EXHIBIT 34
DATE 01-24-2011
HB 262

A REPORT TO THE MONTANA LEGISLATURE

PERFORMANCE AUDIT

Emergency Medical Services (EMS)

Department of Public Health and Human Services, and the Board of Medical Examiners

JUNE 2008

LEGISLATIVE AUDIT DIVISION

07P-11

Legislative Audit Committee

Representatives

Bill Beck
Bill Glaser
Betsy Hands
Hal Jacobson, Vice Chair
John Sinrud
Bill Wilson

Senators

Joe Balyeat, Chair
Greg Barkus
Steve Gallus
Dave Lewis
Lynda Moss
Mitch Tropila

Audit Staff

Performance

Nick Hill
Angus Maciver
Misty Wallace

Fraud Hotline
Help eliminate fraud, waste, and abuse in state government. Call the Fraud Hotline at:

(Statewide)
1-800-222-4446
(in Helena)
444-4446

Performance Audits

Performance audits conducted by the Legislative Audit Division are designed to assess state government operations. From the audit work, a determination is made as to whether agencies and programs are accomplishing their purposes, and whether they can do so with greater efficiency and economy. The audit work is conducted in accordance with audit standards set forth by the United States Government Accountability Office.

Members of the performance audit staff hold degrees in disciplines appropriate to the audit process. Areas of expertise include business and public administration, mathematics, statistics, economics, finance, political science, english, criminal justice, computer science, education, and biology.

Performance audits are performed at the request of the Legislative Audit Committee which is a bicameral and bipartisan standing committee of the Montana Legislature. The committee consists of six members of the Senate and six members of the House of Representatives.

Direct comments or inquiries to:
Legislative Audit Division
Room 160, State Capitol
PO Box 201705
Helena MT 59620-1705
(406) 444-3122
Reports can be found in electronic format at:
http://leg.mt.gov/audit

LEGISLATIVE AUDIT DIVISION

Scott A. Seacat, Legislative Auditor
Tori Hunthausen,
Chief Deputy Legislative Auditor

Deputy Legislative Auditors
James Gillett
Angie Grove

June 2008

The Legislative Audit Committee
of the Montana State Legislature:

This is our performance audit of emergency medical services (EMS) in Montana. The Department of Public Health and Human Services (DPHHS) and the Board of Medical Examiners (BOME) regulate and license separate parts of EMS. Audit findings are primarily directed to DPHHS. Our report contains information regarding gaps in EMS availability, enhancing EMS standards, and strengthening management activities. Responses from DPHHS and BOME officials are contained at the end of the report.

We wish to express our appreciation to all DPHHS, Department of Labor and Industry, BOME, and local EMS personnel for their cooperation and assistance during the audit.

Respectfully submitted,

/s/ Scott A. Seacat

Scott A. Seacat
Legislative Auditor

Room 160 • State Capitol Building • PO Box 201705 • Helena, MT • 59620-1705
Phone (406) 444-3122 • FAX (406) 444-9784 • E-Mail lad@mt.gov

TABLE OF CONTENTS

Figures and Tables iv
Appointed and Administrative Officials v
Report Summary S-1

CHAPTER I – INTRODUCTION AND BACKGROUND 1
Introduction 1
Audit Scope 1
Audit Objectives 1
Fieldwork Methodologies 2
Background 2
EMS Activity 3
Number of EMS Incidents Occurring Each Year 4
National EMS Standards 4
NHTSA Essential Components of EMS 5
Report Organization 7

CHAPTER II – GAPS IN EMS AVAILABILITY 9
Introduction 9
Characteristics of EMS Incidents 9
Type of Scene and Incident for EMS Incidents 9
Time of Day Analysis 9
Capabilities of EMS 10
Types and Levels of Service 10
Capabilities of BLS with ALS Endorsements License Level Not Clearly Defined 11
DPHHS Efforts to Establish Criteria for Endorsements Not Complete 11
Hierarchy of Care Shows ALS Level Care is Limited 12
Availability of EMS 13
Number of EMTs per Capita 13
Availability of EMTs Affects Staffing of EMS Units 13
Proximity of EMS to Populations 14
Urban Populations Have Better Access to EMS 15
Access to EMS for American Indian Populations 15
Motor Vehicle Crashes and Proximity to EMS 16
Gaps in Available Services Could Be Improved 18

CHAPTER III– ENHANCING EMS STANDARDS 19
Introduction 19
EMS Response Times 19
National Response Time Benchmarks 19
Response Times in Montana 19
Montana Lacks Response Time Benchmarks 21
Importance of Timely Response 21
Records and Reports 21
"At Patient" Times Not Recorded in Montana 22

Medical Direction 23
Various Types and Definitions of Medical Direction Exist for Similar Purposes and Should Be Clarified 23
NHTSA Guidelines on Medical Direction Are Not Being Followed 24
Medical Direction Inconsistent Across the State 24
Medical Direction Statistics of EMS Units for Montana 24
Lack of Evidence Indicating Appropriate Medical Direction is Occurring 25
Dual Role Regarding EMS Complaints 26
Statutory Clarification Could Minimize Risks with EMS Complaints Handling 27
Provider Evaluation and Quality Improvement 27
Evaluation of EMS Needed to Assess Quality 28
Public Expectations of EMS 28
EMS Oversight Approach Should be Modified 28
Information Systems Used for Quality Improvement Process 29
Other States and Montana's Trauma System Collect Patient Outcomes Data 29
Statutory Clarification May Be Required to Fully Change Oversight Approach 29
Issues with EMS Information System at DPHHS 30
NEMSIS Establishes EMS Data Points to Collect 30
Implementation of OPHI Necessary for EMS 31
EMS Information Not Integrated 31

CHAPTER IV – STRENGTHENING EMS GOVERNANCE 33
Introduction 33
EMS Program Mission 33
EMS Program Not Achieving Its Mission 33
EMS Program Lacks Strategic Direction or Plan 33
Strategic Plan for EMS System Started, But Unfinished 33
Adjusting EMS Program Staffing to Strategic Priorities 34
Other Staffing Issues Identified During Audit Fieldwork 35
A Change in Staffing May Address More NHTSA Components 35
Management Controls of Regulatory Activities Could be Improved 36
EMS Provider Inspections 36
Audit Work Identified Concerns with Inspection Process 36
Effectiveness and Efficiency of Inspection Process Could be Improved 37
Vehicle Permits 37
Vehicle Records Are Inaccurate 38
Complaint Documentation 38
EMS Licensure Fee 39
Documentation of EMS Patient Care by BLS Level Providers Could Be Improved 39
Current Governance Structure is Divided and Confusing 40
Consolidated EMS Governance Entity Could Provide Leadership and Accountability 42

DEPARTMENT RESPONSE **A-1**
Department of Public Health and Human Services A-3
Board of Medical Examiners A-9

Figures and Tables

Figures

Figure 1 Locations of EMS Units Visited During Fieldwork 4

Figure 2 Time of Day for EMS Incidents 10

Figure 3 Number of EMS Units by Level of Care 12

Figure 4 Locations of EMS Units by Level of Service 13

Figure 5 Distance from Motor Vehicle Crash Sites to Advanced Level EMS Care 17

Figure 6 Urban Versus Rural Average EMS Response Times 20

Figure 7 Emergency Medical Services and Trauma Systems Section Staff 34

Figure 8 Montana's Emergency Medical Services Governance Structure 41

Tables

Table 1 Number and Distribution of 9-1-1 Related EMS Incidents 4

Table 2 Types of EMS Scenes and Locations 9

Table 3 Proximity of Urban and Rural Populations to EMS Units 15

Table 4 Comparisons of Proximity to All Types of EMS Units for American Indian Populations 16

Table 5 Motor Vehicle Crash Fatality Rates 17

Table 6 Medical Direction Caseloads 25

APPOINTED AND ADMINISTRATIVE OFFICIALS

Department of Public Health and Human Service

Joan Miles, Director

Jane Smilie, Administrator, Public Health and Safety Division

Todd Harwell, Chief, Chronic Disease Prevention and Health Promotion Bureau

Jim DeTienne, Supervisor, Emergency Medical Services and Trauma System Section

Department of Labor and Industry

Keith Kelly, Commissioner

Mike Cooney, Administrator, Business Standards Division

Maggie Connor, Chief, Health Care Licensing Bureau

Board of Medical Examiners

Jeannie Worsech, Executive Director

Arthur K. Fink, President

James Upchurch, Vice President

Dwight Thompson, Secretary

Mary Guggenheim

Patrick Boylan

Dean Center

Michael D. Lapan

Pat Bollinger

Carole Erickson

Kristin Spanjian

Anna Earl

Kay Bills-Kazimi

REPORT SUMMARY

Emergency Medical Services (EMS)

Closing Gaps in Available Services and Strengthening Agency Management Controls and Governance Could Improve Delivery of EMS in Montana

Introduction

EMS is defined in statute as prehospital care and transportation furnished by a combination of persons licensed by the Board of Medical Examiners (BOME) and resources that are licensed by the Department of Public Health and Human Services (DPHHS). The National Highway and Traffic Safety Administration (NHTSA) is the national leader for EMS, which establishes guidelines for the essential components needed for an effective EMS system. A limited amount of data is available about EMS in Montana. As such, the audit report contains original research and information not previously available.

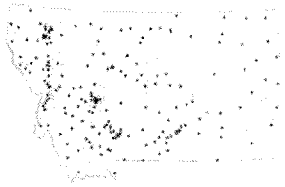
Locations of EMS Units by Level of Service

ALS Care 24/7 - 33

Some Level of ALS Care - 135

9-1-1 Responding Units - 224

All Licensed EMS Units - 267



Source: Compiled by the Legislative Audit Division.

Audit Findings

Analysis of EMS capabilities and availability shows gaps in available services exist, primarily for advanced life support (ALS) care in rural areas and for all levels of care in central and eastern parts of Montana. Based on our review of administration and management of EMS at the state level, standards relative to the timeliness of EMS response, quality improvement, and medical direction could be enhanced. Additionally, management controls for EMS program activities within DPHHS could be strengthened and a new EMS governance structure should be considered.

Audit Recommendations

Audit work identified multiple areas of EMS that could be improved, which resulted in twelve recommendations to DPHHS and/or the BOME. The recommendations relate to:

- Defining criteria and capabilities for the basic life support with advanced life support endorsements ambulance licensure level.
- Identifying and addressing gaps in services across the state to assure statewide delivery of EMS.
- Enhancing benchmarks for response times to EMS incidents.
- Developing oversight mechanisms for medical direction and clarifying multiple existing definitions in law and rule.

- Eliminating dual authority in law regarding handling and investigation of EMS complaints.
- Implementing a comprehensive prehospital management information system.
- Conducting a strategic planning process to identify goals and objectives and align program activities with the mission and vision of the EMS program.
- Strengthening management controls over inspections, vehicle permits, complaint documentation, ambulance licensure fees, and enforcement of compliance with the administrative rule for EMS records and reports.
- Developing a new EMS governance structure by either consolidating multiple existing EMS committees and advisory councils or establishing a new EMS system governance entity.

Chapter I – Introduction and Background

Introduction

The Legislative Auditor requested a performance audit of Emergency Medical Services (EMS) in Montana. We conducted an audit assessment and determined an audit was feasible and warranted. In conjunction with audit work, Children, Families, Health and Human Services Interim Committee deliberations occurred relative to Senate Joint Resolution 5 (SJR5) passed during the 2007 Legislative Session. SJR5 requested an interim study to identify the issues and challenges involved in providing EMS and to report on strategies that could strengthen Montana's EMS. The Legislative Audit Division developed audit objectives and subsequently, coordinated efforts with the Legislative Services Division (LSD) relative to SJR5 whenever possible. Due to these coordinated efforts, we issued a memorandum to LSD regarding potential legislative action for EMS for the interim committee's consideration.

This report provides information about the audit work conducted for EMS at the state program and community levels as well as our associated findings. Audit work included collecting and analyzing information about EMS not previously reported. This report contains information from original research in Montana relative to EMS. This information could not be provided at the time of the audit by the EMS program at the Department of Public Health and Human Services (DPHHS) for various reasons discussed throughout this report.

Audit Scope

The audit focused on the ground ambulance prehospital care component of EMS (excluded inter-facility transfers) and EMS responsibilities of DPHHS and the Board of Medical Examiners (BOME) for fiscal years 2005 and 2006.

Audit Objectives

Our audit objectives were to:

1. Determine if EMS is meeting national standards.
2. Assess the governance structure of Montana's EMS.
3. Determine if EMS program activities within the Emergency Medical Services and Trauma Services (EMSTS) Section at DPHHS are efficient and effective.
4. Illustrate the statewide availability of EMS resources by geographic area, compare resource distribution to EMS activity, and identify gaps in the system as a result of that distribution.

Fieldwork Methodologies

The following fieldwork methodologies were developed to address the audit objectives:

- Interview EMS stakeholders and DPHHS and BOME personnel.
- Review applicable laws, rules, industry standards, and existing reports on the condition of Montana's EMS.
- Review 360 EMS incident records at the local level and 205 EMS licensee records at DPHHS for two licensing cycles, collect information from those records, and map data using GIS mapping software.
- Attend EMS Task Force, State Trauma Care Committee, and Children, Family, Health and Human Services Interim Committee meetings.
- Gather information from other states on how EMS programs/systems operate.

Background

EMS is defined in statute as prehospital care and transportation furnished by a combination of persons licensed by the BOME and resources that are licensed by DPHHS. Other sources define EMS as a service providing out-of-hospital acute care and transport to definitive care for patients with illnesses and injuries which they believe constitute a medical emergency. National standards for EMS are established by the Office of EMS of the federal National Highway Traffic and Safety Administration (NHTSA). At the state level, the EMSTS Section of DPHHS includes an EMS program and is responsible for regulatory oversight of EMS in Montana. According to legislative purpose for EMS cited in law, section 50-6-101, MCA:

- "The public welfare requires the providing of assistance and encouragement for the development of a comprehensive emergency medical services program for Montanans who each year are dying and suffering permanent disabilities needlessly because of inadequate emergency medical services. The repeated loss of persons who die unnecessarily because necessary life-support personnel and equipment are not available to victims of accidents and sudden illness is a tragedy that can and must be eliminated. The development of an emergency medical services program is in the interest of the social well-being and health and safety of the state and all its people."

Additionally, EMS ambulance licensing laws, section 50-6-323, MCA, list the powers and duties of DPHHS regarding EMS, such as general authority to supervise and regulate emergency medical services in Montana, and authority to prescribe and enforce rules for EMS including requirements necessary and appropriate to assure the quality, safety, and proper operation and administration of emergency medical services.

The BOME, which is administratively attached to the Department of Labor and Industry, is responsible for regulatory oversight of emergency medical technicians (EMTs), who

are individuals who provide emergency prehospital patient care. EMS resources (units and equipment) and EMTs are collectively referred to as EMS providers.

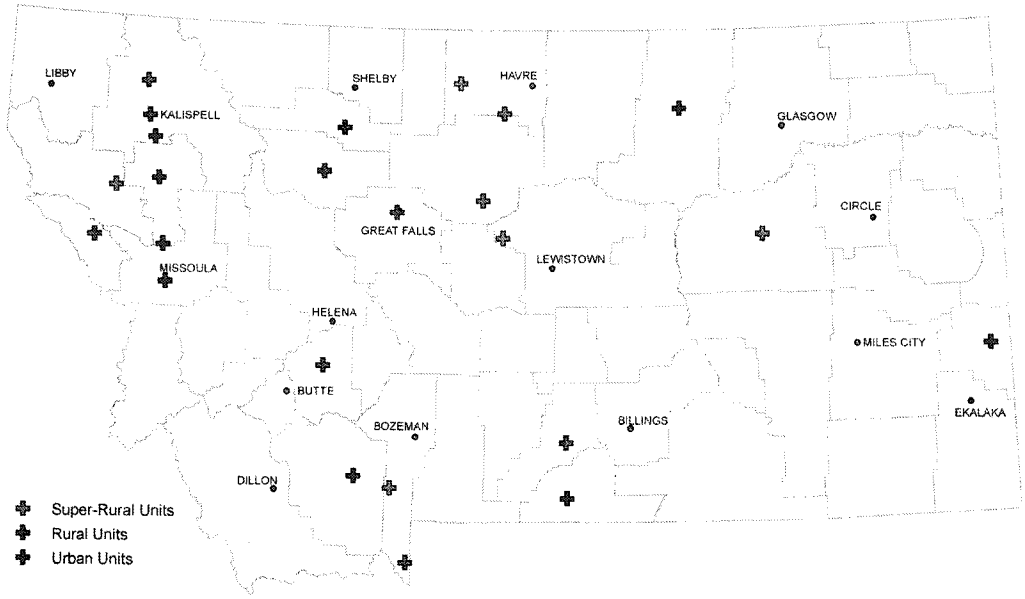
EMS Activity

Information in Montana about EMS activity, such as the number of 9-1-1 related EMS incidents occurring in Montana each year, has never been collected or reported. For the purposes of this audit, EMS incidents are defined as an emergency event that involved EMTs providing prehospital patient care. Most EMS incidents result in a patient being transported from a scene to a higher level of care such as a hospital or clinic. However, some EMS incidents do not involve a patient being transported. For example, calls for EMS providers to respond to an incident may end up canceled enroute or at the scene, a patient may refuse to be transported, or EMS providers may only treat patients at the scene.

To estimate the number of EMS incidents occurring in Montana each year, we used statistical sampling methods. These sampling methods included contacting EMS providers and gathering information about the total number of EMS incidents they responded to in calendar year 2006. Additionally, we wanted to analyze information on an urban versus rural basis, so we stratified our sample to include adequate representation of EMS providers in each area. We also found some rural areas could be further distinguished as super-rural areas. Super-rural areas are often referred to as the bottom 25 percentile of populated areas.

Based on these designations, we randomly selected 24 EMS units located in urban, rural, and super-rural locations across the state. An EMS unit is an entity organized for the purposes of providing EMS care and licensed by DPHHS. The following map illustrates the EMS units included in our sample.

Figure 1
Locations of EMS Units Visited During Fieldwork



Source: Compiled by the Legislative Audit Division.

Number of EMS Incidents Occurring Each Year

The number of EMS incidents occurring each year and where they are occurring is displayed in Table 1.

As the table indicates, more EMS incidents occur each year in the urban population centers of Montana than the rural and less populated areas. Approximately 30 percent of these incidents per year do not involve a patient transport.

Table 1
Number and Distribution of 9-1-1 Related EMS Incidents
Calendar Year 2006

Total Number of Statewide EMS Incidents *	
72,382	
Location	**Percentage**
Urban	57%
Rural	35%
Super-Rural	8%

* Statistical projection of the statewide population of incidents based on a variable sample with a confidence level of 90 percent.

Source: Compiled by the Legislative Audit Division.

National EMS Standards

In 1991, the NHTSA conducted an evaluation of Montana's EMS system. The resulting report contained multiple recommendations designed to help the state's EMS system meet national standards as promulgated by NHTSA. A follow-up review was conducted by NHTSA in 2005 and found that many of the original recommendations

had not been addressed for a variety of reasons. Many of the EMS stakeholders we interviewed as part of this audit identified persistent problems with Montana's EMS system and its ability to meet NHTSA and other national standards. Additionally, Montana's EMS program's mission mirrors NHTSA's mission for EMS.

NHTSA Essential Components of EMS

NHTSA identifies the essential components of an EMS system within 10 areas, listed below. The italicized text within the NHTSA guidelines relates to audit findings and all components are addressed in one form or another within this report.

- **Regulation and policy** – Each state should embody *comprehensive enabling legislation*, regulations, and operational policies and procedures to provide an effective system of emergency medical and trauma care. This legal framework should: establish the program and designate a lead agency; outline the lead agency's basic responsibilities; *require comprehensive planning and coordination; designate EMS and trauma system funding sources; require data collection and evaluation*; provide authority to establish minimum standards and identify penalties for noncompliance; *and provide for an injury/trauma prevention and public education program.*
- **Resource management** – The established *central lead agency at the state level should: identify, categorize, and coordinate resources necessary for overall system implementation and operation*; maintain a coordinated response and *ensure that resources are used appropriately throughout the state; provide equal access to basic emergency care for all victims of medical or traumatic emergencies*; provide adequate triage and transport of all victims by appropriately certified personnel in properly licensed, equipped, and maintained ambulances; provide transport to a facility that is appropriately equipped, staffed, and ready to administer the needs of the patient; and *appoint an advisory council to provide a forum for cooperative action and maximum use of resources.*
- **Human resources and training** – Each state should ensure that its EMS system has essential trained persons (prehospital providers) to perform required tasks. *Each state should provide a comprehensive statewide plan* for stable and consistent EMS training programs with effective local and regional support. The *state agency should: ensure sufficient availability of adequately trained EMS personnel*; establish EMT-Basic as the state minimum level of training for all transporting EMS personnel; routinely monitor training programs to ensure uniformity and quality control; use standardized curricula throughout the state; ensure availability of continuing education programs; require instructors to meet state requirements; develop and enforce certification criteria for first responders and prehospital providers; and *require EMS operating organizations to collect data to evaluate emergency care in terms of the frequency, category, and severity of conditions treated and the appropriateness of care provided.*
- **Transportation** – Each state should require safe, reliable ambulance transportation, which is critical to an effective EMS system. States should: develop statewide transportation plans, including the identification of specific

service areas; *implement regulations that provide for the systematic delivery of patients to appropriate facilities; develop routine, standardized methods for inspection and licensing of all emergency medical transport vehicles*; establish a minimum number of providers at the desired level of certification on each response; *coordinate all emergency transports within the EMS system, including public, private, or specialty (air and ground) transport*; and develop regulations to ensure ambulance drivers are properly trained and licensed.

- **Facilities** – *It is imperative that the seriously injured patient be delivered in a timely manner to the closest appropriate facility.* Each state should ensure that: both stabilization and definitive care needs of the patient are considered; the determination is free of nonmedical considerations and the capabilities of the facilities are clearly understood by prehospital personnel; hospital resource capabilities are known in advance, so that appropriate primary and secondary transport decisions can be made; and agreements are made between facilities to ensure that patients receive treatment at the closest, most appropriate facility, including facilities in other states or counties.
- **Communications** – An effective communications system is essential to EMS operations and provides the means by which emergency resources can be accessed, mobilized, managed, and coordinated. Each state should require a communication system to: begin with the universal system access number 9-1-1; strive for quick implementation of enhanced 9-1-1 services which make possible, among other features, the automatic identification of the caller's physical location; provide for prioritized dispatch (dispatch-to-ambulance, ambulance-to-ambulance, ambulance-to-hospital, and hospital-to-hospital communication); ensure that the receiving facility is ready and able to accept the patient; and provide for dispatcher training and certification standards. Each state should also develop a statewide communications plan that defines state government roles in EMS system communications. This topic is not within the scope of this audit, but was reviewed during the 9-1-1 audit and is within scope of the upcoming Interoperability Montana audit.
- **Trauma systems** – Each state should maintain a fully functional trauma system to provide a high quality, effective patient care system. States should implement legislation requiring the development of a trauma system, including: trauma center designation, using American College of Surgeons Committee on Trauma guidelines as a minimum; triage and transfer standards for trauma patients; data collection and trauma registry definitions for quality assurance; mandatory autopsies to determine preventable deaths; and systems management and quality assurance.
- **Public information and education** – *Public awareness and education about the EMS system are essential to a high quality system. Each state should implement a public information and education plan to address: the components and capabilities of an EMS system; the public's role in the system; the public's ability to access the system; what to do in an emergency (e.g., bystander care training); education on prevention issues (e.g., alcohol or other drugs, occupant protection, speeding, motorcycle and bicycle safety); the EMS providers' role in injury prevention and control; and the need for dedicated staff and resources for public information and education programming.*

- **Medical direction** – Physician involvement in all aspects of the patient care system is critical for effective EMS operations. EMS is a medical care system in which physicians delegate responsibilities to nonphysician providers who manage patient care outside the traditional confines of the office or hospital. States should require physicians to be involved in all aspects of the patient care system, including: planning and protocols; on-line and off-line medical direction and consultation; *and audit and evaluation of patient care.*
- **Evaluation** – *Each state should implement a comprehensive evaluation program to effectively assess and improve the statewide EMS system. EMS system managers should: evaluate the effectiveness of services provided to victims of medical or trauma-related emergencies; define the impact of patient care on the system; evaluate resource utilization, scope of service, patient outcome, and effectiveness of operational policies, procedures, and protocols; develop a data-gathering mechanism that provides for the linkage of data from different data sources through the use of common data elements; and evaluate both process and impact measures on injury prevention, and public information and education programs.*

Report Organization

Audit findings relate to closing gaps in available services, developing system oversight mechanisms such as monitoring of medical direction and evaluation of the delivery of EMS, and strengthening management activities at the state level. The following chapters report audit findings regarding EMS.

- Chapter II provides information and analysis on the availability of EMS.
- Chapter III identifies system oversight concerns relating to response times, medical direction, and evaluation of EMS.
- Chapter IV addresses program activities within the EMSTS Section at DPHHS and overall state level governance.

Chapter II – Gaps In EMS Availability

Introduction

Emergency medical services (EMS) are accessed by calling 9-1-1. Dispatchers at 9-1-1 call centers take information from callers and dispatch the appropriate responders. EMS responders are organized in two ways: EMS units and individual emergency medical technicians (EMTs). This chapter addresses the audit objective to illustrate the statewide availability of EMS compared to activity, including any gaps in the system as a result of that distribution. In Montana, the provision of EMS and how services are operated and funded varies per community. There is no "network" per se. Some commonalities exist, but the various EMS providers do not regularly interact statewide or form a unified whole via an association.

The focus of this chapter is on the characteristics of EMS incidents and the capabilities and availability of EMS, all of which highlight gaps in services. The capabilities of EMS are shown as the level of care EMS units are licensed to provide. The availability of EMS is demonstrated by illustrating the locations of EMS units relative to the population and information about EMTs.

Characteristics of EMS Incidents

We reviewed EMS incident records at the local level to gather information about incidents in calendar year 2006. We randomly selected and reviewed 360 EMS incident records from urban, rural, and super-rural EMS units. Additionally, we requested summary information from a professional EMS billing company that contracts with four urban (private paid services) and 34 rural and super-rural (volunteer services) for calendar year 2006 for summary type information.

Type of Scene and Incident for EMS Incidents

We noted the types of scenes EMS incidents were originating from and the most frequent types of incidents.

Table 2
Types of EMS Scenes and Locations

Type of Scene	Percentage
Home/Residence	51%
Street or Highway	21%
Public Building	12%
Health Care Facility	5%
Other	6%

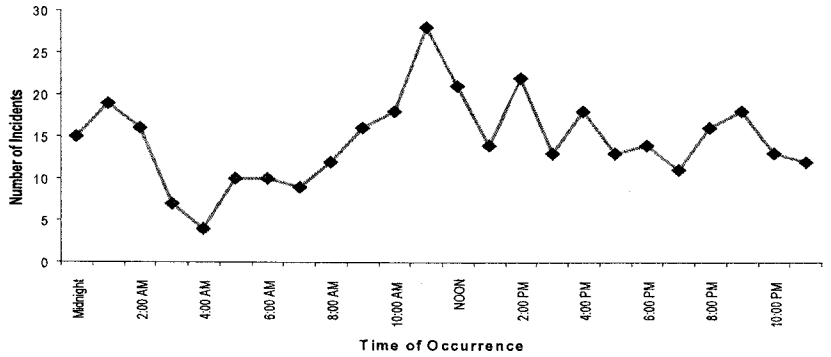
Source: Compiled by the Legislative Audit Division.

The table shows the majority of EMS incidents occur at residences.

Time of Day Analysis

Information about the time of day EMS incidents are occurring is also useful for understanding the workforce and EMS capabilities and availability. The next figure illustrates this information for the incidents included in our sample.

Figure 2
Time of Day for EMS Incidents



Source: Compiled by the Legislative Audit Division from EMS incident records.

Fifty-three percent of the EMS incidents in our sample happened between the hours of 6:00 a.m. and 6:00 p.m. Therefore, the peak EMS activity hours are during the day (typical work day hours). Volunteer EMTs are often working during peak EMS traffic hours, which can leave EMS units short-handed to respond to calls.

Capabilities of EMS

There are transporting and nontransporting EMS units. The organization and structure of EMS units varies per community and provider. Differences include funding sources, level of training of EMTs, numbers of EMTs, availability and types of equipment, and reliability of EMS. EMS units can be an ambulance service (ground or air), a fire department, a quick response unit, a search and rescue team, law enforcement, a ski patrol, or a mine unit. EMS providers self-describe their organization as volunteer, city, county, fire department, hospital-based, Indian Health Services (federally and/or tribally organized/funded), industrial, nonprofit, and for-profit private entities. EMS units typically consist of a service manager, a roster of EMTs, equipment, vehicles, a facility, and a medical director.

A license from the Department of Public Health and Human Services (DPHHS or department) is required for a person to conduct or operate an emergency medical service (unit). A separate license is required for each type and level of service. There are approximately 267 EMS unit licensed by the department. Some units have more than one license type.

Types and Levels of Service

There are three types of EMS units determined by how and if they transport patients: ground or air ambulances and nontransporting units. There are also three EMS unit

license levels, which indicate the level of patient care that can be provided: Basic Life Support (BLS), BLS with Advanced Life Support endorsements, and Advanced Life Support (ALS).

According to ARM 37.104.101:

- A BLS service means an ambulance service or nontransporting medical unit capable of providing care at the basic life support level and licensed as a provider under ARM 37.104.109.
- An ALS service means an ambulance service or nontransporting medical unit that has the capacity, and is licensed by the department, to provide care at the EMT-Paramedic equivalent level 24 hours a day, seven days a week.

ALS services can provide medications, intubation, and intravenous (I.V.'s). These specific and more advanced services are not provided by basic life support services.

Capabilities of BLS with ALS Endorsements License Level Not Clearly Defined

Based on review of DPHHS licensing files and interviews of EMS providers, we determined BLS and ALS level services were capable of providing BLS and/or ALS level care 24 hours a day, seven days a week. However, we could not determine the capabilities of EMS units providing BLS with ALS endorsements level of care. For example, an EMS unit may obtain a BLS with ALS endorsement licensure level if they have one EMT on the roster licensed at the EMT-Basic with ALS endorsements level. However, it is not based on how often that one particular EMT actually volunteers EMS for that unit or how many of six possible endorsements he/she has. For example, if the EMS service only has one EMT-Basic with ALS endorsements on the roster and that individual is a volunteer and responds to calls at will, this EMS unit is not consistently providing that level of patient care. Therefore, the frequency of EMS units' capabilities to provide that particular level of care is unknown. Thresholds for this license level do not exist.

Currently, approximately 45 percent of all 9-1-1 responding EMS units are licensed at the BLS with ALS endorsements level. Since this license level and the associated capabilities of EMS units licensed at this level are not clearly defined, Montana cannot accurately depict the capabilities of all EMS units.

DPHHS Efforts to Establish Criteria for Endorsements Not Complete

In 2004, the Board of Medical Examiners (BOME) took over EMT licensing and established an endorsement system. The current EMS unit license levels established by DPHHS were an effort to correlate EMS unit licensing with EMT licensing. However, the department's efforts are incomplete as criteria has not been clearly defined in rule as

to what is required to obtain a BLS with ALS endorsements license similar to the BLS and ALS license levels.

In its current state, inconsistencies exist across the state as far as the capabilities of EMS units licensed at this level. If the department established criteria for the BLS with ALS endorsements license level, it could better identify the capabilities of EMS units licensed to provide care at this level for use in addressing inconsistencies.

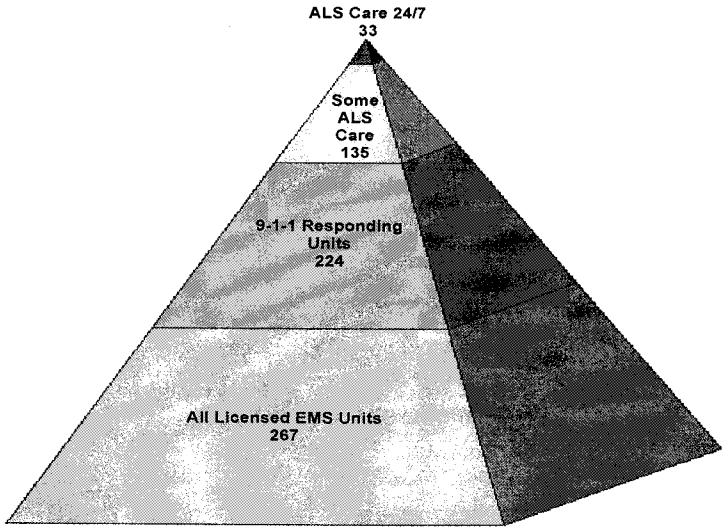
RECOMMENDATION #1

We recommend the department establish criteria for the basic life support with advanced life support endorsements license level in the Administrative Rules of Montana to clearly define the capabilities of emergency medical services units licensed to provide care at this level.

Hierarchy of Care Shows ALS Level Care is Limited

In Montana, there is a hierarchy of EMS care and the distribution varies. Figure 3 illustrates this hierarchy.

Figure 3
Number of EMS Units by Level of Care



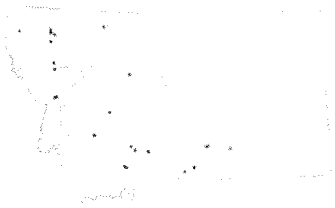
Source: Compiled by the Legislative Audit Division.

The bottom tier of the figure represents the most basic level of care and includes all 267 EMS units licensed with the state. All units provide some level of EMS care, but

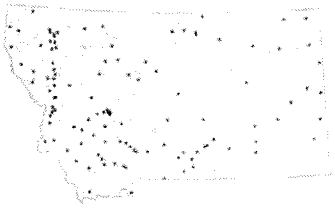
not all units respond to 9-1-1 calls of the general public on a regular basis, if at all. This is because ski patrol units, mine units, and search and rescue teams do not regularly respond to typical 9-1-1 calls. Of those 267 licensed units, 224 respond to 9-1-1 calls and provide at least a basic life support level of care. A significant portion of those units are nontransporting units, which means they cannot transport an individual to a hospital. Approximately half of all licensed EMS units (135) can transport individuals and provide some level of advanced life support care. However, how frequent that advanced level of care is available varies by EMS unit. Twelve percent of all licensed EMS units can provide ALS level care 24 hours per day, seven days per week, and most of these units are concentrated in the population centers of the state.

Figure 4
Locations of EMS Units by Level of Service

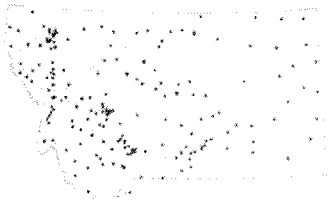
ALS Care 24/7 - 33



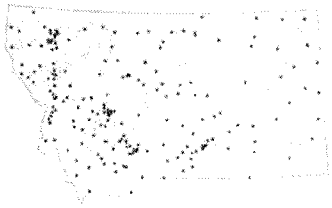
Some Level of ALS Care - 135



9-1-1 Responding Units - 224



All Licensed EMS Units - 267



Source: Compiled by the Legislative Audit Division.

Availability of EMS

Figure 4 shows the locations of each of these levels of services across the state to illustrate the availability of EMS units.

As depicted in the figure, availability of advanced skills is more limited in the basic and central and eastern parts of the state.

Number of EMTs per Capita

EMTs are the main component of the EMS workforce. The majority of EMS units are staffed with volunteer EMTs. According to information about the number of EMTs in each of the 50 states, Montana ranks in the 90th percentile for number of EMTs per capita. Montana has approximately five EMTs per 1,000 individuals. There are only seven states with five or more EMTs per 1,000 individuals and only four of those states have more than five EMTs per 1,000 individuals. The remaining states have four or less EMTs per 1,000 individuals. The national average is three EMTs per 1,000 individuals. Overall, Montana has more licensed EMTs than most states with similar and/or higher populations.

Availability of EMTs Affects Staffing of EMS Units

Review of EMS incident records showed not all licensed EMTs are providing EMS patient care, so the total number

of licensed EMTs may not be a reliable number for assessing the workforce. Many rural volunteer EMS units have enough licensed EMTs listed on their rosters to be adequately staffed. However, service managers we interviewed stated only a few of the EMTs listed on their roster actively volunteer on a regular basis. For example, an EMS unit with 20 EMTs listed on their roster may only have four EMTs respond to 95 percent of the EMS incidents. Overall, we found 57 percent of the EMTs listed on the rosters of EMS units in our sample were actively responding to calls.

For paid versus volunteer units, we found the following percentages of EMTs listed on the rosters that are actively responding to calls:

- 91 percent – Paid Units
- 48 percent – Volunteer or Combination of Paid/Volunteer Units

There may be many factors that contribute to this trend, such as EMTs:

- on the roster that are not able to leave their jobs during the day to respond to calls.
- who do not volunteer during peak EMS traffic hours.
- who maintain their license without practicing EMS.

There can be many licensed EMTs within a community, but several of them may not be providing EMS care. It is important to know how many licensed EMTs are not actively part of the EMS workforce when reporting total number of licensed EMTs. This information could aid in understanding the EMS workforce and its ability to effectively and efficiently respond to EMS incidents.

Proximity of EMS to Populations

Based on our urban versus rural distinctions, approximately 50 percent of the population in Montana lives in rural areas and 50 percent are located in urban areas. The following table highlights the proximity of urban and rural populations to EMS units.

Table 3
Proximity of Urban and Rural Populations to EMS Units

5 Miles Proximity		
Type of EMS Unit	Urban	Rural
9-1-1 Responding	97%	72%
ALS Care 24/7	83%	18%
10 Miles Proximity		
Type of EMS Unit	Urban	Rural
9-1-1 Responding	100%	85%
ALS Care 24/7	93%	27%
30 Miles Proximity		
Type of EMS Unit	Urban	Rural
9-1-1 Responding	100%	99%
ALS Care 24/7	95%	55%

Source: Compiled by the Legislative Audit Division.

Urban Populations Have Better Access to EMS

The table above shows urban populations have better access to EMS, especially advanced levels of care. This trend is to be expected, given the size and rural characteristics of a state like Montana. However, the scarcity of ALS services in rural areas serves to illustrate the delivery of EMS: advanced patient care is most readily available in urban areas where transport times to the emergency room are short. By contrast, advanced level care would also be beneficial in rural areas where transport times are longer due to increased distances from hospitals.

Access to EMS for American Indian Populations

Access to EMS for American Indian populations also serves to illustrate the challenge of EMS in rural areas. The following table compares the proximity of rural and American Indian populations to EMS and shows the disparities in access to EMS care for the American Indian Reservations in Montana. In particular, the Crow Reservation has the most limited access to EMS.

Table 4
Comparisons of Proximity to All Types of EMS Units for American Indian Populations

	5 Miles	10 Miles	30 Miles
American Indian vs. Montana Rural Population			
American Indians	59%	70%	95%
Rural Population	72%	85%	99%
American Indian Reservations			
Blackfeet	61%	70%	99%
Crow	13%	23%	69%
Flathead	83%	97%	100%
Fort Belknap	48%	49%	63%
Fort Peck	41%	47%	100%
Northern Cheyenne	60%	64%	100%
Rocky Boy	32%	68%	100%

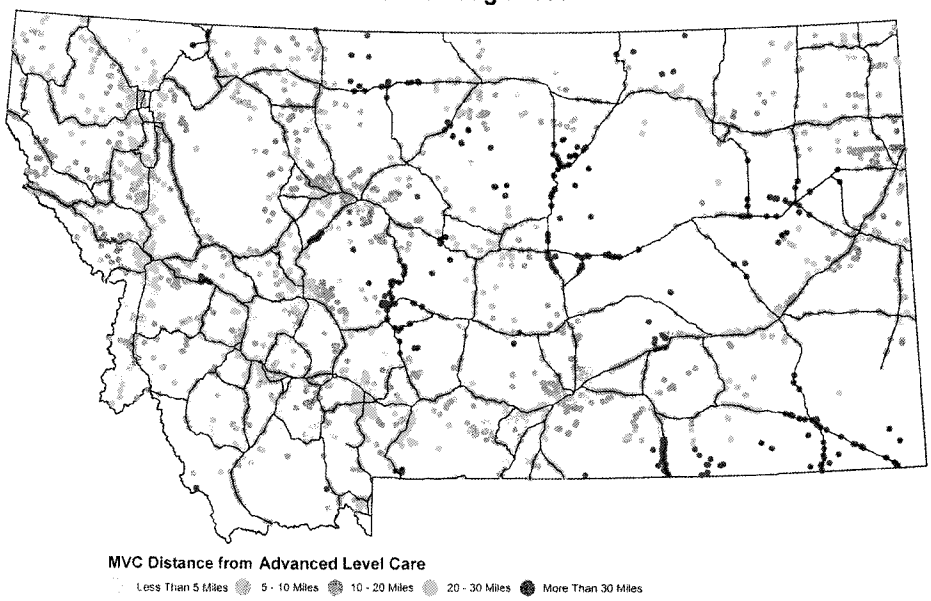
Source: Compiled by the Legislative Audit Divisions.

There are not only disparities of access to EMS between urban and rural, but the disparities between rural and the American Indian Reservations are even greater. This analysis illustrates gaps in availability of services exist and access to EMS is inconsistent, especially to rural areas and the American Indian Reservations.

Motor Vehicle Crashes and Proximity to EMS

According to the 360 EMS incident records reviewed during fieldwork, approximately 16 percent of EMS incidents per year are related to motor vehicle crashes. Figure 5 shows the comparison of motor vehicle crash (MVC) occurrences and the proximity of those locations to EMS units. Using this data, we wanted to determine if gaps in availability of EMS exist along Montana's major roadways. We focused on accidents involving injuries reported between 2004 and 2006. The following figure shows the locations of MVC events involving injuries and uses colors to identify the distance from an EMS unit.

Figure 5
Distance from Motor Vehicle Crash Sites to Advanced Level EMS Care
2004 through 2006



Source: Compiled by the Legislative Audit Division.

The red dots represent crashes resulting in injuries that occurred 30 miles or more from an advanced level care EMS. This figure illustrates where EMS service coverage gaps may impact the ability of first responders to provide timely and adequate care. The distribution shows certain areas of the state's Interstates and primary highway network where advanced level care may not be available for some time in the event of a serious MVC. We also analyzed fatality rates for MVC events relative to EMS provider locations to determine whether there was any effect on survivability. The results of this analysis are shown in Table 5.

Table 5
Motor Vehicle Crash Fatality Rates

MVC Distance from EMS Provider	Fatalities as Percentage of MVC Incidents within distance
< 5 Miles	1.02%
< 10 Miles	2.04%
< 20 Miles	2.49%
< 30 Miles	2.69%
> 30 Miles	3.61%

Source: Compiled by the Legislative Audit Division.

As shown, MVC fatality rates increase the farther away the crash location is from an EMS unit. Incidence of fatalities in MVC events is dependent on several different factors, including highway speed, road conditions, seatbelt use, and alcohol consumption. However, it is reasonable to assume that distance from emergency medical treatment plays some role in determining survivability.

Gaps in Available Services Could Be Improved

As indicated by audit work, gaps in available services exist and access to EMS in Montana is inconsistent. National Highway and Traffic Safety Administration (NHTSA) standards identify the needs for coordination of resources and equal access to emergency care. In Montana, EMS units are allowed to determine coverage areas and the type of incidents they will respond to. This contributes to gaps in available services as well as instances of overlapping coverage areas. EMS system design, planning, and coordination is not required at the state level. The EMS program's efforts in these areas are limited and it has no related goals. There is no state EMS "system" per se in Montana as all of the parts have developed separately and vary per community. Information about coverage areas of EMS units does not exist at the state level. The department should take steps to improve access to EMS, in coordination with governance entities and stakeholders, as part of its public health and safety role.

By comparison, for the trauma care system, DPHHS helps close the gaps of critical access hospitals by helping hospitals and clinics become accredited with trauma designation. The department could expand EMS collection of data during its EMS unit licensing process and begin analyzing gaps in coverage. As stated previously, the department has general authority to supervise and regulate EMS in Montana, including authority to prescribe and enforce rules and other requirements necessary and appropriate to assure the quality, safety, and proper operation and administration of EMS (50-6-323, MCA).

RECOMMENDATION #2

We recommend the department:

A. *Collect coverage area and staffing activity information of emergency medical services units during the licensing process.*

B. *Identify service availability issues.*

C. *Determine reasons for lack of advanced life support in areas and ways to improve advanced life support availability.*

D. *Work with governance entities and stakeholders to address service gaps and assure statewide delivery of emergency medical services.*

Audit work shows EMS capabilities and availability is not being analyzed and reported at the state level to identify and address issues with EMS. This supports the need for a centralized governance entity for EMS, discussed in Chapter IV. The next chapter discusses enhancing EMS standards for response times and medical direction as well as ongoing system evaluation. Response times relate to the timeliness of EMS. Medical direction involves overseeing the delivery of prehospital care. System evaluation is needed for many reasons, such as strategic planning and quality improvement.

Chapter III– Enhancing EMS Standards

Introduction

According to section 50-6-301, MCA, the Department of Public Health and Human Services (DPHHS) is charged with setting minimum uniform standards for the operation of emergency medical services (EMS). Based on the essential components for EMS identified by the National Highway Traffic and Safety Administration (NHTSA), DPHHS could enhance the states' standards regarding the overall EMS process. This chapter focuses on the efficiency and effectiveness of the EMS process specific to: the timeliness of responses; audit and evaluation of EMS care by medical directors; implementation of quality improvement; information system use for automated EMS data; and evaluation of compliance with standards.

EMS Response Times

How fast EMS providers respond to incidents is an important factor relative to EMS. The amount of time it takes an EMS provider to get to a patient in need of EMS is defined for purposes of this audit as a response time. This is the first part of the EMS process and an area where standards could be enhanced.

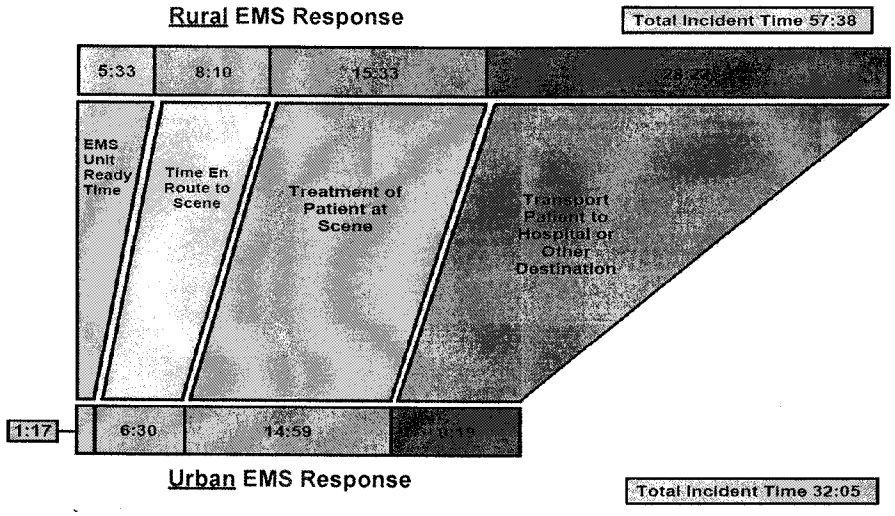
National Response Time Benchmarks

Many factors affect response times such as the distance of an EMS incident from an EMS provider, road conditions, etc. The most widely used ambulance response-time benchmark for urban areas is 8 minutes and 59 seconds (8:59) with a goal to meet this response-time 90 percent of the time. This benchmark measures all time intervals between the time the EMS unit received enough information to initiate a response and the time a properly equipped and staffed ambulance arrives on scene. This 8:59 target is consistent with the response time recommended by the National Fire Protection Association when adjusted to include call-processing time. Response within 90 percent of the benchmark allows 10 percent leeway for those factors outside the control of providers. For rural and super-rural areas, a response-time goal of within 15 minutes and 30 minutes respectively, 90 percent of the time, is common. We used these benchmarks for comparison purposes to the response-time data included in our sample.

Response Times in Montana

The next figure illustrates the total process of response for urban and rural providers included in our sample and reported by providers. It compares the average amount of time (in minutes) involved for urban and rural providers to prepare to travel to a scene, to arrive at a scene, to treat patients at the scene, and to transport patients from a scene to a hospital or other destination.

Figure 6
Urban Versus Rural Average EMS Response Times



Source: Compiled by the Legislative Audit Division.

Based on our review, rural providers, on average, take approximately four minutes longer to get "ready" than urban providers. This is likely because rural providers are volunteers who must often travel to the ambulance facility from home or work before driving the ambulance to the scene. The times enroute to the scene and for treating patients at the scene are similar for both providers. It also takes rural providers almost three times longer than urban providers to transport patients to a medical facility for definitive care, likely because of distances in rural areas to a hospital or medical facility. For total incident time, rural volunteer providers spend twice the amount of time per EMS incident than urban paid providers.

Response times are not collected or reported at the state level, but according to ARM 37.104.212, they should be. Response time data was collected during the audit at the local level. These times are recorded in EMS incident records. We measured average response times as the time between when the EMS provider received the call (time of dispatch) to the time they arrived at the scene of the incident.

For those incidents included in our sample:

- Urban providers responded to incidents within the 8:59 benchmark 80 percent of the time.
- Rural providers responded within the 15 minute benchmark 68 percent of the time.
- Super-rural providers responded to incidents within the 30-minute benchmark 88 percent of the time.

These results are based on a random statistical sample of 360 EMS incident records. Sufficient sample items were obtained for urban EMS providers to allow us to project to the entire urban incident population at a 90 percent confidence level. We project approximately 25 percent of all urban EMS incidents across the state do not meet the 8:59 response time standard. Some providers may be closer to meeting these goals than others. Overall, concerns exist regarding the frequency at which Montana is meeting national response time benchmarks.

Montana Lacks Response Time Benchmarks

In Montana, response times vary depending upon where you live, which results in delays to patient care. Response times are not monitored and standards/benchmarks are not established. We found EMS providers are setting their own response time goals, but there is a lack of consistency in how they are measuring response times, and whether they are meeting their own goals is questionable.

Importance of Timely Response

Studies have shown that in the event of particular EMS events, such as cardiac medical emergencies, access to timely emergency care improves patient outcomes. According to the American Heart Association, brain death and permanent death start to occur in four to six minutes after cardiac arrest starts. Chances of survival are decreased by seven to ten percent with every minute that passes without CPR and defibrillation. Few attempts at resuscitation succeed after 10 minutes. Cardiac arrests represent a small portion of EMS responses, and details about the effect of timely response times on patient outcomes for other medical emergencies (traumas, strokes, etc.) are not as widely reported. However, it is more likely that shorter and predictable response times have more positive impacts on patient outcomes than negative impacts.

Another reason to establish response time benchmarks or targets is to measure performance. Reporting time exceptions, reasons for times outside the established norms, and any corrective actions taken to improve such times is applicable to improving performance. Establishing response time benchmarks for EMS and criteria for measuring response times are important for implementing a quality improvement process to evaluate the effectiveness of prehospital patient care.

Records and Reports

ARM 37.104.212, (records and reports) requires EMS providers to provide the department with a quarterly report on a form provided by the department, specifying the number and types of incidents occurring during the quarter, the type of emergency, and the average response times. The Emergency Medical Services and Trauma System Section (EMSTS) Section enforced this rule in the past, but does not currently enforce

it. Previously, EMS providers would send paper copies of their trip reports to the state. However, the EMSTS Section currently does not compile or use the information because of a lack of an information system and staff expertise to compile and analyze the data. The new EMS information system in development at the department can be used for this purpose once it is implemented. Also, the Section now has staff expertise to create reports relative to this information. During interviews with service managers of EMS units, many stated they could now electronically provide any information needed by the department to enforce this rule. Information about response times aids system evaluation and quality improvement.

"At Patient" Times Not Recorded in Montana

Review of national EMS standards has demonstrated the importance of determining the amount of time it takes EMS providers to get "at patient," in addition to the length of time it takes them to get "at scene." In many instances, the time intervals for each may differ. For example, an EMS provider may arrive "at scene" which is an apartment building and the individual in need of patient care is on the third floor of that building. It may take EMS providers additional time to reach the patient and begin administering patient care. For the EMS incident care records in our sample, 93 percent of the records did not include the "at patient" time. We were not able to measure this time interval for comparison purposes in our response time analysis. ARM 37.104.212, (records and reports) does not require EMS providers to record the "at patient" time. Requiring EMS providers to record or capture the "at patient" time is important for measuring meaningful response times and can also be used for evaluation of patient care for quality improvement.

Recommendation #3

We recommend the department improve collection and analysis of emergency medical services incident response time data by:

A. Establishing and evaluating emergency medical services response time benchmarks in Montana for urban, rural, and super-rural areas as part of quality improvement efforts.

B. Revising ARM 37.104.212 to require emergency medical services providers to record and report "at patient" times.

C. Enforcing compliance with ARM 37.104.212.

Medical Direction

The next stage of the EMS process where standards could be enhanced is medical direction. According to NHTSA, medical direction for EMS is where physicians delegate responsibilities to nonphysician providers who manage patient care outside the traditional confines of the office or hospital. The purpose of EMS is to provide prehospital patient care when necessary and appropriate. Medical direction for EMS is considered to be the primary component of system oversight over the quality and appropriateness of EMS prehospital patient care provided. Medical direction is also related to evaluating the effectiveness of prehospital patient care provided.

Various Types and Definitions of Medical Direction Exist for Similar Purposes and Should Be Clarified

According to industry literature, there are two different types of medical direction. Direct medical direction, often called online medical direction, where care is rendered under direct orders of the base station physician, usually over the radio or telephone. The other is indirect medical direction, or offline medical direction, which includes the development of a set of written instructions, known as protocols. In Montana, there are four types of medical direction referred to between the Board of Medical Examiners (BOME) and DPHHS for EMS, all of which serve similar purposes. These four types are defined in various parts of Montana law and rule for EMS:

- **Offline medical director** (50-6-302, MCA) – a physician who is responsible and accountable for the overall medical direction and medical supervision of *an emergency medical service* and who is responsible for the proper *application of patient care techniques and the quality of care provided by the emergency medical services personnel (EMTs).* The term includes only a physician who volunteers the physician's services as an offline medical director or whose total reimbursement for those services in any 12-month period does not exceed $5,000.
- **Online medical direction** (ARM 24.156.2701) – real-time interactive medical direction, advice, or orders to *EMTs from an unrestricted Montana licensed physician or physician assistant* providing patient care who is supervised by the service medical director.
- **Service medical director** (ARM 37.104.218) – associated with an EMS unit as that unit's medical director, but definition in ARM refers to "medical director" definition in ARM 24.156.2701 listed below. Based on audit work, a service medical director provides training, online medical direction, and authorizes the equipment and supplies necessary to support the advanced life support level of care and related endorsements.
- **Medical director** (ARM 24.156.2701) – an unrestricted Montana licensed physician or physician assistant who is responsible professionally and legally for providing medical oversight *to a licensed EMT* and/or for the training provided in an approved program/course.

The titles and the definitions for medical direction/director in law and rule are confusing and are being applied in the field inconsistently. A service medical director and medical director are defined similarly. Law and rule are not clear if medical direction/directors oversee EMS units, EMTs, or both, and in what capacity for each. Two definitions refer to both and two say only EMTs. Additionally, the approaches of DPHHS and the BOME differ on medical direction/directors as well. EMS stakeholders also expressed confusion in this area. Audit work demonstrates the need for additional clarity and guidance in this area to determine whether the service medical director of an EMS unit is the same as a medical director of EMTs and what exactly the role of each is or if each term should exist.

NHTSA Guidelines on Medical Direction Are Not Being Followed

According to EMS guidelines established by NHTSA, physician involvement in all aspects of the patient care system is critical for effective EMS operations. States should require physicians to be involved in all aspects of the patient care system, including planning and protocols, medical direction and consultation, and audit and evaluation of patient care. We noted concerns regarding documentation of patient care and medical direction for EMS providers.

Medical Direction Inconsistent Across the State

We interviewed service managers of EMS units and reviewed a sample of patient care records at each unit. EMS units located in urban areas pay for service medical directors and ALS units are required by ARM 37.104.218 to have a service medical director. Basic life support units are not required to have a medical director, but many do. For EMS units in rural areas, medical directors are often volunteers or paid by a hospital for services provided to EMS units. NHTSA indicates medical direction is essential for EMS and does not specify it only be applicable at ALS levels. Overall, we noticed various levels of medical direction across the state.

Medical Direction Statistics of EMS Units for Montana

Based on reviews of EMS license records at DPHHS, medical direction for EMS units is depicted in the following table.

Table 6
Medical Direction Caseloads

Number of Medical Directors	Number of EMS Units Per Medical Director	Average Number of EMTs
68	1	18
21	2	41
7	3	62
3	4	50
2	5	98
1	6	294
1	7	97
1	11	312
1	19	526

Source: Compiled by the Legislative Audit Division.

The majority of EMS medical directors (68) are associated with one EMS unit and an average of 18 EMTs. The next largest group of 21 medical directors are associated with two EMS units each and an average of 41 EMTs. Next there is a middle group that is slightly higher in both categories than the previous two groups. Lastly, there are four medical directors that are either associated with a large number of EMS units, or EMTs, or both.

One medical director we interviewed said overseeing a large number of EMS units and all of the associated EMTs is accomplished through delegation of oversight to other physicians, nurses, and paramedics. According to ARM 24.156.2701, medical direction is to be the responsibility of a physician and/or physician assistant. Data on medical direction indicates a lack of oversight of medical direction and how many EMS units and EMTs physicians are supervising. While there could be some benefits associated with greater consistency in oversight through regionalized medical direction, Montana currently lacks standardized mechanisms to evaluate these benefits.

Lack of Evidence Indicating Appropriate Medical Direction is Occurring

Currently, medical direction is not clearly documented, monitored, and evaluated. The only evidence obtained during audit work that medical direction is occurring was verbal information from providers and signatures of medical directors found on the EMS license application at DPHHS. Assessments of patient care provided by EMS providers involves determining if care was timely, appropriate, effective, the outcomes, and what training should be conducted relative to any issues/concerns.

Additionally, NHTSA standards for medical direction in EMS state: "States should require physicians to be involved in audit and evaluation of patient care." Neither the BOME nor DPHHS can demonstrate current medical direction in Montana for EMS provides any component of audit and evaluation of patient care. Oversight of medical directors and documentation of their involvement in EMS is the role of the BOME. No real basis exists for assurance that standards for patient care are being met.

Overall, the issues with medical direction for EMS are the result of the confusion in law and rule, the differing approaches of the BOME and DPHHS on the subject, and a lack of oversight mechanisms in place for medical directors. These two governing entities should develop clear and consolidated guidance on medical direction and establish parameters, if neccessaries regarding the appropriateness of the number of EMS units and EMTs supervised relative to patient safety. This could be accomplished through the existing BOME medical direction sub-committee, which includes DPHHS participants in ongoing deliberations.

RECOMMENDATION #4

We recommend the Department of Public Health and Human Services and the Board of Medical Examiners jointly address inconsistencies in medical direction for emergency medical services by consolidating and clarifying statutory definitions and provision parameters.

Dual Role Regarding EMS Complaints

The BOME also has the authority to receive and investigate complaints regarding EMS, primarily patient care provided by EMTs and conduct of professionally licensed EMTs per sections 37-1-101 through 102, MCA. Section 50-6-323, MCA, also grants DPHHS the authority to receive and investigate complaints relating to patient care and individual performance, which are related to EMTs and also under the authority of the BOME. The authority to receive and investigate EMS complaints is not clearly assigned and duplication of effort is occurring.

The authority to license EMTs and related activities has always been with the BOME and the BOME has a well established and functioning complaint process for EMS in place. Through a memorandum of understanding that no longer exists, DPHHS performed this function for the BOME in the past. When EMT licensing functions transferred back to the BOME in 2004, the duplication of authority became an issue. Within DPHHS, other functions license a facility or organized provider, while the BOME handles complaints. For example, DPHHS licenses hospitals and the BOME licenses and investigates

complaints regarding physicians that work in hospitals. The EMS units, licensed by DPHHS, are the facilities or organized providers. EMTs, licensed by the BOME, are the practitioners.

Statutory Clarification Could Minimize Risks with EMS Complaints Handling

Confusion among stakeholders/communities exists regarding whom to submit complaints. In the past, DPHHS has received and investigated complaints that should have been directed to the BOME. The majority of EMS complaints are related to patient care delivered by EMTs, which is the role of the BOME to investigate, rather than the equipment, facilities, or operations of EMS units. Revising statute to clarify the roles of the BOME and DPHHS in the EMS complaints process could minimize the risk of inappropriate or ineffectual handling of complaints. This should include statutory revisions assigning BOME with initial review of all EMS complaints to make determinations regarding the appropriate venue for handling complaints relating to patient care, as opposed to those relating to EMS units.

RECOMMENDATION #5

We recommend the Board of Medical Examiners and the Department of Public Health and Human Services seek legislation to clarify statutory authority over emergency medical services complaints handling by:

A. Removing references to the department's authority over complaints relating to patient care and individual performance.

B. Granting initial review of all complaints to the board to determine appropriate jurisdiction.

Provider Evaluation and Quality Improvement

The department lacks information on how the various components of EMS are working or to evaluate how well it is functioning. It is not currently possible for the department to provide the legislature or the public with an overall assessment of the effectiveness of EMS, despite its statutory obligations and/or mission. Audit work shows the mechanisms are not in place to evaluate EMS in Montana. If DPHHS makes the efforts to enhance EMS standards, compliance with standards should be evaluated. The following sections discuss mechanisms to implement evaluation of EMS.

Evaluation of EMS Needed to Assess Quality

Evaluation is listed by NHTSA as an essential component of EMS. Evaluation is the process of assessing the quality and effects of EMS, so that strategies for continuous improvement can be designed and implemented. In general, there is a lack of information regarding EMS and related outcomes in Montana.

According to the EMS Agenda for the Future (the national EMS strategic plan), the importance of EMS evaluation is described as follows:

- The ability of EMS to optimally meet communities' and patients' needs is dependent on evaluation processes that assess and improve the quality of EMS.
- Continuous evaluation is essential and should pervade all aspects of every EMS system.
- Evaluation is integral to quality improvement systems that continuously measure, maintain, and improve the efficiency of EMS.

Public Expectations of EMS

Public satisfaction and consumer input is also a focus of EMS evaluation. This helps to ensure EMS is adequately meeting the expectations of the population it serves. In the event of an emergency requiring medical care, the public expects to call 9-1-1 and have EMS:

- arrive in a timely manner.
- provide the level of medical care necessary and appropriate.
- improve their outcomes compared to not having any prehospital medical care.

Based on audit work, an individual could call 9-1-1 and have to wait from 30 to 90 minutes for an EMS provider to arrive at the scene, and that EMS provider may or may not be able to treat their injuries at the level of care necessary and appropriate to the particular injury.

EMS Oversight Approach Should be Modified

The EMSTS Section primarily uses a regulatory approach towards EMS system oversight. However, the vision of the EMSTS Section is to move to a data-driven, quality improvement approach for EMS oversight. The Section has taken steps in the direction of its vision and is in the process of developing an information system to collect prehospital information. Industry standards and literature relative to EMS support moving EMS oversight approaches from regulatory to quality improvement of the healthcare provided. This type of approach allows for continual evaluation of EMS and includes mechanisms in place to gather the information necessary, evaluate the information

collected, report the results to stakeholders, and implement a quality improvement process relative to results.

Information Systems Used for Quality Improvement Process

NHTSA recommends collecting data to evaluate, monitor, and improve delivery of emergency medical care. To establish a quality improvement process for EMS, one would need data that would enable the department to:

- evaluate patient outcomes.
- evaluate the efficiency and effectiveness of care provided.
- establish benchmarks.
- monitor trends.
- implement training and/or affect necessary change to improve the quality, efficiency, and effectiveness of EMS.

The EMSTS Section does not collect or develop this key information. The only data not accessible at this time at the state or local level is patient outcomes of those individuals transported to a medical facility, except in the event of a trauma incident. Patient outcomes of trauma incidents are available in the Trauma Registry at DPHHS.

Other States and Montana's Trauma System Collect Patient Outcomes Data

Other states require hospital and emergency room discharge data be reported for EMS patient outcomes to the state public health department or similar entity. This type of data could be used in a comparative quality improvement process and to determine how many individuals go directly to emergency rooms (ER) of hospitals for emergencies and do not utilize EMS. Existing statutes do not require DPHHS to collect data on EMS and/or evaluate EMS provided. However, trauma care system statutes (50-6-402, MCA) state, trauma care be evaluated and require its effectiveness be reported to the legislature each legislative session. Trauma incidents are a relatively small portion of all EMS incidents in Montana. However, trauma is a leading course of death in Montana. Evaluation of the effectiveness of a similar system, trauma, could be expanded to all emergent medical incidents.

Statutory Clarification May Be Required to Fully Change Oversight Approach

According to section 50-6-101, MCA, the public welfare requires development of a comprehensive EMS program for Montana. Under section 50-6-323, MCA, the department is granted the general authority to supervise and regulate EMS in Montana.

Specific sections of statute further outline various oversight and evaluation activities the department may conduct regarding ambulance service licensing, but statute does not specifically address the department's responsibility/authority to pursue system evaluation and quality improvement activities. In addition, statute does not provide clear direction on how evaluation activities could be conducted, what roles governance entities and stakeholder groups should play, or what regulatory authority the department has to enforce quality improvement measures.

The success of any system evaluation and quality improvement effort in Montana will, ultimately, depend on a coordinated approach and the cooperation of EMS providers. For this reason, the department should work with stakeholders to determine what kind of system evaluation and quality improvement mechanisms are appropriate and how these can be effectively implemented.

RECOMMENDATION #6

We recommend the department work with emergency medical services stakeholder groups to develop an objective, data-driven system evaluation and quality improvement oversight approach and, where necessary, seek statutory authority to implement these changes.

Issues with EMS Information System at DPHHS

The level of automation of the EMSTS Section at DPHHS is very limited and information available about Montana's EMS is not comprehensive. However, the Section is in the process of developing an information system for EMS that will automate all of the EMS unit licensing information, as well as contain electronic EMS incident records. This information system is called the Online Prehospital Information (OPHI) system. OPHI is complete, but not implemented. The EMSTS Section has been announcing the pending release of OPHI for EMS provider use since 2005.

NEMSIS Establishes EMS Data Points to Collect

NHTSA recommends collecting data that is capable of documenting medical care provided in order to evaluate, monitor, and improve the delivery of emergency medical care. The National EMS Information System (NEMSIS) has also determined essential data points to collect from EMS, which includes an EMS dataset and a demographic dataset. The data elements of each dataset are described below:

- The **EMS Dataset** is a subset of information describing a complete EMS event. This includes information which is considered important from an EMS

system, EMS personnel, and an EMS patient's perspective. The data elements within the EMS dataset provide documentation of the system performance and clinical care. Many data elements are a component of an EMS Medical Record, also known as a patient care record, and the majority of the remaining data elements are important for quality management and performance improvement initiatives.

- The **Demographic Dataset** is a subset of information describing each EMS agency, EMS personnel, and important system information needed to generate reports at the local, state, and national level.

OPHI is currently designed to collect information on most of the NEMSIS data elements, but not all important system information identified by NEMSIS or audit work. For example, OPHI is not designed to collect information about EMS units' coverage areas.

Implementation of OPHI Necessary for EMS

The implementation of OPHI as the department's new information system could provide important capabilities and allow for improvements in the administration of the state's EMS system. However, continuing delays and uncertainty surrounding OPHI implementation and concerns with project management threaten to undermine potential benefits. The department should take steps to ensure successful completion and implementation of this information system.

RECOMMENDATION #7

We recommend the department take steps to complete and implement a comprehensive management information system.

EMS Information Not Integrated

Data collected by DPHHS and the BOME is not readily accessible to each other. As a result, information about EMS in Montana is not comprehensive. The BOME uses an information system known as Professional and Occupational Licensing (POL) for EMS purposes. DPHHS is in the process of implementing its own system. NHTSA standards identify development of a data-gathering mechanism for linkage of data as an important part of EMS. Programmatic changes and a lack of a productive working relationship between these two entities are two of the reasons why this information has not been integrated to date.

Coordination of these two information systems is necessary for effective and efficient oversight of EMS. OPHI has some level of integration already with the BOME's licensee

lookup function, which could be expanded. There is no mechanism in place to evaluate EMS and key information is missing. For example, DPHHS collects information on which EMTs are associated with each EMS unit, but the BOME does not. DPHHS and the BOME should share information for analyzing and reporting on EMS.

RECOMMENDATION #8

We recommend the Board of Medical Examiners and the Department of Public Health and Human Services ensure emergency medical services information systems data is shared to improve analysis and reporting of emergency medical services system issues.

The next chapter addresses strengthening management activities within the EMSTS Section of DPHHS and a possible new or consolidated governance structure. Management activities discussed relate to program planning, staffing, licensing, and inspections for EMS.

Chapter IV – Strengthening EMS Governance

Introduction

This chapter addresses the audit objective to assess emergency medical services (EMS) program activities and its governance structure. The EMS program is administered by the Emergency Medical Services and Trauma System (EMSTS) Section of the Department of Public Health and Human Services (DPHHS or department). The department is responsible for regulating and supervising EMS and assuring minimum statewide standards for prehospital emergency medical care exist. The following sections outline steps needed to strengthen the department's efforts in these areas.

EMS Program Mission

The mission of the Montana EMS program is to implement a sustainable, comprehensive emergency medical and trauma system for Montanans that measurably prevents and reduces morbidity and mortality. The mission includes providing leadership and coordination to the emergency care community in assessing, planning, developing and promoting comprehensive, evidence-based emergency medical service. The system is intended to be designed to care for all injured patients and to provide a continuum of services including prevention, pre-hospital care, definitive care, and rehabilitation.

EMS Program Not Achieving Its Mission

Based on audit work, the EMSTS Section is not achieving its mission. Steps for assessing, planning, coordinating, developing, and promoting comprehensive EMS have not been fully implemented. The Section does not measure whether its EMS program activities are effective and are actually reducing death or disability in Montana. The department, legislature, and the public do not know the components and capabilities of Montana's EMS or how it is functioning. One compelling cause for lack of mission achievement is the EMSTS Section does not have a formal strategy for achieving its mission.

EMS Program Lacks Strategic Direction or Plan

Strategic planning is used to align program activities with the mission and vision of the program and to meet stakeholder expectations. A strategic plan could address these concerns. Development of a strategic plan enables an organization to identify goals and objectives, determine how success of program activities will be measured, ways to meet stakeholder expectations, and how to align program activities with the mission, vision, and budget of the organization.

Strategic Plan for EMS System Started, But Unfinished

The EMS program and EMS Task Force (a department appointed entity of EMS stakeholders) began a strategic planning process for EMS in Montana several years ago, which

is still incomplete. This plan closely resembles strategic plans for EMS developed at the national level. Developed and functioning EMS systems are the result of comprehensive planning and coordination, which Montana lacks. National Highway and Traffic Safety Administration (NHTSA) standards for EMS also specifically reference the need for comprehensive planning and coordination. To meet generally accepted standards for a fully-functioning EMS system, the department needs to address the completion of the strategic planning process. As part of this process the department should ensure stakeholder groups have an opportunity to provide input and review the strategic priorities developed by the department.

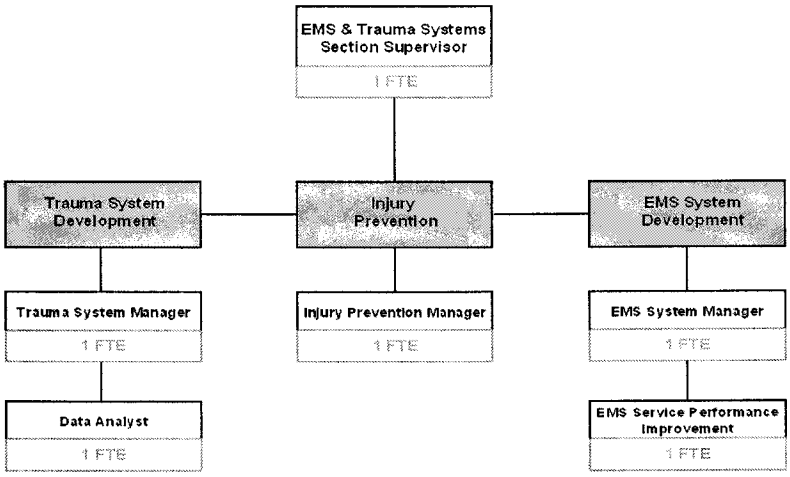
RECOMMENDATION #9

We recommend the department develop and implement a strategic planning process to assist in development of the state's emergency medical services system and strengthen management activities.

Adjusting EMS Program Staffing to Strategic Priorities

The department should also consider realignment of staff resources within the EMSTS Section to address NHTSA essential components for EMS and as part of strategic planning for EMS program activities to be more effective. There are currently six full-time employees (FTE) appropriated to the EMSTS Section. The FTE positions and assigned responsibilities for the EMSTS Section are shown in the following figure.

Figure 7
Emergency Medical Services and Trauma Systems Section Staff



Source: Compiled by the Legislative Audit Division.

The figure shows the current organizational focus of the EMSTS Section is three main areas: trauma systems, injury prevention, and EMS system development. As discussed in Chapter I, NHTSA standards identify ten essential components of an EMS system, two of which are trauma systems and injury prevention (included under public information and education). As currently organized, the EMSTS Section assigns half of the department's appropriated staff resources to trauma systems and injury prevention. This is a potential issue considering EMS concerns identified through audit work.

Other Staffing Issues Identified During Audit Fieldwork

Audit fieldwork included methodologies addressing the department's use and administration of human resources within the EMSTS Section. These methodologies include interviews with all staff members and supervisory personnel at the Section, Bureau and Division levels, review of position descriptions and other personnel documentation, and comparisons with applicable NHTSA standards and other industry best practices. We identified several concerns relating to staffing within the EMSTS Section, which are summarized as follows:

- Some staff were unclear regarding specific job duties, the relationship between their positions and the mission of the organization, and the performance expectations associated with their positions.
- Some staff were unable to correctly identify lines of supervisory authority or were unsure about supervisory relationships within the Section.
- Staff have been assigned additional duties in connection with the federal grant program titled EMS for Children, without adequate assessment of whether these additional duties were compatible with position descriptions and other assigned duties.
- The placement of the Data Analyst position under the Trauma System Manager is not reflective of the wider scope of activities assigned to this position relative to other parts of the EMS system.
- The Section has experienced staff turnover and extended vacancies in some positions, which have negatively impacted many of the activities within the Section.

Staffing problems within the EMSTS Section likely have multiple causes and a lack of management controls is a contributing factor. Organizational structure and clear job roles are management controls. The organizational structure and current roles of the EMSTS Section staff are not addressing all of the essential NHTSA components.

A Change in Staffing May Address More NHTSA Components

Any changes in the organization of the EMSTS Section will, ultimately, be dictated to some extent by changes in the approach. Planning will greatly assist the department

in developing the organizational focus of the EMSTS Section. However, as part of this process, the department should also consider the benefits of aligning staff functions to reflect a broader range of NHTSA EMS components.

This type of reorganization would allow increased emphasis on the essential components noted by NHTSA and provide the opportunity to increase strategic planning and mission achievement.

RECOMMENDATION #10

We recommend the department revise the roles and responsibilities of staff within the Emergency Medical Services and Trauma Systems Section to better achieve its mission and meet national emergency medical services standards.

Management Controls of Regulatory Activities Could be Improved

Regulatory activities of the EMSTS Section include licensing EMS units, inspecting EMS equipment, defining various levels of services, establishing minimum standards for EMS, and investigating complaints relative to EMS units. Audit work found concerns with the inspection process and documentation, accuracy of records, complaint handling, and licensing fees. Most of the concerns in each area relate to strengthening management controls. Management controls are the processes and procedures in place to effectively and efficiently achieve program goals and objectives.

EMS Provider Inspections

The department conducts inspections of each ambulance service in the year the license will expire. This means the department conducts approximately 130 or more inspections per year. Providers are given several weeks notice to prepare for inspection visits. Other inspection processes in state government include some element of surprise. The inspection process includes staff inspecting all EMS vehicles, equipment, 10 trip reports, vehicle maintenance logs, carbon dioxide detectors, and radios.

Audit Work Identified Concerns with Inspection Process

Specific problems documented during audit fieldwork included the following:

- **Inspection procedures** – the department lacks well-developed written procedures for the provider inspection process. Other inspection processes in state government have written procedures, which generally provide stability/predictability in the inspection process and reliable guidance for staff members.

- **Documentation** – the current inspection and licensing process is largely a paper-based system, although the department recently created a database that contains much of the EMS unit licensing information. The inspector can now use this database to view basic inspection information, but the department does not comprehensively document information relative to inspection outcomes (when it was conducted, who was inspected, who conducted the inspection, etc.).
- **Supervision** – interviews with EMS providers identified past problems with inspectors not conducting a physical inspection but documenting one occurred, indicating supervision of inspections could be improved. We documented several examples of EMS units that did not receive a physical inspection of their equipment, vehicles, and/or patient care records, while the rest of the units did.
- **Efficiency** – the inspection process does not distinguish between different types of providers, so an EMS unit responding to 3,000 calls annually will receive exactly the same level of scrutiny as a unit answering 30 calls per year. The need to complete a single inspection for each provider within a biennial period imposes a rigid system of oversight on providers and means an extended notice period must be given to EMS units to allow for scheduling.

Effectiveness and Efficiency of Inspection Process Could be Improved

The department should consider various changes in the administration of the inspection process for EMS units. Developing written procedures would bring the EMS unit inspection process into line with accepted best practices for similar functions within this department and others in state government. Properly documented procedures could also improve the department's ability to apply inspection standards fairly, train and supervise inspection staff adequately, and monitor outcomes for the inspection process. Another area for improvement is the type and volume of data collected on the inspection process. Properly documenting inspection outcomes could improve the department's ability to supervise the inspection process and monitor the performance of both inspection staff and individual EMS units. The department should also consider making changes in the timing and frequency of inspections. The process could be changed to increase efficiencies through a self-inspection process, random spot checks, or lengthening the inspection cycle from a biennial cycle to a longer time period. Any combination of these changes in timing or frequency could allow the department to focus inspection efforts more effectively.

Vehicle Permits

For vehicle permits, the EMS unit submits an application and the department sends them a temporary vehicle permit until an inspection of the vehicle is conducted by the department. The vehicle inspection typically occurs within 90 days of issuance of the

temporary permit. After the inspection is complete, a permanent permit is issued. If the vehicle is new (all ambulances are built to meet the same standards), the department waits to conduct an inspection of the vehicle until the next inspection cycle.

Vehicle Records Are Inaccurate

Based upon our review of vehicle permits on file at DPHHS and our provider site visits, the information in the EMSTS Section's EMS licensing records is not accurate or reliable. For 42 percent of the EMS units included in our sample, the vehicle permit information on file with the state was incomplete or incorrect. EMS units database information for those same units was also incorrect in 31 percent of the cases. This means the department does not have an accurate count of the EMS vehicles operating in the state, has not inspected these vehicles, and/or has poor documentation relative to EMS vehicles in operation.

DPHHS records are likely inaccurate for several reasons, to include:

- An underdeveloped inspection process that lacks verification of vehicle information on file with actual number of vehicles used for EMS purposes (discussed previously).
- Staff turnover and extended vacancies in key EMS positions.
- Reporting of vehicle information.
- EMS unit license application does not include a section to record vehicle information.
- Poor documentation of vehicle inspections.

Several of these concerns are addressed elsewhere in this report. For those areas not addressed, DPHHS should improve the accuracy of its records regarding vehicle information by revising the EMS unit license application and adding a verification of vehicle information procedure to its inspection process.

Complaint Documentation

Section 50-6-323, MCA, grants DPHHS authority to receive and investigate complaints relating to EMS operations, including complaints relative to patient care, condition of ambulances, and individual performance. However, no written policies, procedures, or rules currently exist regarding how complaints are handled by the department. Audit work found the EMSTS Section does not have a formal complaint handling process in place and has no complaint log. We could not determine how many complaints are received by DPHHS for any time period or evaluate how complaints are handled.

We found some documentation relative to a few complaints received by the department. Based upon our review of this documentation, the complaints appeared to be addressed by

the department. However, several EMS providers indicated to audit staff the department was not making efforts to resolve their complaints. As a result, some providers claim they have decided against filing complaints with the department. By not having or following typical complaint handling procedures, the EMSTS Section risks violating individuals' rights and does not provide an administrative remedy for EMS-related complaints.

EMS Licensure Fee

Each provider pays a licensure fee of $35 to the state, section 50-6-307, MCA, to obtain an EMS service provider license. The license fee was last revised in 1983, when it was increased from $5 to $35. The $35 fee paid by approximately 267 EMS providers generates approximately $9,345 each biennium. This fee does not take into account EMS provider differences such as basic vs. advanced life support, for profit vs. nonprofit, air vs. ground transport vs. nontransport, etc. Additionally, this fee does not tie directly to any EMS program activities. It could cost the department more to process the paperwork associated with fee collection than the amount of revenue generated from it.

The majority of individual EMT licensure fees are higher than the licensure fees of EMS units and approximately 50 percent of all licensed EMTs are volunteers. The fee should either be abolished or be increased to be commensurate with costs of related EMS program activities. Collecting EMS licensing fees on a commensurate with costs basis would ensure the department has sufficient revenue to fund regulatory activities. This approach would also be consistent with other regulatory functions within state government. If the latter option is taken, the fee could be based on provider differences and/or on a per EMS vehicle basis.

Documentation of EMS Patient Care by BLS Level Providers Could Be Improved

Although EMS incident record forms are fairly uniform across the state, we found noticeable differences in documentation practices of patient care provided between BLS (rural) and ALS (urban) level EMS units. For example, ALS level records were well documented, thorough, and compliant with ARM 37.104.212. This ARM specifies the documentation required for EMS incidents. At the BLS level, we found instances where documentation required by ARM 37.104.212 was not documented, such as the date and time of the incident, time of dispatch, and/or the names of the EMTs providing the patient care. We attribute the differences in documentation to the varied level of medical direction for BLS versus ALS providers, inconsistencies in medical direction oversight, and a lack of enforcement of compliance with ARM 37.104.212 by the department. Compliance with ARM 37.104.212 should be enforced, and recommendation #3 addresses this concern.

RECOMMENDATION #11

We recommend the department strengthen the management controls of regulatory activities at the Emergency Medical Services and Trauma System Section relating to:

A. Inspections

B. Vehicle Permits

C. Complaint Documentation

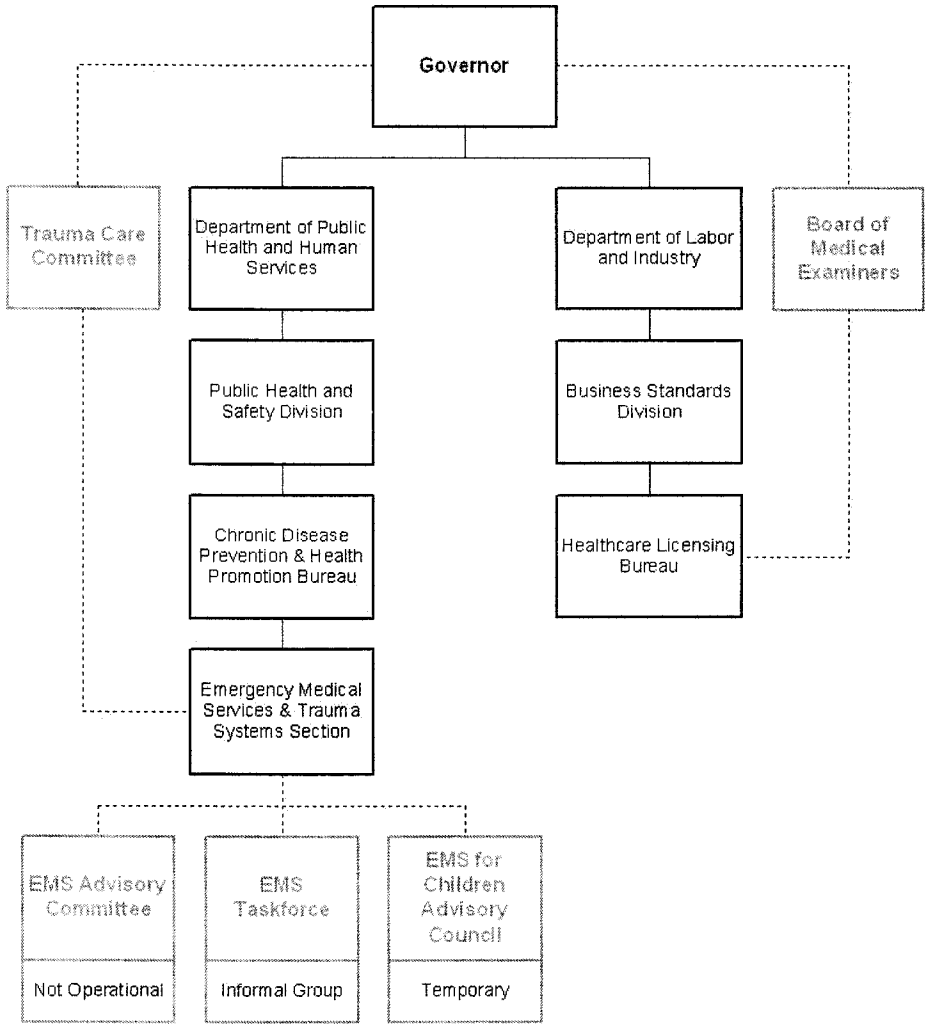
D. Emergency Medical Services Unit Licensure Fees

Our audit work identified multiple concerns relating to different aspects of the EMS system, including the availability and timeliness of EMS services across the state; the need for improvements in system oversight and evaluation; and the ability of DPHHS to administer EMS program activities effectively. The cumulative impact of these findings suggests there is a need to address more fundamental issues relating to the governance of Montana's EMS system. In this context, governance refers to the processes used to assign authority, define expectations, and monitor performance of the state's EMS system.

Current Governance Structure is Divided and Confusing

In and of itself, the EMSTS Section is not a comprehensive governance entity because it does not provide global direction or foster a systemic approach to EMS. Montana's EMS governance structure is shown in the following figure, which includes the organizational units of DPHHS, the BOME, and involved and administratively attached committees and councils.

Figure 8
Montana's Emergency Medical Services Governance Structure



Source: Compiled by the Legislative Audit Division

A concern is evident in the governance entities attached to DPHHS. As shown in the above figure, multiple committees, councils, and informal working groups are currently functioning, authorized, or established in order to provide governance for the state's EMS system. However, there is no overall encompassing governance structure for EMS. Due to this divided and noncohesive approach, it is not clear who is in charge or directing statewide EMS governance within Montana.

Based on interviews with EMS providers, discussions with DPHHS staff and review of department records, and assessment of NHTSA and other national standards, we identified concerns with the effectiveness of the current EMS system governance structure discussed as follows:

- **State Trauma Care Committee** – section 2-15-2216, MCA, establishes the only Governor-appointed state level governance entity dealing with EMS system issues. However, the State Trauma Committee is responsible for addressing trauma care, which is only one component of a fully-functioning EMS system as defined by NHTSA. According to DPHHS data, trauma incidents represent less than 10 percent of all EMS incidents in Montana.
- **EMS Advisory Committee** – section 50-6-324, MCA, authorizes DPHHS to establish an EMS Advisory Committee, but the role and responsibilities of this committee are defined very narrowly and only include certain specific functions relating to EMS provider licensing. Even if this committee were operational (which it currently is not), it would be unable to address the broad range of issues NHTSA defines as being important in governance of an EMS system.
- **EMS Task Force** – an informal EMS Task Force exists today, but statute provides no authority for its operation or guidance on its role and responsibilities. Additionally, interviews with EMS providers and review of DPHHS records identified concerns with the informal nature of the task force, including membership being chosen by the department, inconsistent attendance of members, stakeholder concerns are not always addressed, meetings are not advertised or open to the public, meeting discussions and activities are not recorded, and accomplishments resulting from the meetings appear to be limited.
- **EMS for Children Advisory Council** – this group also lacks statutory authorization and, because it was formed as a condition of participation in a federal grant program, is essentially temporary in nature.

EMS activity in Montana does not support the need or expense of separate advisory committees based on types of incidents or age groups utilizing EMS.

Consolidated EMS Governance Entity Could Provide Leadership and Accountability

Based on audit work, state level governance activities do not address EMS system concerns or assure the public's expectations are being met. Current state level activities are limited or nonexistent in several areas of system oversight and are not meeting national standards. Current use of EMS stakeholder involvement and input is limited. Industry standards emphasize the importance of stakeholder input in EMS processes. According to section 50-6-103, MCA, DPHHS is authorized to confer and cooperate with any other persons, organizations, and governmental agencies that have an interest in emergency medical services problems and needs.

Considering the current condition of EMS, there is a need for a coherent governance approach that can address systemic issues including EMS incidents involving trauma injuries and children. Other states have one all-encompassing EMS advisory council that addresses the needs of both trauma and children. Overall, there is a need for a single EMS system governance entity that can provide effective leadership on a broad range of issues.

An advisory council, board, or a similar centralized governmental entity could improve stakeholder involvement, transparency and accountability of government actions, and guide oversight of EMS. NHTSA standards also identify an advisory council as an essential component of EMS. To effect these changes:

- modifications in statute should be pursued to revise the authority, role, responsibilities, and membership of the state level governor-appointed governance entity currently identified in section 2-15-2216, MCA, as the State Trauma Care Committee (STCC), or
- per section 2-15-122, MCA, the director of DPHHS could create a new EMS advisory council.

If the department chooses the first option, it could expand the purpose and composition of the STCC and combine the functions of the other EMS governance entities. This should allow for a more coherent effective, and efficient approach to EMS system governance. Specific components of the EMS system, such as Trauma Systems or pediatric EMS, could still receive sufficient attention through sub-committees or other subsidiary units of the main governance entity. The existing authority and responsibilities of the Board of Medical Examiners should not be included within the scope of these changes in governance structure.

RECOMMENDATION #12

We recommend the department address emergency medical services system governance needs by forming an emergency medical services system governance entity to address components of the state's emergency medical services system through either:

A. Expanding the role and composition of the existing State Trauma Care Committee; OR

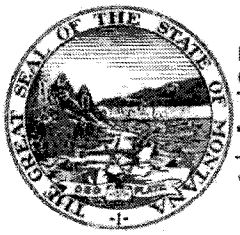
B. Establishing a separate emergency medical services advisory council.

Department of Public Health and Services

Board of Medical Examiners

Department Response

DEPARTMENT OF PUBLIC HEALTH AND HUMAN SERVICES



BRIAN SCHWEITZER
GOVERNOR

JOAN MILES
DIRECTOR

STATE OF MONTANA

www.dphhs.mt.gov

June 11, 2008

RECEIVED
JUN 11 2008
LEGISLATIVE AUDIT DIV.

Mr. Scott Seacat
Legislative Auditor
Legislative Audit Division
PO Box 201705
Helena MT 59620-1705

Dear Mr. Seacat:

The Department has reviewed the final report on the legislative performance audit of the Emergency Medical Services Program. The Department of Public Health and Human Services concurs with the recommendations of the audit report as noted below.

Recommendation #1

We recommend the department establish criteria for the basic life support with advanced life support endorsements license level in the Administrative Rules of Montana to clearly define the capabilities of emergency medical services units licensed to provide care at this level.

Response

We concur. The Department will revise EMS service licensing rules to define the "basic life support with authorization to provide advanced life support" level of license and submit for public hearing by end of 2009. In addition, the Department is currently implementing an electronic service licensing system – the Online PreHospital Information system (OPHI) - that will enable better review and monitoring of this level of service licensure.

Recommendation #2

We recommend the department:

A. Collect coverage area and staffing activity information of EMS units during the licensing process.
B. Identify service availability issues.
C. Determine reasons for lack of advanced life support in areas and ways to improve advanced life support availability.
D. Work with governance entities and stakeholders to address service gaps and assure statewide delivery of EMS.

Response

A. We concur. The Department's OPHI licensing system has the capability to require services to report the county or counties in which they provide service. We will also put procedures in place to collect data during inspections about service response areas and availability.

B. We concur. We will continue to monitor gaps in the availability of EMS.

C. We concur. The Department will conduct a survey of EMS services to determine barriers to providing or increasing ALS services in their community and strategies for improving the availability in ALS. This survey can be developed, conducted and analyzed by June 2009.

D. We concur. The Department will engage the stakeholders, particularly the group discussed under recommendation #12, in strategies to address service gaps.

Recommendation #3

We recommend the department improve collection and analysis of EMS incident response time data by:
A. Establishing and evaluating EMS response time benchmarks in Montana for urban, rural, and super-rural areas as part of quality improvement efforts.
B. Revising ARM 37.104.212 to require EMS providers to record and report "at patient" times.
C. Enforcing compliance with ARM 37.104.212.

Response
The Department has taken steps toward improving its EMS data collection efforts through the web-based OPHI system.

A. We concur. Response times will be evaluated against benchmarks developed by stakeholders and a performance improvement process will be utilized to evaluate issues and solutions.

B. We concur. We will revise ARM 37.104.212 to require EMS services to collect "at patient" times.

C. We concur. As discussed above, the Department will enforce compliance with ARM 37.104.212.

Recommendation #4

We recommend the Department of Public Health and Human Services and the Board of Medical Examiners jointly address inconsistencies in medical direction for EMS by consolidating and clarifying statutory definitions and provision parameters.

Response

We concur. The Department will initiate a discussion with the Board of Medical Examiners at their next meeting in July.

Recommendation # 5

We recommend the Board of Medical Examiners and the Department of Public Health and Human Services seek legislation to clarify statutory authority over EMS complaints handling by:
A. Removing references to the department's authority over complaints relating to patient care and individual performance.
B. Granting initial review of all complaints to the board to determine appropriate jurisdiction.

Response

A. The Department concurs and will consider removing language specific to *individual performance*.

B. The Department partially concurs. Complaints with an element of patient care need to be turned over to and investigated by the Board of Medical Examiners. However, numerous complaints contain rudiments of concern to both agencies. In the interest of both agencies meeting their responsibility for the well-being and safety of Montana citizens, we feel there needs to be a collaborative approach to complaints and investigations.

Recommendation #6

We recommend the department work with EMS stakeholder groups to develop an objective, data-driven system evaluation and quality improvement oversight approach and, where necessary, seek statutory authority to implement these changes.

Response

We concur. As per recommendation #9, the Department will develop a strategic plan, with goals and objectives.

Recommendation #7

We recommend the department take steps to complete and implement a comprehensive management information system.

Response

We concur. The department is in the process of implementing its OPHI data system that will help provide valuable management and performance improvement data to support development of a comprehensive emergency care system. Our goal will be encourage all services to participate in this OPHI system, but the Department will also implement alternate data collection strategies as needed.

Recommendation #8

We recommend the Board of Medical Examiners and the Department of Public Health and Human Services ensure EMS information systems data is shared to improve analysis and reporting of EMS system issues.

Response

We concur. A data sharing agreement submitted to the Board of Medical Examiners in 2007 will be expanded to include sharing of OPHI data and submitted to the board for review and discussion at their next meeting in July.

Recommendation #9

We recommend the department develop and implement a strategic planning process to assist in development of the state's emergency medical services system and strengthen management activities.

Response

We concur. The Department will development a strategic plan. Development will include input from the stakeholder group described under recommendation #12 and will be adopted by June 2010.

Recommendation #10

We recommend the department revise the roles and responsibilities of staff within the Emergency Medical Services and Trauma Systems Section to better achieve its mission and meet national emergency medical services standards.

Response

We concur. Bearing in mind that the Department's role will become better defined through the strategic planning process, we will evolve the role of staff to meet those needs.

Recommendation #11

We recommend the department strengthen the management controls of regulatory activities at the EMSTS Section relating to:

A. Inspections
B. Vehicle Permits
C. Complaint documentation
D. EMS Unit Licensure Fees

Response

A. The Department concurs and is currently drafting procedures to do so. This process will be completed by March 2009.

B. The Department concurs and this currently is being substantially resolved. In the new OPHI electronic licensing system, service licensing records, including vehicle information, will be more accurate and readily available to both the Department and to licensed services. Licensing information for all services will be entered into OPHI by December 2009.

   A new window sticker has already been printed that will serve as a 'permanent' vehicle permit. This sticker will be attached to the permitted vehicles when inspected and will help provide visual indication that vehicles have been properly permitted and inspected.

C. The Department concurs and will begin development of this immediately. A policy will be drafted and adopted by December 2008.

D. We concur. The Department will review the fee structure and may consider statutory changes.

Recommendation #12

We recommend the department address EMS system governance needs by forming an EMS system governance entity to address components of the state's EMS system through either:
A. Expanding the role and composition of the existing State Trauma Care Committee; OR
B. Establishing a separate EMS advisory council.

Response

The Department concurs with option "B" and will begin formal organization of an EMS stakeholder group by January 2009.

The Department appreciates these recommendations from the Legislative Audit Division and appreciates the thorough report. We know these recommendations and our responses to them will help us develop an effective emergency care system for Montanans.

Sincerely,

Joan Miles
Director

Cc: Jane Smilie
Todd Harwell
Marie Matthews

Montana
Department of Labor and Industry
Commissioner's Office

BRIAN SCHWEITZER, GOVERNOR
KEITH KELLY, COMMISSIONER

June 9, 2008

RECEIVED
JUN 09 2008
LEGISLATIVE AUDIT DIV.

Angie Grove, Deputy Legislative Auditor
Legislative Audit Division
Room 160
State Capitol
PO BOX 201705
Helena MT 59620-1705

Subject: BOME Response to EMS Audit

Dear Ms. Grove:

Enclosed are the requested responses to the recommendations from the performance audit conducted by your office for the Emergency Medical Services (EMS) DPHHS and BOME.

On behalf of the Board of Medical Examiners (BOME) and its staff, please allow me to recognize and express our gratitude for the courteous and professional manner with which this audit was conducted. Special thanks to Misty Wallace and staff members of the LAD for allowing the opportunity to participate in the audit. We look forward to working with the Department of Public Health and Human Services (DPHHS); ensuring that our activities are aligned with procedural requirements, and that we both are operating in a manner consistent with our statutory obligations and public policy.

The following are the responses to the June 2008 Emergency Medical Services (EMS) performance audit concerning the BOME.

Recommendation # 4:

We recommend that Department of Public Health and Human Services and the Board of Medical Examiners jointly address inconsistencies in medical direction for EMS by consolidating and clarifying statutory definitions and provision parameters.

Response:

The Board of Medical Examiners concurs. We will continue working with DPHHS to clearly define online medical direction and medical directors. The BOME, in conjunction with DPHHS will seek consolidated statutory clarification during the 2009 legislature regarding definitions and provisions for medical direction, medical directors, and service directors of EMS. This includes clarifying patient care medical direction verses systems direction. The BOME has begun the rule making process further defining the requirements and responsibilities of a medical director regarding patient care; scope of practice and supervision of EMTs. The BOME expects the adoption of these administrative rules by the end of this year.

Recommendation # 5:
We recommend the Board of Medical Examiners and the Department of Public Health and Human Services seek legislation to clarify statutory authority over EMS complaints handling by:

A. Removing references to the department's authority over complaints relating to patient care and individual performance.
B. Granting initial review of all complaints to the board to determine appropriate jurisdiction.

Response:

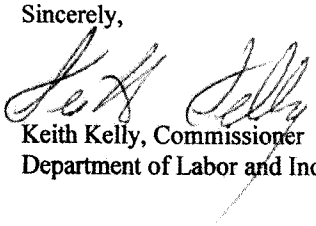
The Board of Medical Examiners concurs. The BOME will work with DPHHS to seek legislative clarification regarding BOME's authority over EMS complaints during the 2009 legislature. The BOME currently has an established complaint process; and foresees no difficulty in assuming the additional EMS complaints. The BOME believe this recommendation will afford licensees their due process. We will continue to work with DPPHS to establish a process for the referral for the complaints that are not under BOME jurisdiction.

Recommendation #8:
We recommend the Board of Medical Examiners and the Department of Public Health and Human Services ensure EMS information systems data is shared to improve analysis and reporting of EMS system issues.

Response:

The Board of Medical Examiners concurs. The BOME will work with DPHHS to share information for improving and reporting on EMS system issues. The BOME will enhance their system to accept DPHHS data. The BOME currently provides DPHHS access to their database in which DPHHS may download data into DPHHS's system. This includes all Montana licensed EMTs names; city, state and zip; license numbers; license registration and type codes; license status; original license dates; expiration dates; authorized specialties and endorsements. Additional information requested by DPHHS such as licensee's social security numbers has not been provided in accordance with 37-1-307(5), MCA.

Sincerely,



Keith Kelly, Commissioner
Department of Labor and Industry