part of the report describes the status of each of Colorado's emergency medical and trauma services components listed below and 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
- 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 Services Advisory Councils

Public Education and Information

The department has implemented an effective public education and information program in the Emergency Medical and Trauma Services Section. In July 2005, the section released the inaugural edition of *On the Scene: Covering EMS in Colorado*, a newsletter targeted specifically toward transport and fire agencies, emergency medical technicians, trauma nurse coordinators, the Regional Emergency Medical and Trauma Advisory Councils, the State Emergency Medical and Trauma Services Advisory Council and other emergency medical service providers. The newsletter features agency spotlights, regular articles from the section chief and the state medical director, staff and program updates, upcoming events and other timely pertinent emergency medical service-related information. The newsletter serves as a direct communication conduit between the department and emergency medical service providers and has been well received by the communities of interest throughout Colorado. The EMTS Section also completely updated its website during the past year.

- Current Activity: Some Regional Emergency Medical and Trauma Advisory Councils have implemented general public information and education programs utilizing existing local funding or through coordination of activities with other local agencies.
- Current Activity: The section has developed and implemented a quarterly electronic newsletter *On the Scene: Covering EMS in Colorado*. Features are the Chief's Corner, State Medical Director's Desk and program updates.
- Current Activity: Through the implementation of recruitment and retention mini-grants, several of the regional councils have created regional public information campaigns to inform the citizens of their areas of EMTS functions and to recruit new health care providers.
- Current Activity: The EMTS Section has implemented an annual "town hall" meeting program that supports a minimum of six meetings in various locations throughout Colorado. These town hall meetings provide a venue for staff and stakeholders to meet on a regular basis to discuss issues of interest at the local level. This program has been well received during its first year, and the EMTS Section looks forward to continuing this important activity.
- Challenge: Raising community-based awareness about the complexities of the emergency medical and trauma services system. Identification and maintenance of ongoing support for these activities.

Injury Prevention

The injury prevention activities of the EMTS Section are coordinated with the activities of the injury section, and specifically the Injury and Suicide Prevention Program. Injury and Suicide Prevention Section staff has made data available to constituents, including the EMTS Section. This has allowed EMTS Section staff to provide technical assistance to constituents in finding local data to assist them in planning injury prevention projects.

Trauma Program staff has coordinated with Injury and Suicide Prevention staff in providing technical assistance to trauma facilities seeking to improve existing injury prevention activities or to develop new ones. A number of the facilities reviewed in the past year are now using their trauma registry data to assist in selecting priorities for new prevention programs.

The Colorado Emergency Medical Services for Children program, funded by a federal Maternal and Child Health Bureau grant, has collaborated with the injury section to provide limited and targeted resources and information to communities regarding pediatric emergencies. In addition, the staff has worked with the injury section to improve data collection efforts on traumatic injuries to children.

- Current Activity: The department recently submitted a semi-annual performance review report to the National Resource Center for the Emergency Medical Services for Children Program. The report outlines the progress toward putting additional emphasis on programs for children and pediatric emergency care in Colorado.
- Current Activity: As part of their strategic plan, the pediatric emergency care committee, within the State Emergency Medical and Trauma Advisory Council, is pursuing continuing education requirements for emergency medical technician and paramedics that would specifically call for pediatric-related courses.
- Current Activity: Injury prevention activities are receiving greater attention from some designated trauma centers as trauma nurses are increasing collaborative efforts with other community organizations.
- Challenge: Funding sources (both state and federal) are restricted to very specific types of injury prevention; for example, increasing booster seat use. Little, if any, resource is available for communities to implement strategies designed to address the priority needs as identified through local data, such as falls in the elderly population or adult seat belt use.
- Challenge: Volunteers or staff with little injury prevention expertise often carry out injury prevention projects. There are more opportunities for the EMTS Section to provide additional technical assistance to these efforts than can be addressed with current resources.

Communication Systems – Public Access and Provider Agency Communications

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 (FCC) 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 (PSAP). Phase 2 requires that callers' latitude and longitude information be provided to the PSAP 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 2006, 26 counties were E911 wireless Phase 1 compliant, and 32 were E911 wireless Phase 2 compliant.

In addition to regular telephone lines and cellular phones, a third technology has begun being used to place telephone calls. This technology, known as Voice over Internet Protocol (VoIP), uses a broadband Internet connection to transport telephone calls. A May 2005, FCC order directs interconnected VoIP providers to supply E911 services to their customers.

A reliable 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 and the London attacks, 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 emergency medical services 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 emergency medical services communications system.

The existing Colorado Digital Trunked Radio (DTR) system provides statewide, two-way communications to state government, local government and a limited number of federal government agencies over a shared communications platform. The DTR system is based on Association of Public-Safety Communications Officials (APCO) 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 DTR system and other APCO 25 systems. The DTR system consists of over 119 tower sites throughout the state that are spread across three zones. 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. Appendix G, DTR Project Schedule map, outlines the build-out schedule of the DTR system throughout the state.

A 2005 Department of Local Affairs (DOLA) Wireless Interoperability Network (WIN) grant made approximately \$30 million available to continue the DTR system infrastructure build out. This will fund approximately 54 new tower sites. The majority of the tower sites will be constructed in the western and southwestern areas of the state. Future plans include adding a fourth zone controller, and perhaps a fifth zone controller, to increase the system's capacity.

The EMS Provider Grants Program has helped to improve and expand EMS communications

throughout the state. Funding has provided equipment to agencies so that they can utilize the DTR system and keep many existing legacy systems operational.

The department, the State Emergency Medical and Trauma Services Advisory Council and the liaison from the Colorado Division of Information Technologies, telecommunications section, continue to provide technical assistance and financial resources to local communities in improving radio communications.

- **Current Activity:** The DTR system has zone controllers located in the Denver metropolitan area, north central and western Colorado. The feasibility of adding zone controllers 4 and 5 is being evaluated. Build out of tower sites funded by the DOLA WIN grant is underway and is expected to continue into 2007.
- **Challenge:** The current utilization of cell phones, whereby ambulance services communicate directly with hospitals, is a point of vulnerability in the response system.
- **Challenge:** Require every trauma center designated Level I through Level V to have installed, at a minimum, one DTR system radio to be used for transport communications and during large-scale emergencies.

Training and Certification of Emergency Medical Technicians

The department processes approximately 5,000 applications for certification or re-certification of emergency medical technicians each year (Appendix K). In addition, the department approved 109 training centers for emergency medical technicians. This activity is one of the fundamental requirements for creating and maintaining a state emergency medical and trauma services system. This mission-critical function has been fully reorganized and today provides accurate, timely, and appropriate certification services to protect the public and provide quality service to the emergency medical and trauma services system.

Following the implementation of rules in 2004 that removed the direct responsibility of emergency medical technician certification testing from the department, steps were taken to increase efficiency and improve accuracy of all certification activities. Three general professionals and two administrative assistants presently staff the education, certification and investigations program within the EMTS Section. Quality assurance policies have been implemented. Working closely with the National Registry of Emergency Medical Technicians, which is now responsible for the administration of initial certification examinations in Colorado, processes have been streamlined, a new electronic database has been implemented and all cases of suspicious certifications have been appropriately investigated and closed. Each of these activities were developed and implemented in conjunction with the certification task force of the State Emergency Medical and Trauma Services Advisory Council during 2004 and 2005.

Since the shift from a state-administered certification test to the National Registry

examination was accomplished in a relatively short period of time, and understanding that many emergency medical technician students were in training at the time of this change, the Statewide Emergency Medical and Trauma Services Advisory Council approved \$50,000 from the Emergency Medical Services Provider Grants funds to provide financial support to students in meeting this new requirement. These funds were made available to any emergency medical technician student who successfully completed the National Registry of EMTs examination to reimburse the costs of the examination during FY05. Despite a concentrated effort to inform all emergency medical services training centers, Regional Emergency Medical and Trauma Advisory Councils, and emergency medical technicians of this opportunity, less than \$1,000 was reimbursed to eligible applicants. The remaining funds were reverted into the grant fund for re-allocation in FY06.

All of the recommendations regarding initial certification requirements that were forwarded by the Certification Task Force in 2004 have been implemented. In addition, an overall update to the regulations for emergency medical technician certification was completed during the past year. These changes ensure that all regulations are in concert with the current methodology of initial certification and recertification requirements. This process provides an opportunity to ensure that disciplinary rules are consistent with the requirements of SB05-231. The Emergency Medical and Trauma Services Section has implemented policies regarding the process of investigating complaints against emergency medical technicians, training institutions and trauma centers. These processes have resulted in an increased ability of the department to react quickly and appropriately to complaints regarding emergency medical and trauma service providers. As with all processes in the EMTS Section, an on-going program of quality improvement is in place to ensure that these organizational policies continue to result in the highest levels of service to the public and the EMTS communities of interest.

The department also approves educational institutions providing emergency medical technician training 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.

Emergency medical care involves the delivery of care by non-physician providers outside the traditional setting of a hospital or physician's office. In Colorado, every emergency medical technician, who is providing patient care services, is required to be supervised by a medical director, who provides direction for the delivery of care. The department routinely coordinates with the Colorado Board of Medical Examiners in the review and approval of medical director applications and provides training for physicians in the supervision of emergency medical services personnel. The EMTS medical director position was created in 1990. The state Medical Advisory Group (Appendix F), founded in 1995, was developed to provide additional physician input to the department and the Colorado Board of Medical Examiners. In an effort to codify the Medical Advisory Group and clarify its role and responsibility, the State Emergency Medical and Trauma Services Advisory Council has recommended that the Board of Medical Examiners and the department formalize the appointment process, term length and role of this important technical advisory body. These

recommendations are being finalized and will be implemented by January 2007.

The State Emergency Medical and Trauma Services Advisory Council and the department dedicate a small amount of funds from the Emergency Medical Services Provider Grants program for a recruitment and retention program designed to assist local emergency medical service agencies in assessing current workforce needs and in establishing a plan for creation of a stable workforce. The ability to train, to retain and to provide continuing education to rural and frontier services continues to be the primary focus of the recruitment and retention program.

- Current Activity: The department provides a one-day workshop for medical directors, using grant funds to offset attendees' tuition.
- Current Activity: The department continues timely and accurate handling of complaints regarding emergency medical technicians and appropriate disposition of cases in a manner that is focused on the protection of patients and service to stakeholders.
- Current Activity: The department continues to provide technical support and advice to emergency medical service stakeholders in the development of education programs to support the life-long learning process of emergency medical technicians.
- Current Activity: A special projects contract to update the Colorado emergency medical services instructor/coordinator training program and to ensure its distribution to training centers is administered by the department.
- Current Activity: The EMTS Section is developing a comprehensive program to mail certification reminders to all EMTs within 90 days of pending certification expiration.
- Challenge: The shortage of qualified and interested physicians in rural and frontier communities to serve as medical directors continues to be a challenge.
- Challenge: Opportunities exist to expand efforts to develop strategies that will strengthen recruitment and retention programs to address local workforce needs.
- Challenge: While initial training costs have been covered by various federal grants, the maintenance costs associated with preparedness training are expected to be an ongoing challenge.

Transportation Systems – Prehospital Care/Transport Protocols and 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.

Authority for the regulation, inspection and licensure of ground ambulances is the responsibility of each respective Colorado county or joint city and county process. The

department, with advice from the State Emergency Medical and Trauma Services Advisory Council and the Regional Emergency and Trauma Advisory Councils, has completed regulations, pursuant to the *Colorado Emergency Medical and Trauma Services Act of 2000*, that set minimum standards for Colorado counties to follow in the local licensure of ambulance services. The Board of Health adopted these regulations in July 2005, and the Emergency Medical and Trauma Services Section is providing technical assistance to Colorado counties in their implementation. Statute establishes minimum requirements for ambulance attendants 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 *Colorado Emergency Medical and Trauma Services Act of 2000* also created authority for the department to develop minimum license standards for air ambulances in Colorado. Through the development of regulations addressing this authority, the Colorado air ambulance community advocated the passage of HB05-1302 that amended this authority to include mandatory national accreditation as the basis for air ambulance licensing. As a result of the passage of this bill, the Board of Health promulgated regulations that require all air ambulance services that transport patients within or from the state of Colorado to seek and maintain national accreditation in order to be licensed by the department. The licensing process was started in February 2006, and mandatory accreditation will become a reality by July 1, 2007.

- Current Activity: Minimum standards for the operation of air ambulance services have been adopted by the Board of Health and will continue to be enforced as appropriate.
- Current Activity: The department has licensed 24 fixed- and rotor-wing air ambulance services in Colorado. Nine of these services are based in Colorado. Among them, five of the services are both rotor and fixed wing capable.
- Current Activity: The Board of Health adopted minimum standards for the licensure of ground ambulances by local government in July 2005. An information audit of county activity regarding the local adoption of standards will be conducted during 2007.
- Current Activity: Sample templates for county licensure of ground ambulances have been developed, and the department continues to provide technical assistance to counties in the creation of local resolutions.
- Challenge: 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.

Trauma Center Designation, Acute Care Hospitals and Clinics

“Getting the right person to the right facility in the right amount of time” is the goal of the trauma system. Seriously injured patients in Colorado may face barriers of distance, weather and geography in obtaining the care they need. The trauma designation program works with facilities, large and small, across the state to improve their capacity to 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 assure 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 and policies and procedures.

The department began facility designation in June 1998 and has designated 68 trauma centers since that time. Appendices H and I provide a list and a map depicting geographic distribution of current designated trauma centers.

- Current Activity: The staff led review teams at 29 facilities in the past year, including one facility new to the trauma system.
- Current Activity: Staff has provided technical assistance to several facilities seeking to change designation status in the next year and several other facilities that are moving their campuses to new locations.
- Current Activity: Several rule-writing projects have been undertaken that should result in improved clarity in the trauma designation requirements and process.
- Current Activity: Staff has continued to provide technical assistance to many of the smaller trauma centers across Colorado. Particular attention is given to facilities that have experienced changes in the trauma program leadership.
- Challenge: There is insufficient information presently available to answer many of the questions regarding system-wide quality improvement and currently no resources dedicated to develop, implement and evaluate system quality assessment activities nor to pursue expanded rule and policy development and data analysis.
- Challenge: A new prehospital data collection system is being developed, and additional resources would allow completion of the data linkages necessary between the Trauma Registry and the prehospital data collection system.

Rehabilitative Care

Adequate rehabilitative care is critical to the goal that each trauma patient returns to a productive life. In Colorado’s system, rehabilitation services are either provided by the trauma center or the trauma center transfers the patient to an appropriate facility. There are some very well-respected rehabilitation facilities in Colorado capable of providing a wide range of services. However, not all Coloradans have access to the full spectrum of services. Many are uninsured or have insurance that limits the scope of rehabilitation services that can be accessed.

- **Current Activity:** The department requires that trauma centers maintain transfer agreements for rehabilitation services that they do not provide. These agreements are produced at trauma site reviews. In addition, patient charts are reviewed during the trauma designation surveys, and experienced clinicians check to see that appropriate rehabilitative care is recommended.
- **Challenge:** Resources to support access to rehabilitation services continues to hinder patients in some areas.

Disaster Medical Care

Regional coordination of the medical care component of local disaster plans helps ensure the effective utilization of resources to meet patients' needs in the event of a mass-casualty or bio-medical disaster. Coordination of these resources is specifically defined in statute as the responsibility of the counties. The State Emergency Medical and Trauma Services Advisory Council has assisted the department in the development of a Mass Casualty Annex to the All Hazards State Emergency Operations Plan. The Regional Emergency Medical and Trauma Advisory Councils will continue to work toward coordinating the medical components of these local plans and will assist in creating them where needed, for both mass-casualty and bioterrorism response. Specific efforts have been made over the past year to formalize and increase participation and communication among the Regional Emergency Medical and Trauma Advisory Councils and Colorado's 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 (NIMS) 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 (USFA) and the National Highway Traffic Safety Administration (NHTSA) provided assistance to the Emergency Medical and Trauma Services Section for two staff members to become certified as NIMS Trainers in June 2005. Over the past year, all members of the EMTS Section have completed their required levels of NIMS certification. The Emergency Medical and Trauma Services Section and the Colorado Division of Fire Safety collaborate on providing NIMS programs throughout Colorado.

- **Current Activity:** Regional Emergency Medical and Trauma Advisory Councils are coordinating with the State All Hazards Advisory Committee and local and federal agencies to generate regional emergency management plans that include the medical component in the event of an All Hazards response.
- **Current Activity:** 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.

- Current Activity: Section has certified NIMS Trainers available for requested training programs, and all staff have achieved the required levels of NIMS certification as identified by department policy.
- Current Activity: Staff participates in State All Hazards Advisory Committee.
- Current Activity: Regional Emergency Medical and Trauma Advisory Councils are providing emergency medical services transport information for inclusion in the Resource Ordering and Status System (ROSS) database for the state.
- Challenge: Further development and maintenance of the medical annex or medical response for the State Emergency Operations Plan is needed.
- Challenge: Medical responses throughout the state to either a mass-casualty or bioterrorism event must continue to be coordinated at the local, regional and state levels.

Education and Research

Education and research in emergency medical and trauma clinical care ensures the ongoing identification of improvements to emergency medical and trauma patient care as well as information dissemination in the training of emergency medical and trauma care clinicians. In Colorado, trauma education and research are requirements of the Level I and Regional Pediatric Trauma Centers.

- Current Activity: Education and research in trauma clinical care are the responsibilities of the teaching hospitals that also are trauma centers.
- Current Activity: The Emergency Medical and Trauma Services Section managed a contract to update and improve the training course for emergency medical services instructors/coordinators. The goal was to ensure that this course is consistent with current research and educational methodology. This project was completed in June 2006, and the materials have been made available to authorized EMS training centers.
- Current Activity: 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 medical care.
- Current Activity: The Emergency Medical and Trauma Services Section provides technical assistance and support to educational institutions and organizations throughout Colorado. These activities include the support of a statewide emergency medical services training committee, providing technical materials to educational institutions and other appropriate activities to ensure the dispersal of educational information.

Trauma Registry – Prehospital Data Collection

A comprehensive evaluation program is required in order to effectively plan, implement and monitor a statewide emergency medical and trauma care system. This is done with an effective and sufficiently funded trauma registry, prehospital data collection system and appropriate resources to analyze the data in order to improve the system and patient care.

The Colorado Trauma Registry is a unique database designed to capture information about the mechanisms of injury and the care of the trauma patient. Each licensed facility, clinic or prehospital provider that provides service or care to trauma patients currently is required to submit a limited set of patient-specific information to the department. These data, combined with the Colorado Hospital Association's discharge dataset and the Colorado Vital Records Section's death files, are used to evaluate and monitor the emergency medical and trauma care system. The dataset also will provide information on the system's response to trauma patients and their needs.

Collection and analysis of information from prehospital transport agencies will allow analysis of out-of-hospital care, and, when combined with data from the in-hospital component (trauma registry), can provide an overall picture of the patient care continuum. The department has made progress in empowering local agencies to collect and analyze data at the local level. The State Emergency Medical and Trauma Services Advisory Council approved the EMS Data Project funding to continue this project. A contract was developed with the Western Regional Emergency Medical and Trauma Advisory Council to provide technical assistance to all prehospital transport agencies. This contract provides support to those agencies that will be participating in a web-based pilot project that has been developed by the Health Facilities and Emergency Medical Services Division. Staff developed this new web-based data collection system through a cooperative process with a number of agency users and field personnel and completed initial field testing of the application on June 30, 2006. Agencies are provided with a choice of options to submit their prehospital data to the consolidated database for the state program. Important strides have been made over the past year to provide a state-developed and maintained web application for agencies to participate in the data program. The web application is being used successfully by several agencies throughout the state and will continue to undergo improvements over the upcoming year. Agencies may also use proprietary computer applications to collect prehospital data and upload that data to the state program through either a file transfer process or CD-ROM.

- Current Activity: The contract with the Western Regional Emergency Medical and Trauma Advisory Council is ongoing, and they continue to provide technical assistance to agencies in an effort to progress the data collection effort throughout the state.
- Current Activity: The Emergency Medical and Trauma Services Section has successfully expanded the prehospital data system project to include all eleven Regional Emergency Medical and Trauma Advisory Councils and all prehospital transport agencies in Colorado. Several agencies are successfully submitting prehospital data to the system, and the department will continue to work with agencies over the next year to overcome technical and resource challenges that may temporarily be preventing them from participating in the data program.

- Challenge: Access to data in the Trauma Registry and the Emergency Medical Services Data Collection System is contingent upon finding ongoing funding for data linkage, data cleaning, writing standardized reports and general data base management.
- Challenge: Getting all members of the prehospital transport community to participate by sending records to the data collection system will require on-going technical assistance, particularly for small agencies.

State and Regional Continuing Quality Improvement (CQI) Systems

System assessment and evaluation at the state, regional and provider levels ensure appropriate patient care and identify best practice models to be used to further reduce death and long-term disability as a result of an injury or serious illness. Minimum continuing quality improvement requirements remain under development for statewide and regional implementation as resources become available. The Colorado Trauma Registry will assist in the evaluation of both the regional and the statewide emergency medical and trauma services systems. Data collected under the continuing quality improvement system, as described in statute, are considered confidential.

- Current Activity: Regional Emergency Medical and Trauma Advisory Councils and staff will continue working toward the implementation of initial regional quality improvement efforts.
- Challenge: Ensure opportunities for involvement of both prehospital and acute care stakeholders in the development of the state and regional continuing quality improvement plan.
- Challenge: Provide significant support to regional quality improvement efforts and to undertake the broad system efforts necessary for a comprehensive quality improvement process at this level.

Planning – State Emergency Medical and Trauma Services Advisory Council and the Regional Emergency Medical and Trauma Advisory Councils

Planning and coordination in development of the state system is accomplished with advice from the State Emergency Medical and Trauma Services Advisory Council.

Due to variations in the demographics and geography of Colorado, local participation and expertise for identifying problems and designing solutions for local area plans are required. The passage of the *Colorado Emergency Medical and Trauma Services System Act of 2000* created the Regional Emergency Medical and Trauma Advisory Councils, established requirements for regional planning and provided a minimum level of funding beginning in FY02. Eleven Regional Emergency Medical and Trauma Advisory Councils were created across the state by local government in 2001 to ensure local participation and coordination in regional system planning.

- Current Activity: The State Emergency Medical and Trauma Services Advisory Council has developed and initiated a comprehensive strategic planning process. This process includes opportunities for input by emergency medical service agencies, fire departments, trauma centers and Regional Emergency Medical and Trauma Advisory Councils.
- Challenge: The Regional Emergency Medical and Trauma Advisory Councils might benefit from additional technical assistance.

Part III

Challenges for Colorado's Emergency Medical and Trauma Services System

Emergency Medical Technician Certification

The certification system for emergency medical technicians in Colorado has significantly improved accuracy and customer service over the past two years. These efforts will continue to be monitored as part of an ongoing quality improvement process. Comprehensive updating of the regulations that govern the activities of this program has been completed and is being implemented. Methods to streamline the certification of emergency medical technicians to increase levels of security and to improve service to both individuals and to agency providers are also areas of focus. One service improvement to be implemented within the next few months is a program to send a note card to emergency medical technicians approaching certificate expiration as a reminder to renew their certifications. Another improvement to be implemented shortly is to provide in the Section's newsletter and on its website, the names of emergency medical technicians who were disciplined by the Department and whose disciplinary action is final.

As improvements are initiated and monitored, storage of paper files presents a challenge. The numbers of certified emergency medical technicians continues to grow, and additional space with adequate storage systems must be addressed. The program anticipates that the fingerprint-based criminal history report check by the Colorado Bureau of Investigation will continue to improve its process, and, as the number of applicants who require initial background checks declines, accuracy and efficiency will also improve. These factors will reduce the turn-around time in the certification of emergency medical technicians as well as potentially decrease the amount of paper.

Resources

The amount of revenue generated from the Emergency Medical Services Account continues to be of concern for the program in coming years. The program is operating within a very small margin, and a small shift in expenses or revenue can easily create an unexpected shortfall. The department and the State Emergency Medical and Trauma Services Advisory Council will continue to monitor the situation and be prepared to make adjustments as needed in the grants program, regional funding, certification, training and other program activities.

Preparedness-Mass Casualty Plans

Additionally, a potential threat to our state and nation requires ongoing coordination between state and local agencies in the development and maintenance of state and local mass casualty plans, which make up the medical annex of a state or local emergency management plan. Enhancing the integration of cooperative activities between the emergency medical and

trauma services system and Colorado's All Hazards regions is vital to the overall preparedness of Colorado.

Appendices

State Emergency Medical And Trauma Services Advisory Council

November 2006

| Appointed Member | Representing | RETAC |
|-------------------------------|---|------------------------|
| Michael James Allshouse, D.O. | Board certified physician certified in pediatrics or a pediatric subspecialty | Mile High RETAC |
| Scott Bourn, R.N. | Officer or employee of a public provider of prehospital care | Mile High RETAC |
| Nancy Carrington, R.N. | Trauma nurse coordinator | Northeast RETAC |
| Chris Cribari, M.D. | Board certified surgeon providing trauma care at a Level II Trauma Center | Northeast RETAC |
| David Deaver III, M.D. | Board certified surgeon providing trauma care at a Level III Trauma Center | Southwest RETAC |
| Brian Donaldson, NREMT-I | Representative of a government provider of prehospital care | Central Mountain RETAC |
| Hannah Foley, R.N., N.P. | Registered nurse involved in rural emergency medical and trauma services care | Foothills RETAC |
| Dwight Gardner | County commissioner, or council member, representing a rural county or city and county | Southeast RETAC |
| Karl Gills | Administrative representative of a rural trauma center | Northwest RETAC |
| Pam Gripp | Officer or crew member of a volunteer organization who provides prehospital care | San Luis Valley RETAC |
| William Hall, M.D. | Board certified emergency physician | Northwest RETAC |
| Richard Kinser | Officer or employee of a private provider of prehospital care | Western RETAC |
| Kathleen Mayer, R.N. | Flight nurse of an emergency medical service air team or unit | Mile High RETAC |
| John Nichols, M.D., Ph.D. | Board certified neurosurgeon involved in providing trauma care at a Level I or II Trauma Center | Mile High RETAC |
| Daniel J. Noonan | Fire chief of a service that provides prehospital care in a rural area | Southwest RETAC |
| Kathay Rennels | County commissioner, or council member, representing an urban county or city and county | Northeast RETAC |
| David Ross, M.D. | Licensed physician who is a prehospital medical director | Plains to Peaks RETAC |
| Wade Smith, M.D. | Board certified surgeon providing trauma care at a Level I Trauma Center | Mile High RETAC |
| Nancy Stuart | County commissioner, or council member, representing a rural county or city and county | Foothills RETAC |
| Michelle Sweeney, M.D. | Member of the general public from an urban area | Southern RETAC |
| Chuck Vale | County emergency manager | Northwest RETAC |
| Ralph Vickrey, Jr. | Fire chief of a service that provides prehospital care in an urban area | Mile High RETAC |
| John Woodland, M.D. | Regional council chair | Central Mountain RETAC |
| Todd Wright | Member of the general public from a rural area | San Luis Valley RETAC |
| William Wagon | Administrative representative of an urban trauma center | Mile High RETAC |

State Emergency Medical And Trauma Services Advisory Council

November 2006

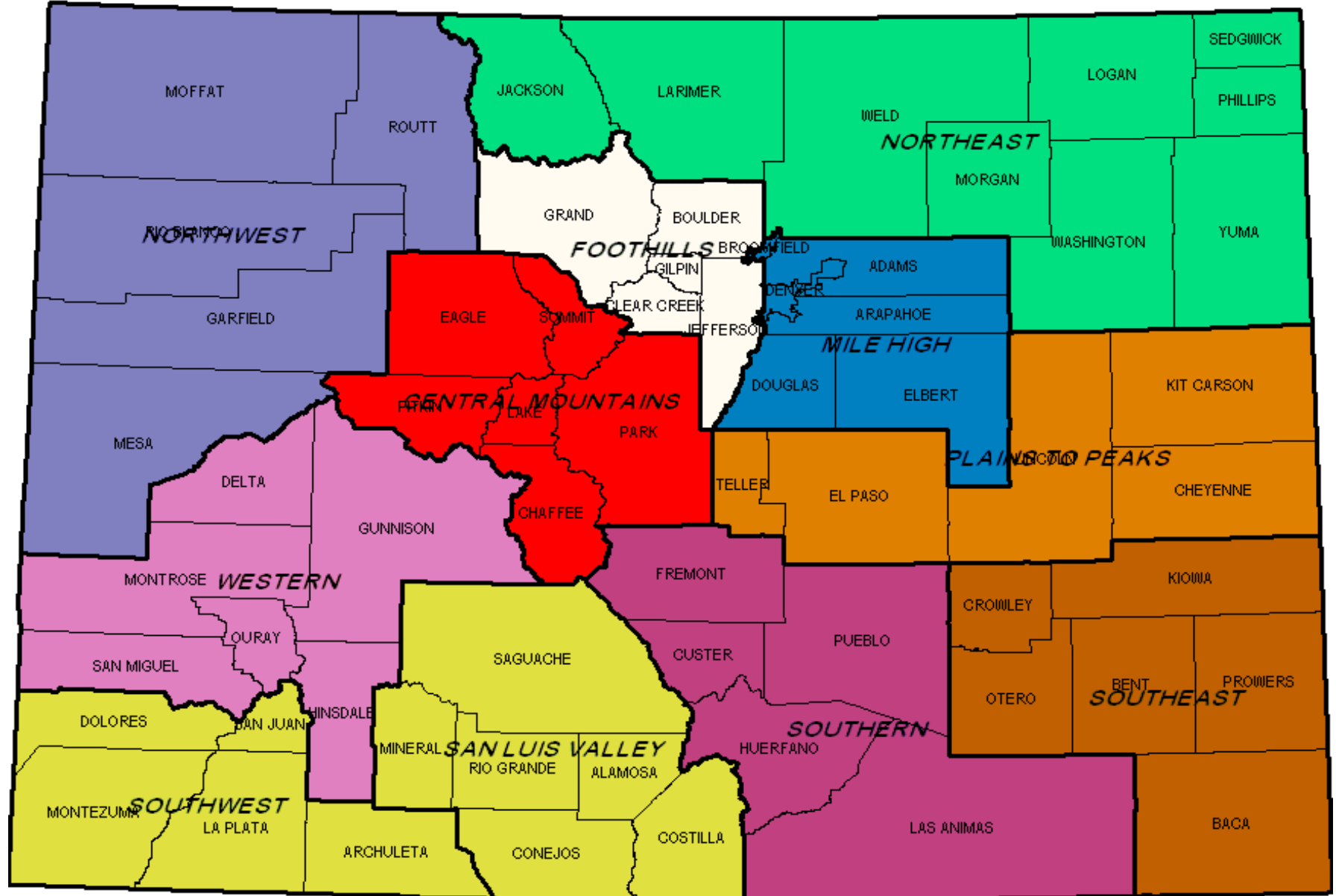
| Ex-officio Member | Representing |
|--------------------------|---|
| Michael Carter | Director of the state board for community colleges and occupational education or the director's designee |
| Glenn Davis | Director of the office of transportation safety in the Department of Transportation or designee |
| Scott Friend | Representative of the Colorado State Patrol |
| Jim Hibbard | Member of the Colorado Coroners Association, as selected by the association |
| Don Krueger | Representative of the County Sheriffs of Colorado |
| D. Randy Kuykendall | Executive Director of the Department of Public Health and Environment or designee |
| Ron Lutz | Manager of telecommunication services of the Colorado information technology services in the Department of Personnel, General Support Services, or the manager's designee |



Colorado Department
of Public Health
and Environment

Regional Emergency Medical and Trauma Advisory Councils

November 2006



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Emergency Medical Services Provider Grants Awards

Fiscal Year 2006-2007

| Agency Name | Category Funded | Amount Awarded |
|--|-----------------------|----------------|
| Alamosa County Ambulance District | Vehicle | \$43,803.18 |
| Associated Governments Of Nw Colorado | Data Collection | \$27,000.00 |
| Bennett Fire Protection District #7 | EMS Equipment | \$4,354.00 |
| Beulah Ems | Training | \$1,600.00 |
| Beulah Ems | EMS Equipment | \$5,887.00 |
| Black Forest Fire Rescue Protection District | Training | \$1,500.00 |
| Black Forest Fire Rescue Protection District | Vehicle | \$52,350.00 |
| Cascade Volunteer Fire Department | Extrication Equipment | \$4,777.00 |
| Chaffee County Emergency Medical Services | Training | \$1,650.00 |
| Chaffee County Emergency Medical Services | Defibrillator | \$9,959.10 |
| City Of Wray | EMS Equipment | \$4,730.66 |
| Clear Creek County Ambulance | Defibrillator | \$15,230.00 |
| Colorado Northwestern Community College | Training | \$9,958.20 |
| Crook Fire Protection District | Defibrillator | \$3,715.35 |
| Crowley County | Training | \$5,695.00 |
| Crowley County | Vehicle | \$48,210.50 |
| Delta County Ambulance District | Vehicle | \$45,900.00 |
| Denver Health & Hospital Authority | Injury Prevention | \$17,999.25 |
| Durango Fire And Rescue Authority | Defibrillator | \$28,891.50 |
| East Phillips County Hospital District | Vehicle | \$43,700.00 |
| East Phillips County Hospital District | Defibrillator | \$6,250.00 |
| Elizabeth Fire Protection District | EMS Equipment | \$2,234.70 |
| Elk Creek Fire Protection District | Training | \$6,000.00 |
| Elk Creek Fire Protection District | Data Collection | \$3,350.00 |
| Ellicott Fire Department | Vehicle | \$25,000.00 |
| Emergency Medical Services Assn of Colorado | Training | \$3,930.30 |
| Florence Volunteer Fire Dept. | Vehicle | \$52,491.85 |
| Four Mile Emergency Services, Inc. | Training | \$3,865.50 |
| Four Mile Emergency Services, Inc. | EMS Equipment | \$7,770.15 |
| Gateway-Unaweep Fire Protection District | Vehicle | \$94,500.00 |
| Gunnison Valley Hospital-EMS | EMS Equipment | \$15,452.94 |
| Hinsdale County | Training | \$4,130.00 |
| Hinsdale County | Communications | \$2,345.00 |
| Holly Fire And Ambulance Service | Data Collection | \$3,000.00 |
| Jamestown Volunteer Fire Department | Vehicle | \$12,800.00 |
| Jamestown Volunteer Fire Department | Communications | \$3,212.80 |
| Kit Carson County Ambulance Service | Vehicle | \$34,760.00 |
| La Jara Fire Department | Extrication Equipment | \$10,325.00 |
| La Junta Rural Fire Protection District | Vehicle | \$47,355.00 |

| | | |
|---|-----------------------|-------------|
| Lake County Search And Rescue | Vehicle | \$16,500.00 |
| Lamar Ambulance Service | Extrication Equipment | \$9,500.00 |
| Lands End Fire Protection District | Vehicle | \$39,420.00 |
| Larimer County Search And Rescue | Vehicle | \$21,900.00 |
| Limon Ambulance Service | EMS Equipment | \$18,600.13 |
| Limon Ambulance Service | Training | \$9,074.00 |
| Livermore Fire Protection District | EMS Equipment | \$3,400.00 |
| Livermore Fire Protection District | Extrication Equipment | \$19,068.00 |
| Lyons Fire Protection District | EMS Equipment | \$5,258.03 |
| Lyons Fire Protection District | Communications | \$3,743.00 |
| Mancos Ambulance Association | Vehicle | \$47,232.00 |
| Maybell Ambulance | Defibrillator | \$6,250.00 |
| Morgan Community College | Training | \$63,025.00 |
| Morgan County Ambulance Service | Communications | \$33,204.50 |
| Mountain Communities Fire Protection District | EMS Equipment | \$752.34 |
| Mountain Communities Fire Protection District | Communications | \$1,987.45 |
| Mountain View Fire Protection District | Defibrillator | \$7,500.00 |
| North Metro Fire Rescue District | EMS Equipment | \$8,227.50 |
| North Park Hospital District | Vehicle | \$51,750.00 |
| North Washington Fire Protection | Data Collection | \$8,000.00 |
| Northeastern Junior College | Training | \$32,566.05 |
| Northwest Fremont E.M.S., Inc. | Training | \$2,370.00 |
| Pleasant View Fire District | EMS Equipment | \$1,992.35 |
| Ramrod | Communications | \$4,248.00 |
| Ramrod | Defibrillator | \$11,250.00 |
| San Juan Basin Technical College | Training | \$84,075.00 |
| San Juan Basin Technical College | EMS Equipment | \$2,509.80 |
| Sedgwick County Ambulance Service | Training | \$5,572.50 |
| Sedgwick County Ambulance Service | EMS Equipment | \$3,054.00 |
| Silverton San Juan County Ambulance Assn | Vehicle | \$45,796.00 |
| Southeast Colorado Hospital Ambulance | Vehicle | \$21,900.00 |
| Southwest Teller County Hospital District Ems | Vehicle | \$46,800.00 |
| Springfield Ems Association Inc. | Training | \$11,437.29 |
| St. Mary's Hospital | EMS Equipment | \$10,224.50 |
| The Memorial Hospital Ems | Communications | \$2,035.00 |
| Thompson Valley Emergency Medical Services | EMS Equipment | \$2,925.00 |
| Town Of Silt Volunteer Ambulance | EMS Equipment | \$2,125.00 |
| Tri-Lakes Fire Protection District | Vehicle | \$54,677.63 |
| Tri-Lakes Fire Protection District | Data Collection | \$11,750.00 |
| Trinidad State Junior College | Training | \$49,640.00 |
| Ute Mountain Ute Public Safety Department | Vehicle | \$94,194.00 |
| Walsh District Hospital | Defibrillator | \$10,800.00 |
| Washington County Ambulance Service | EMS Equipment | \$3,375.00 |

Appendix D

| | | |
|--------------------------------------|---------|-----------------------|
| West Custer County Hospital District | Vehicle | \$53,740.50 |
| Total | | \$1,659,133.54 |

| Recruitment and Retention Grants | Funded |
|---|--------------------|
| Florissant Fire Protection District | \$502.66 |
| Lower Blue Fire Protection District | \$1,500.00 |
| NWRETAC | \$1,550.00 |
| Palisade Fire Department | \$1,500.00 |
| SECRETAC (Manager Conference) | \$5,000.00 |
| | |
| | \$10,052.66 |

**Regional Emergency Medical and Trauma Advisory Councils
Funding Summary November 2006**

| RETAC Name | Participating Counties | Funding |
|-------------------------|---|----------------|
| 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 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 |
| Southeast 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

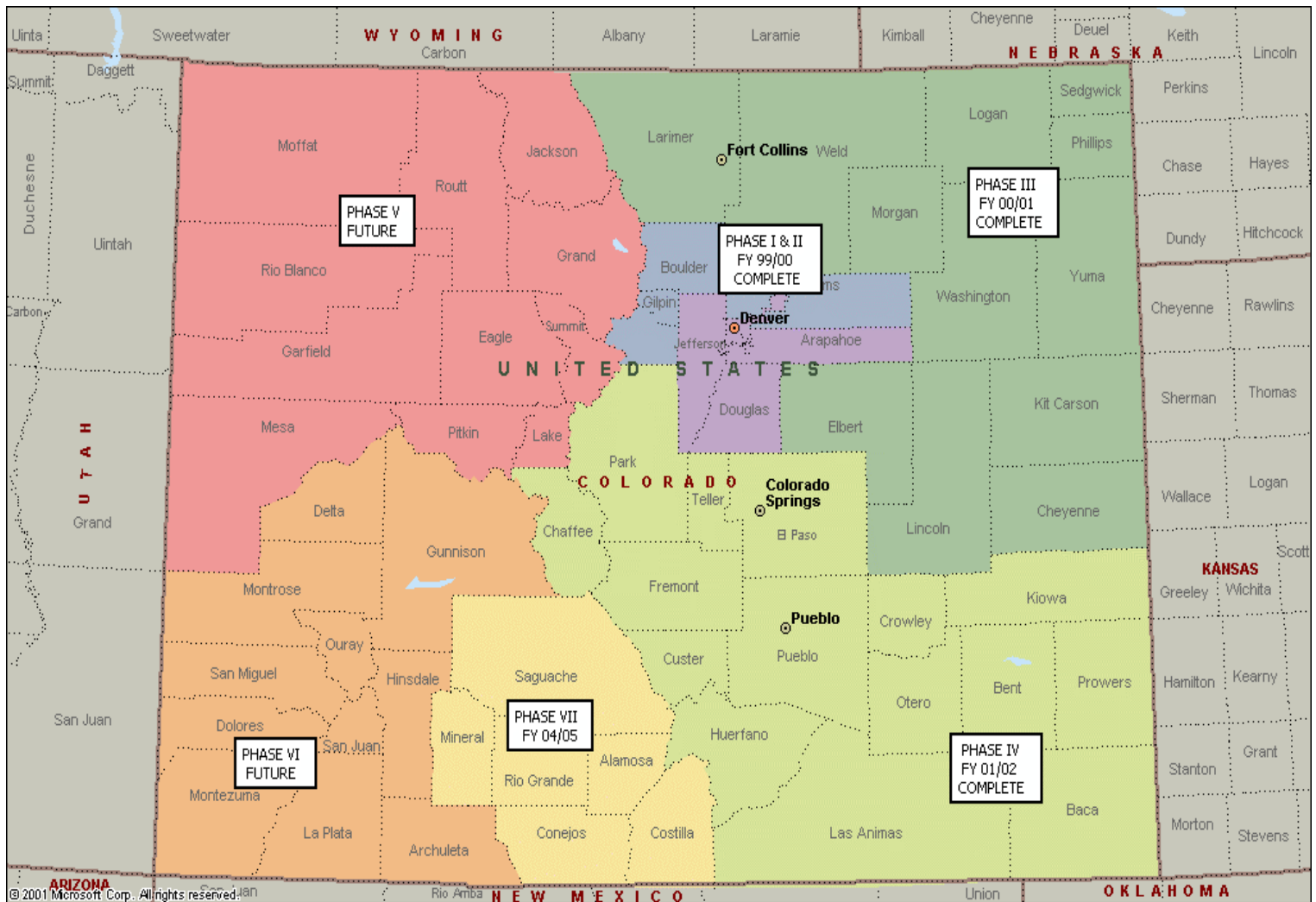
Medical Advisory Group

November 2006

| Representation | Medical Advisor |
|----------------|---|
| Rural | David Cionni, M.D., F.A.C.E.P. Steamboat Springs, Colorado 80477 |
| Urban | John A. Collins, M.D. , F.A.C.S. Fort Collins, Colorado 80524 |
| Urban | Chris Colwell, M.D. Denver, Colorado 80204 |
| Rural | William Hall, M.D. Grand Junction, CO 81501 |
| Rural | Dan Noonan Durango, Colorado 81301 |
| Urban | David Ross, D.O. Colorado Springs, CO 80907 |
| Rural | Timothy Zimmerman, EMT-P Fredrick, Colorado 80533 |

| Colorado Department of Public Health and Environment Staff |
|--|
| Fred Severyn, M.D. Chairman, Medical Advisory Group Colorado State Emergency Medical Services Medical Director 4300 Cherry Creek Drive South, A-2 Denver, Colorado 80246 |

Digital Trunked Radio System Phase Implementation Schedule Map As of 12/04 Unchanged



COLORADO DESIGNATED TRAUMA CENTERS

Updated August 2006

| Level | FacilityName | City | State | Zip |
|-------|--|------------------|-------|-------|
| Non D | Animas Surgical Hospital | Durango | CO | 81301 |
| IV | Arkansas Valley Regional Medical Center | La Junta | CO | 81050 |
| III | Aspen Valley Hospital | Aspen | CO | 81611 |
| III | Avista Adventist Hospital | Louisville | CO | 80027 |
| Non D | Avon Medical Center | Avon | CO | 81620 |
| Non D | Basin Clinic | Naturita | CO | 81422 |
| III | Boulder Community Hospital | Boulder | CO | 80301 |
| Non D | Boulder Community Hospital-Foothills | Boulder | CO | 80303 |
| V | Breckenridge Medical Center | Breckenridge | CO | 80443 |
| Non D | Centennial Medical Plaza | Englewood | CO | 80112 |
| Non D | Colorado Mountain Medical @ Copper Mtn. | Copper Mountain | CO | 80443 |
| III | Colorado Plains Medical Center | Fort Morgan | CO | 80701 |
| IV | Community Hospital | Grand Junction | CO | 81502 |
| IV | Conejos County Hospital Corporation | La Jara | CO | 81140 |
| Non D | Crested Butte Medical Center | Crested Butte | CO | 81225 |
| IV | Delta County Memorial Hospital | Delta | CO | 81416 |
| I | Denver Health Medical Center | Denver | CO | 80204 |
| IV | East Morgan County Hospital | Brush | CO | 80723 |
| IV | Estes Park Medical Center | Estes Park | CO | 80517 |
| III | Exempla Good Samaritan Medical Center | Lafayette | CO | 80026 |
| Non D | Exempla St. Josephs Hospital | Denver | CO | 80218 |
| Non D | Family Health West Hospital | Fruita | CO | 81521 |
| IV | Granby Medical Center | Granby | CO | 80446 |
| IV | Grand River Medical Center | Rifle | CO | 81650 |
| IV | Gunnison Valley Hospital | Gunnison | CO | 81230 |
| IV | Haxtun Hospital District | Haxtun | CO | 80731 |
| IV | Heart Of The Rockies Regional Medical Center | Salida | CO | 81201 |
| IV | Keefe Memorial Hospital | Cheyenne Wells | CO | 80810 |
| V | Keystone Medical Center | Keystone | CO | 80435 |
| IV | Kit Carson County Memorial Hospital | Burlington | CO | 80807 |
| IV | Kremmling Memorial Hospital District | Kremmling | CO | 80459 |
| IV | Lincoln Community Hospital | Hugo | CO | 80821 |
| II | Littleton Adventist Hospital | Littleton | CO | 80122 |
| III | Longmont United Hospital | Longmont | CO | 80501 |
| III | Lutheran Medical Center | Wheatridge | CO | 80033 |
| III | Mckee Medical Center | Loveland | CO | 80538 |
| IV | Melissa Memorial Hospital | Holyoke | CO | 80734 |
| II | Memorial Hospital | Colorado Springs | CO | 80909 |
| III | Mercy Regional Medical Center | Durango | CO | 81301 |
| IV | Montrose Memorial Hospital | Montrose | CO | 81404 |
| Non D | Mountain Family Health Center | Central City | CO | 80427 |
| IV | Mt San Rafael Hospital | Trinidad | CO | 81082 |
| II | North Colorado Medical Center | Greeley | CO | 80631 |
| IV | North Suburban Medical Center | Thornton | CO | 80229 |

COLORADO DESIGNATED TRAUMA CENTERS

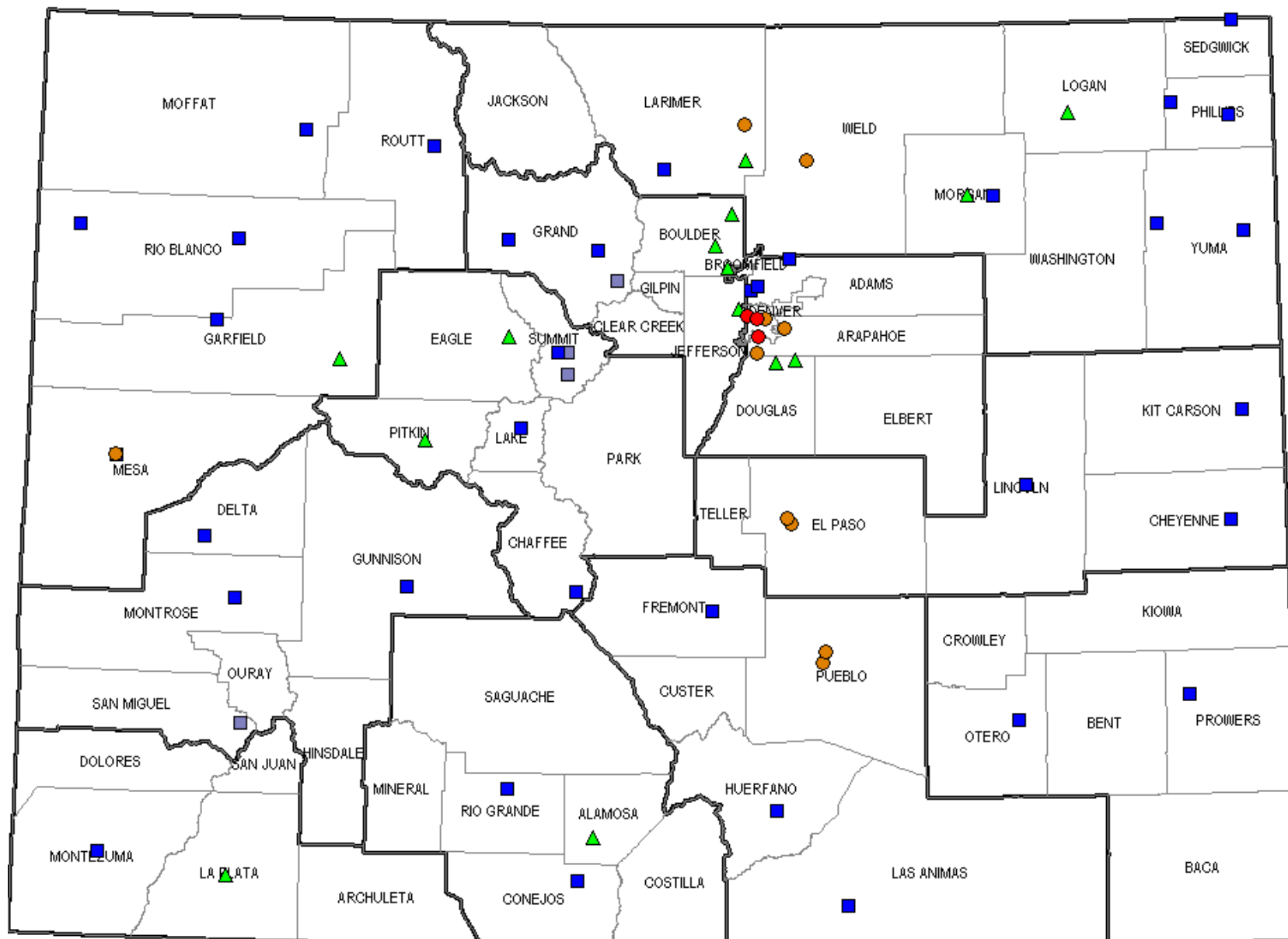
Updated August 2006

| | | | | |
|-------|--|-------------------|----|-------|
| Non D | Pagosa Springs Family Medicine Center | Pagosa Springs | CO | 81147 |
| III | Parker Adventist Hospital | Parker | CO | 80138 |
| II | Parkview Medical Center | Pueblo | CO | 81003 |
| II | Penrose St Francis Health Services | Colorado Springs | CO | 80907 |
| IV | Pioneers Hospital Of Rio Blanco County | Meeker | CO | 81641 |
| Non D | Plains Medical Center | Limon | CO | 80828 |
| IV | Platte Valley Medical Center | Brighton | CO | 80601 |
| Non D | Porter Adventist Hospital | Denver | CO | 80210 |
| II | Poudre Valley Hospital | Fort Collins | CO | 80524 |
| Non D | Presbyterian/St. Lukes Medical Center | Denver | CO | 80218 |
| IV | Prowers Medical Center | Lamar | CO | 81047 |
| IV | Rangely District Hospital | Rangely | CO | 81648 |
| IV | Rio Grande Hospital | Del Norte | CO | 81137 |
| Non D | Rose Medical Center | Denver | CO | 80277 |
| III | San Luis Valley Regional Medical Center | Alamosa | CO | 81101 |
| IV | Sedgwick County Memorial Hospital | Julesburg | CO | 80737 |
| V | Seven-Mile Medical Clinic | Winter Park | CO | 80482 |
| III | Sky Ridge Medical Center | Lone Tree | CO | 80124 |
| Non D | Southeast Colorado Hospital District | Springfield | CO | 81073 |
| IV | Southwest Memorial Hospital | Cortez | CO | 81321 |
| IV | Spanish Peaks Regional Health Center | Walsenburg | CO | 81089 |
| I | St Anthony Central Hospital | Denver | CO | 80204 |
| IV | St Anthony North Hospital | Westminster | CO | 80031 |
| II | St Mary-Corwin Medical Center | Pueblo | CO | 81004 |
| II | St Marys Hospital and Medical Center | Grand Junction | CO | 81501 |
| IV | St Thomas More Hosp | Canon City | CO | 81212 |
| IV | St Vincent General Hospital District | Leadville | CO | 80461 |
| III | Sterling Regional Medcenter | Sterling | CO | 80751 |
| IV | Summit Medical Center | Frisco | CO | 80443 |
| I | Swedish Medical Center | Englewood | CO | 80110 |
| Non D | Swedish Southwest ER | Littleton | CO | 80123 |
| V | Telluride Medical Center | Telluride | CO | 81435 |
| Non D | The Children's Hospital @ Parker Adventist | Parker | CO | 80138 |
| RPTC | The Children's Hospital Association | Denver | CO | 80218 |
| II | The Medical Center Of Aurora | Aurora | CO | 80012 |
| IV | The Memorial Hospital | Craig | CO | 81625 |
| Non D | Uncompahgre Combined Clinic | Norwood | CO | 81423 |
| II | University Of Colorado Hospital Authority | Denver | CO | 80262 |
| Non D | University Of Colorado Hospital-Anschutz | Denver | CO | 80262 |
| III | Vail Valley Medical Center | Vail | CO | 81657 |
| III | Valley View Hospital Association | Glenwood Springs | CO | 81601 |
| Non D | Weisbrod Memorial County Hospital | Eads | CO | 81036 |
| IV | Wray Community District Hospital | Wray | CO | 80758 |
| IV | Yampa Valley Medical Center | Steamboat Springs | CO | 80477 |
| IV | Yuma District Hospital | Yuma | CO | 80758 |

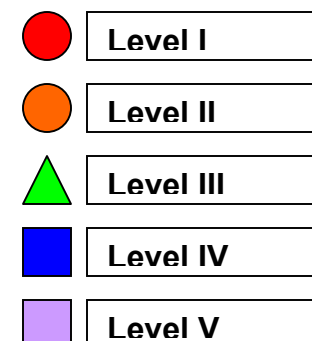
COLORADO DESIGNATED TRAUMA CENTERS

Updated August 2006

| | |
|---|-----------|
| RPTC (Regional Pediatric Trauma Center) | 1 |
| Level I | 3 |
| Level II | 10 |
| Level III | 15 |
| Level IV | 35 |
| Level V | 4 |
| Total Designated Trauma Centers | 68 |
| Total Non-Designated Facilities | 21 |
| Total | 89 |

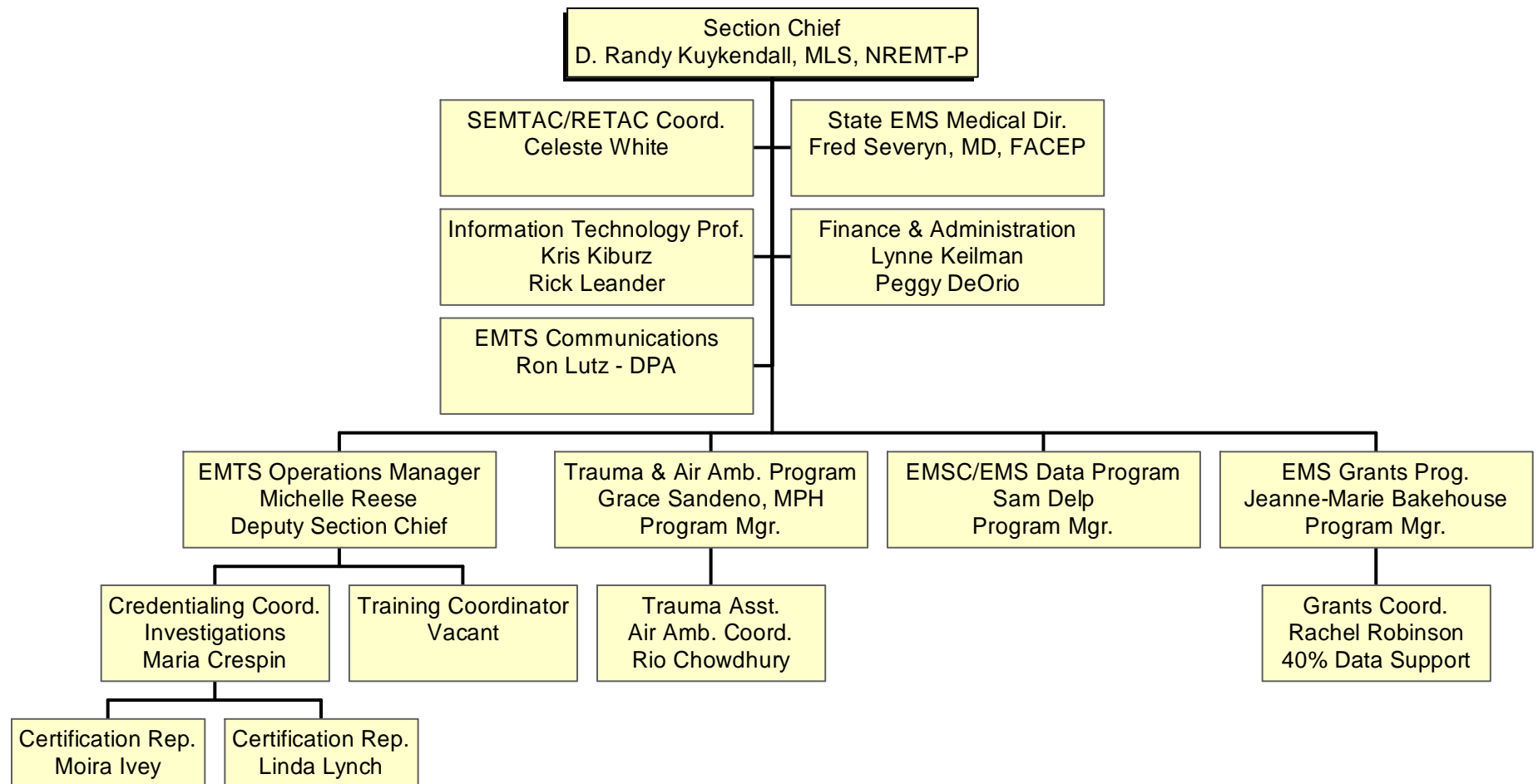


Colorado Department
of Public Health
and Environment



State of Colorado Designated Trauma Centers. Level I-V

Colorado Department of Public Health and Environment
Emergency Medical and Trauma Services Section
November 2006



Certification Statistics

Between July 1, 2005, and June 30, 2006, staff has processed 5,309 applications as listed below.

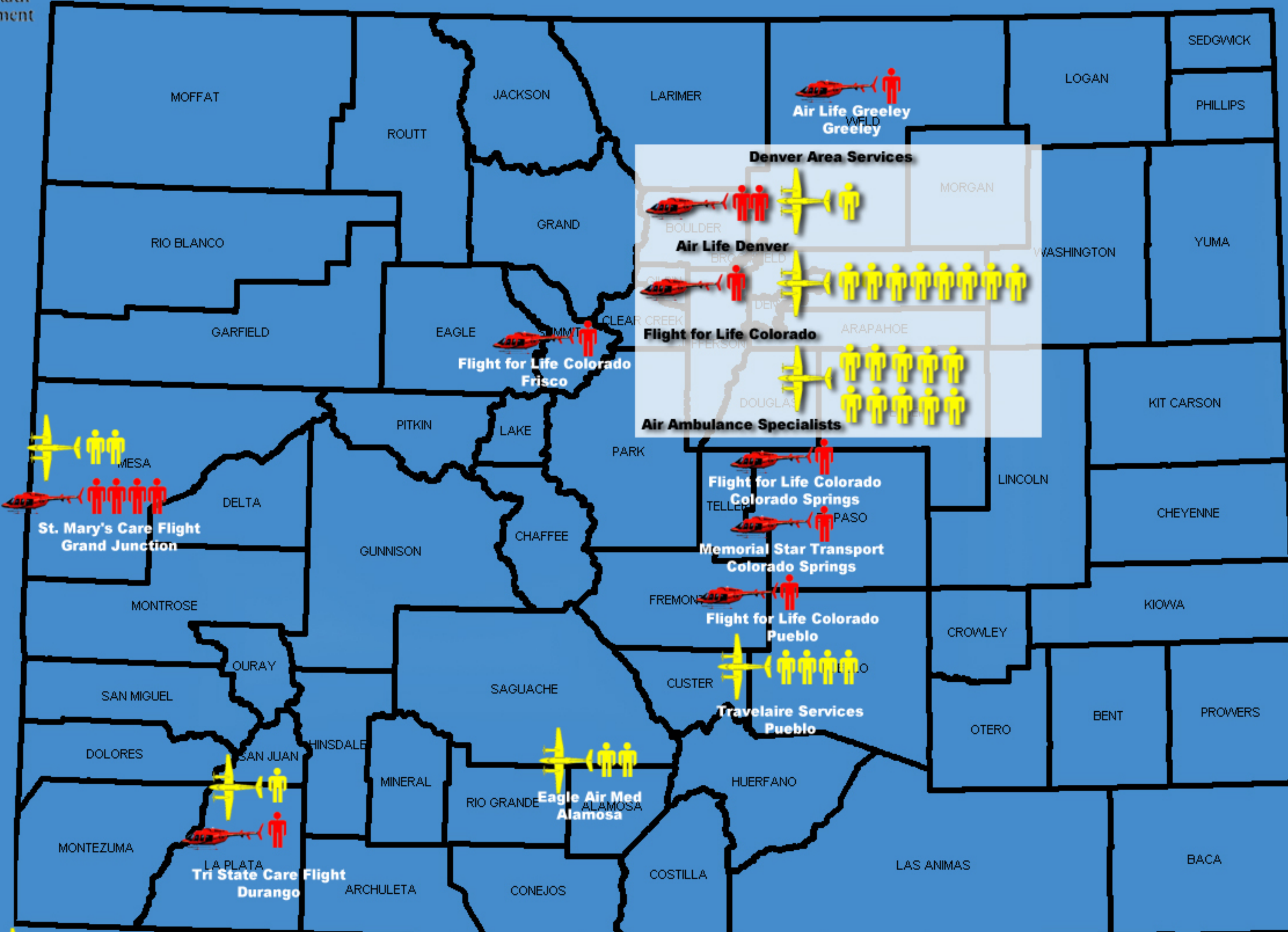
| Activity | | Applications Processed |
|--|------------------|------------------------|
| Initial Certification requires NREMT certification (includes graduates from Colorado programs and individuals coming from other states) | | |
| | EMT-Basic | 1748 |
| | EMT-Intermediate | 2 |
| | EMT-Paramedic | 123 |
| Renewal of Certification Using NREMT Certification | | |
| | EMT-Basic | 201 |
| | EMT-Intermediate | 9 |
| | EMT-Paramedic | 340 |
| Renewal of Certification Through State Requirements | | |
| | EMT-Basic | 2064 |
| | EMT-Intermediate | 241 |
| | EMT-Paramedic | 473 |
| Re-Entry of Certification Using NREMT Certification | | |
| | EMT-Basic | 26 |
| | EMT-Intermediate | 1 |
| | EMT-Paramedic | 12 |
| Re-Entry of Certification Not Using NREMT Certification | | |
| | EMT-Basic | 68 |
| | EMT-Intermediate | 1 |
| | EMT-Paramedic | 0 |



Colorado Department
of Public Health
and Environment

Emergency Medical and Trauma Services Section Air Ambulance Program Colorado and Adjacent States

 **Air Link**
Scottsbluff, NE



 **San Juan Reg. Air Care**
Farmington, NM

 Patient Capacity by Airplane

 Airplane Service

 Patient Capacity by Helicopter

 Helicopter Service