

# Utah Bureau of Emergency Medical Services and Preparedness Strategic Plan

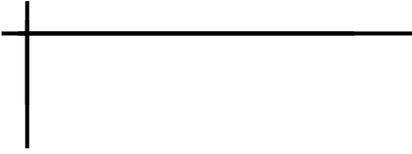
January 2010 — January 2015



## Bureau Sections:

- Emergency Medical Services
- Preparedness





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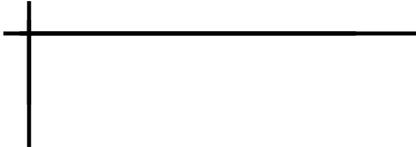
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## Table of Contents

I. Purpose of Document .....	3
II. Development of the Strategic Plan.....	3
III. EMS System Status.....	5
A. EMS Providers .....	5
B. Resource Hospitals.....	7
C. Trauma System.....	7
D. Emergency Medical Services for Children Program .....	8
E. Public Health and Hospital Preparedness.....	9
IV. Overview of Goals and Objectives .....	11
V. Bureau of EMS and Preparedness Goals and Objectives .....	17
VI. References.....	39

## **I. Purpose of Document**

This document represents a five-year strategic plan for the Utah Bureau of Emergency Medical Services and Preparedness (BEMS). The key concepts within the identified areas for improvement listed below are reflected in the Goals and Objectives outlined in this strategic plan. In order to meet the goals outlined in the strategic plan, the Public Health approach of assessment, policy development, and assurance are integrated within the objectives for each goal. The strategic plan recommends priorities for BEMS activities and funding to support these activities.

## **II. Development of the Strategic Plan**

The strategic plan was developed in partnership by the Utah BEMS, the State Emergency Medical Services (EMS) Committee, the Trauma Systems Advisory Committee, and the Emergency Medical Services for Children (EMSC) Advisory Committee. The Utah EMS Committee conducted an assessment of the statewide EMS System to determine how Utah compared with the National Model State EMS System Benchmarks and Indicators (The National Association of State EMS Officials, 2007). According to the National Highway Traffic Safety Administration, a Model State EMS System is comprised of ten subsystems. These subsystems are as follows:

1. System Leadership, Organization, Regulation and Policy Subsystem
2. Resource Management Subsystems – Financial
3. Resource Management Subsystems - Human Resources
4. Resource Management Subsystems – Transportation
5. Resource Management Subsystems – Facility and Specialty Care Regionalization
6. Public Access and Communications Subsystems
7. Public Information, Education and Prevention Subsystem
8. Clinical Care, Integration of Care, and Medical Direction
9. Information, Evaluation, and Research Subsystem
10. Large Scale Event Preparedness and Response Subsystem

The Utah EMS Committee calculated an overall assessment score of 62% for the status of Utah’s EMS System. Areas of excellence were identified as “Scale Event Preparedness and Response Subsystem” and “Resource Management Subsystems – Transportation.” Areas for

improvement were identified as “Public Information, Education and Prevention Subsystem” and “Clinical Care, Integration of Care, and Medical Direction”. The Utah BEMS has prioritized developing initiatives within these two areas in order to become a Model State EMS System. It is clearly the intent of the BEMS that this distinction will result in better patient care being provided to the citizens of the state and will help fulfill the mission to reduce morbidity and mortality.

#### A. Emergency Medical Services Section

The Trauma System Advisory Committee and the BEMS utilized the Health Resources and Services Administration (HRSA) Trauma System Planning and Evaluation Guide (2006) to assess the status of Utah’s trauma system. The Trauma System Advisory Committee utilized the guide to assess the benchmarks and indicators. Scores were assessed for each of the benchmarks resulting in three main areas for improvement “Medical Direction”, “Performance Improvement”, and “Data Integration”. The BEMS has prioritized developing initiatives within these three areas in order to have a Model Trauma System in Utah. It is clearly the intent of the BEMS that this distinction will result in better trauma care being provided to the citizens of the state and help fulfill the mission to reduce morbidity and mortality.

The Emergency Medical Services for Children Program (EMSC) program activities are primarily funded by the Health Resources and Services Administration EMSC State Partnership Grant. The Health Resources and Services Administration- EMSC program has established 10 nationwide performance measures that grantees are held accountable for. The Utah EMSC program has met 6 of the nationwide performance measures. Areas for improvement for the Utah EMSC program are “availability of pediatric on-line medical direction”, “availability of pediatric off-line medical direction”, “presence of essential pediatric equipment and supplies on ambulances”, and “permanence of EMSC in the State system.” The BEMS, the EMSC Advisory Committee, and the EMSC program have prioritized developing initiatives within these areas in order to meet the national performance measures and to reduce the morbidity and mortality of Utah’s pediatric population.

#### B. Preparedness Section

The Preparedness Section activities are primarily funded by the Federal Hospital Preparedness Program Cooperative Agreement and the Assistant Secretary for Preparedness and Response. The Federal Hospital Preparedness Program has established areas of priority for program activities. Areas for improvement for the Utah Preparedness Program are Interoperable

Communications, Bed Tracking and Emergency Department Status / Surge Capacity, ESAR/VHP, Fatality Management, Medical Evacuation and Shelter-in-Place, Partnership Development, Alternate Care Sites, Mobile Medical Assets, Pharmaceutical Caches, Personal Protective Equipment, and Medical Reserve Corps. The BEMS has prioritized developing initiatives within these areas so that Utah will be able to prepare its Public Health and Emergency Healthcare Systems so citizens of the state receive quality patient care in the event of a healthcare emergency or a disaster.

### **III. EMS System Status**

The Bureau of EMS and Preparedness (BEMS) is the lead agency for Utah's EMS System. The BEMS is housed within the Utah Department of Health (UDOH) Division of Family Health and Preparedness. The BEMS is comprised of two sections that oversee the EMS System; Emergency Medical Services and Preparedness. To ensure constituent input, the BEMS has three statutory committees, three subcommittees, and various task forces. The mission of the BEMS is to promote a statewide system of emergency and trauma care to reduce morbidity and mortality through prevention, awareness, and quality intervention. The BEMS vision statement reads "A leadership team functioning as a resource and providing assurance of a quality emergency medical system in the State of Utah." The core values of the BEMS are: "Protection of the public, Education, Active listening, Cost effective, Trust, Assurance, Flexibility, Responsive, Service, Honesty, Support, Leadership, Communications, Integrity, Team work, Quality, Customer focus, Open to the public, and Respect."

#### **A. EMS Providers**

Within the Utah EMS System, there are a total of 180 licensed and designated provider agencies serving every area of the state. The licensure level of a pre-hospital EMS service provided by an ambulance is determined by local officials of the community being served. According to the Utah EMS Systems Act, 26-8a-403 (7) "The role of local governments in the licensing of ground ambulance and paramedic providers that serve areas also served by the local governments is important. The Legislature strongly encourages local governments to establish cost, quality, and access goals for the ground and paramedic services that serve their areas."

In 1986, the Legislature created a funding mechanism to establish an EMS Grants program to help offset the lack of tax-based funding and federal aid for the improvement of the EMS system throughout the state. This program is funded by a dedicated source (criminal fines

and forfeitures) which established grants for the improvement of the statewide emergency medical services system. During the FY08 special legislative session, \$1,000,000 was removed from the BEMS General Funds. The money was replaced by funds from the EMS Grants restricted account. This decision resulted in a substantial cut to the grants programs for a total of \$1,200,000 and was anticipated to be a one time cut. During the FY09 Legislative Session, the EMS Systems Act was changed (HB447) to exclude funding for Counties classed 1, 2, or 3 and agencies serving communities with more than 10,000 people if they were in Class 1, 2, or 3 counties. The loss of EMS funds has significantly hampered urban EMS agencies' ability to deliver patient care because they are no longer eligible for any EMS grants funds. Rural EMS agencies were indirectly impacted by this cut because urban agencies are no longer able to provide education, time, and resources to their rural counterparts.

Utah's low population density of 25.1 persons per square mile makes it the 9<sup>th</sup> most rural state in the country. Accordingly, a large percentage (28.1%) of the EMS providers are based in rural areas where there are fewer paramedics than one would find in urban areas, and thus there is more limited access to advanced pre-hospital care. In Utah, paramedics comprise 21% of EMS providers in urban areas and only 2% of rural EMS providers. Some rural services are having difficulty in recruiting and retaining personnel sufficient to maintain services. Continuous turnover of staff decreases the skill level of the service. The problem is most prominent in sub-frontier counties.

Whether in rural Utah or on the Wasatch Front, EMS providers meet the same training, certification, and recertification standards, and stand ready to care for victims of injury or illness. Licensed ambulance providers throughout the state are required to have the same personnel, equipment, and operational standards. Through aid agreements, both automatic and mutual; local disaster plans; and standing orders, these licensed ambulance providers are in a constant state of readiness to serve the public. They are becoming more skilled and prepared to deal with weapons of mass destruction and mass casualties from natural and human caused disasters. The certified personnel are part-time paid or full-time paid employees and in a large majority of rural areas they are volunteers.

There are six levels of certification for EMS personnel: Emergency Medical Dispatch, Emergency Medical Responder (EMR), EMT-Basic, EMT-Intermediate, EMT-Intermediate Advanced, and EMT-Paramedic. The EMR is a new certification level for 2009 and at the time of this plan there have been no graduating classes. Each level has a specific scope of practice

with required hours of training. The following are currently certified EMS personnel as of July, 2009:

EMT-Basic – 5,097

EMT-Intermediate – 2,610

EMT-Intermediate Advanced– 60

Paramedic – 1,324

Emergency Medical Dispatchers – 69

The EMS agencies are categorized as 127 licensed ground ambulance and paramedic rescue agencies, and 53 designated quick response units providing various levels of pre-hospital care. Each licensed ambulance agency is required to have a certified medical director who is responsible for all medical aspects of their patient care. This includes the development and approval of treatment protocols, ongoing training of medical personnel, and quality assurance and performance improvement programs. In accordance with R426-12-1200 and 1201, the medical director must be certified every four years and be familiar with medical equipment and medications as approved by the Utah State EMS Committee and the Bureau of EMS, in addition to other requirements.

#### B. Resource Hospitals

One vital core component in the Utah EMS System consists of the Utah hospital emergency departments. The EMS Committee has designated all acute care hospitals and the VA hospital as resource hospitals. Resource hospitals' emergency departments provide on-line medical direction for EMS Providers in Utah. In addition, Primary Children's Medical Center provides on-line medical direction for pediatric patients. This fulfills the State of Utah's Administrative Code R426-14-300 Minimum Licensure Requirements for the availability of on-line medical direction for EMS agencies. The hospitals are also responsible for integrating EMS into quality assurance activities and education.

#### C. Trauma System

The EMS Systems Act with funding through the EMS grants program supports the development and maintenance of the statewide Trauma System in Utah. A core component of an effective trauma system is the existence of a state-wide trauma registry. Beginning in 2001, Statute and Administrative rule began requiring all acute care hospitals in the state of Utah to

submit data to the Department of Health for the statewide trauma registry. Currently, forty-three acute care hospitals submit data on a quarterly basis to the State. On average, nine thousand patients meet trauma registry inclusion criteria each year adding up to a total of over fifty thousand records in the registry at this time. Last year, the inclusion criteria changed in order to be compliant with the National Trauma Database Standard. A survey to assess the trauma capabilities was conducted in the last quarter of 2008. Of the 43 Utah hospitals, eleven have voluntarily met the extensive criteria required to be designated as trauma centers by the Department of Health. They are:

a.	Intermountain Medical Center	Level I
b.	Primary Children’s Medical Center	Level I
c.	University of Utah Hospital	Level I
d.	McKay Dee Hospital	Level II
e.	Ogden Regional Medical Center	Level II
f.	Utah Valley Regional Medical Center	Level II
g.	Logan Regional Hospital	Level III
h.	Dixie Regional Medical Center	Level III
i.	Allen Memorial	Level IV
j.	Bear River Valley Hospital	Level IV
k.	Uintah Basin Medial Center	Level IV

#### D. Emergency Medical Services for Children Program

Since 1993, Utah Emergency Medical Services for Children (EMSC) has existed as a committed public/private partnership between UDOH and Primary Children’s Medical Center (PCMC). Utah EMSC’s mission is to promote an integrated EMS and Trauma Response system in order to reduce the morbidity and mortality of Utah’s and the Intermountain region’s pediatric population. This will be accomplished by working in partnership to 1) promote and support injury prevention, 2) deliver culturally competent training, and 3) conduct performance improvement activities for communities and health care providers. In 1993, Utah EMSC was instrumental in the submission of House Bill 123 to the Utah Legislature, calling for the establishment of EMSC within the Bureau of EMS. The Bill successfully passed both legislative bodies, establishing within the UDOH BEMS, a pediatric quality improvement program, with funding to begin in fiscal year 1994.

Utah became the first state in the nation to pass legislation to establish and fund an EMSC program. EMSC continues to fill a critical role within the Utah BEMS through education of prehospital providers and developing resources and systems to improve the care of pediatric patients in the state. In order to accomplish the mission of Utah EMSC, partnerships have been formed with organizations such as Utah Highway Safety, SAFE KIDS, Child Fatality Review Committee, Utah Department of Education, Department of Health Injury Prevention Program, Center for Children with Special Health Care Needs, Safe Kids, Family Voices, Medical Home Project, Primary Children's Foundation, Utah Telehealth, and Life Flight.

#### E. Public Health and Hospital Preparedness

The Utah Healthcare Preparedness Program (UHPP) grant is administrated through BEMS, in the Utah Department of Health. The BEMS works with other State health divisions, State agencies, the Utah Hospital and Healthcare System Association, Utah Healthcare Association, Association of Community Health Clinics, EMS agencies, Tribal Health Systems, and local public health officials to guide and assist the healthcare system with preparedness efforts. The Utah Department of Health, under Utah Code, has statutory authority over healthcare within the State. The Emergency Support Function #8 delineates the oversight authority of the Utah Department of Health for managing the emergency healthcare and public health response capabilities in the State during a disaster, pandemic, or other emergency.

The goal of the UHPP is to assure a well-coordinated, equipped, and tiered response to health care emergencies and disasters in Utah. The UHPP is dedicated to the continued development of preparedness capability and capacity within Utah's healthcare system. The UHPP is designed to address the HPP Over-Arching Requirements and Levels One and Two Capabilities through a tiered response system approach to Medical Surge Capacity and Capability. A large majority of grant funds are allocated to facilities and partner agencies outside of the UHPP and this will ultimately benefit the resiliency of Utah's healthcare system. Through these continued grant activities, the UHPP intends to meet its goal in assuring a well coordinated, equipped, and tiered response to healthcare emergencies and disasters in Utah. This grant program is designed to help hospitals and other healthcare entities become more prepared for biological terrorism and other disasters. This grant has been managed within the BEMS in partnership with the Utah Hospital Association, Community Health Clinics of Utah, Department of Human Services, Division of Information Technology, and other state/local agencies and

partners. To date the program has grown to a total of 121 health care facilities. These facilities are categorized as follow:

Trauma Centers	11 (Includes 1 Pediatric Hospital)
Acute Care Hospitals	32
Long Term Care/Rehab Hospitals	55
Psychiatric Hospitals/Facilities	2
Community Health Clinics	14
Tribal Health Systems	4

#### IV. Overview of Goals and Objectives

The Utah BEMS Five-year Strategic Plan includes 15 Goals and 76 objectives. The goals and objectives are listed in the table below. The importance of each goal and its associated objectives is provided in the pages following this table.

<b>Goal 1: Improve the medical direction system for prehospital care in Utah.</b>	
Objective 1.1	By June 30, 2012: develop, disseminate, and adopt a set of evidence based or consensus based statewide core adult off-line medical direction protocols for basic and advanced life support providers.
Objective 1.2	By December 31, 2012: develop and disseminate training on the core adult off-line medical direction protocols for EMS providers and Emergency Department staff.
Objective 1.3	By June 30, 2013: develop and implement electronic based system to monitor the completion of EMS provider protocol and treatment education.
Objective 1.4	By December 31, 2012: develop audit filters within the POLARIS system to monitor compliance with the care outlined in the core adult off-line medical direction protocols and the pediatric off-line protocol guidelines.
Objective 1.5	By June 30, 2013: engage key stakeholders to assess the feasibility of developing regionalized base hospitals for on-line and off-line medical direction.
Objective 1.6	By December 31, 2010: conduct needs assessment to identify resources needed by EMS Medical Directors and develop and disseminate resources to meet the identified needs.
Objective 1.7	By December 31, 2011: engage key stakeholders to develop and adopt minimum training requirements for EMS Medical Directors.
Objective 1.8	By December 31, 2011: engage key stakeholders to develop template EMS Medical Director job description and service contract and disseminate resource to all EMS Agencies.
Objective 1.9	By December 31, 2011: utilize POLARIS and Trauma Registry data to develop standardized EMS Agency patient care performance improvement reports for EMS Medical Directors.
Objective 1.10	By June 30, 2011: engage key stakeholders to develop, adopt, and enforce minimum training and certification requirements for resource hospital emergency department staff providing on-line medical direction to EMS providers.
<b>Goal 2: Establish a statewide mandatory performance improvement system.</b>	
Objective 2.1	By June 30, 2011: establish legislative protection from discoverability of all Utah EMS performance improvement data.
Objective 2.2	By June 30, 2010: establish or identify a project manager to oversee the development of a statewide, mandatory performance improvement system.
Objective 2.3	By June 30, 2011: identify local/jurisdictional/regional best practice performance improvement systems in Utah and identify key strategies within these systems to incorporate into the development of the statewide, mandatory performance

	improvement system.
Objective 2.4	By June 30, 2011: engage key stakeholders to identify performance improvement projects and the information technology, data, infrastructure, and personnel necessary to support the identified performance improvement projects.
Objective 2.5	By December 31, 2012: secure funding to support identified performance improvement projects.
Objective 2.6	By June 30, 2013: implement pilot performance improvement system and evaluate pilot program.
Objective 2.7	By December 31, 2014: implement statewide, mandatory performance improvement system.
<b>Goal 3: Improve coordination and communication within the Bureau of EMS and Preparedness.</b>	
Objective 3.1	By June 30, 2010: encourage existing managers to complete Utah's Certified Program Manager Certification.
Objective 3.2	By June 30, 2010: implement quarterly Bureau of EMS and Preparedness meetings.
Objective 3.3	By June 30, 2010: identify a liaison for each of the three sections to attend the other two sections staff meetings.
Objective 3.4	By June 30, 2010: implement bi-annual performance evaluation meetings for all Bureau staff.
<b>Goal 4: Establish a designated regional, accountable emergency medical system of prehospital care.</b>	
Objective 4.1	By December 31, 2011: develop and implement a statewide system that recognizes specialty hospitals that are able to stabilize and/or manage trauma.
Objective 4.2	By December 31, 2011: develop and implement a statewide system that recognizes specialty hospitals that are able to stabilize and/or manage acute stroke patients and ensure that these hospitals work with their local EMS agencies to coordinate pre-hospital patient care.
Objective 4.3	By December 31, 2011: develop and implement a statewide system that recognizes specialty hospitals that are able to stabilize and/or manage pediatric medical emergencies.
Objective 4.4	By December 31, 2011: develop and implement a statewide system that recognizes specialty hospitals that are able to stabilize and/or manage ST-elevation myocardial infarction (STEMI) patients.
Objective 4.5	By December 31, 2010: assess the processes and infrastructure needed to support planning, implementation, and coordination between local EMS Agencies and the specialty hospitals in their region.
Objective 4.6	By December 31, 2011: engage key stakeholders to develop the resources to support planning, implementation, and coordination between local EMS Agencies and the specialty hospitals in their region.
Objective 4.7	By December 31, 2012: assess the current mutual aid agreements and identify strategies to improve the process of establishing mutual aid agreements.
<b>Goal 5: Establish a system to monitor and address EMS workforce needs.</b>	
Objective 5.1	By December 31, 2010: develop page on Bureau of EMS and Preparedness website to publicize EMS provider job openings monthly in Utah and to share recruitment/retention support materials for EMS agencies.
Objective 5.2	By June 30, 2010: engage key stakeholders to develop a survey to assess the workforce needs of EMS Agencies and by June 30, 2011 disseminate results of assessment to EMS Agencies and EMS providers by posting on the Bureau of EMS and Preparedness website.

Objective 5.3	By December 31, 2010: develop and conduct training for EMS Agency Directors on management and leadership skills and recruitment and retention strategies.
Objective 5.4	By December 31, 2013: assess EMS Agencies support for an EMS provider workforce exchange program to assist with staffing needs and provide shared experience and best practices to paramedics.
<b>Goal 6: Improve the ability of EMS agencies to provide quality patient care to their service areas.</b>	
Objective 6.1	By June 30, 2010: make EMS Grant Program funding available for activities that improve EMS agency's provision of quality patient care in their service areas.
Objective 6.2	By June 30, 2013: assess the impact of the EMS Grant Program funding on EMS agencies' delivery of quality patient care.
Objective 6.3	By June 30, 2011: assess the impact of the EMS Grant Program funding cut on EMS agencies' delivery of quality patient care.
Objective 6.4	By December 31, 2014: use data assessment results from Objective 6.2 and 6.3 to revise EMS Grant Program in order to increase EMS agencies ability to provide quality patient care to their service areas.
<b>Goal 7: Adopt National Emergency Medical Services Education Standards.</b>	
Objective 7.1	By December 31, 2010: conduct gap analysis using the NASEMSO gap analysis resource tool.
Objective 7.2	By June 30, 2011: develop implementation plan for the statewide adoption of the National Emergency Medical Services Education Standards for all levels of Utah EMS providers.
Objective 7.3	By December 31, 2012: identify and develop training resources for EMS Instructors to support their implementation of the National Emergency Medical Services Education Standards in their EMS provider courses, and by June 30 <sup>th</sup> 2012 disseminate these training resources.
<b>Goal 8: Improve the data linkages between the trauma, public health, highway safety, and emergency preparedness systems.</b>	
Objective 8.1	By June 30, 2010: engage key stakeholders from the Department of Health Violence and Injury Prevention Program, the Utah Highway Safety Office, and Vital Records to participate on Trauma System Advisory Committee.
Objective 8.2	By December 31, 2010: establish a partnership between the Trauma Systems Program, the Violence and Injury Prevention Program, and the Utah Highway Safety Office.
Objective 8.3	By December 31, 2011: assess current surveillance data resources within the Trauma Systems Program and the Violence and Injury Prevention Program and identify one specific traumatic injury to share surveillance data between programs.
Objective 8.4	By June 30, 2012: develop a joint program fact sheet to disseminate data associated with the traumatic injury collaboration area.
Objective 8.5	By December 31, 2014: establish the ability for the Trauma Systems Program to access real-time trauma data.
Objective 8.6	By December 31, 2012: inform key stakeholders of the available Trauma Systems Program data and collaboration opportunities.

<b>Goal 9: Establish medical oversight for the trauma system and conduct performance improvement projects to evaluate the effectiveness of the on-line and off-line medical oversight for trauma patients.</b>	
Objective 9.1	By June 30, 2012: develop, disseminate, and adopt a set of evidence based or consensus based statewide core adult and pediatric trauma off-line medical direction protocols for basic and advanced life support providers.
Objective 9.2	By December 31, 2012: develop and disseminate training on the core adult and pediatric trauma off-line medical direction protocols for EMS providers and ED staff.
Objective 9.3	By December 31, 2012: establish audit filters within POLARIS and the Trauma Registry to monitor compliance with the care outlined in the core adult trauma off-line medical direction protocols and the pediatric trauma off-line protocol guidelines.
Objective 9.4	By June 30, 2012: engage key stakeholders to identify trauma care performance improvement projects and the information technology, data, infrastructure, and personnel necessary to support the identified performance improvement projects.
Objective 9.5	By June 30, 2013: secure funding to support identified performance improvement projects.
Objective 9.6	By December 31, 2011: engage key stakeholders to develop and adopt minimum training requirements for Trauma Center Medical Directors.
Objective 9.7	By December 31, 2011: develop a template Trauma Medical Director job description and disseminate to all Utah Trauma Centers.
Objective 9.8	By June 30, 2011: conduct needs assessment to identify resources needed by Trauma Center Medical Directors and develop and disseminate resources to meet the identified needs.
<b>Goal 10: Establish mandatory pre-hospital trauma triage criteria and evaluate the clinical effectiveness of the trauma triage criteria.</b>	
Objective 10.1	By December 31, 2010: disseminate pre-hospital trauma triage criteria to EMS providers and Emergency Department staff.
Objective 10.2	By June 30, 2011: develop and disseminate training on the core pre-hospital trauma triage criteria to EMS providers and Emergency Department staff.
Objective 10.3	By December 31, 2011: engage key stakeholders to evaluate the clinical effectiveness of the trauma triage criteria and identify the information technology, data, infrastructure, and personnel necessary to support the evaluation.
Objective 10.4	By December 31, 2013: evaluate the clinical effectiveness of the trauma triage criteria, and by December 31 <sup>st</sup> 2014 utilize evaluation findings to make any necessary revisions to the trauma triage criteria.
Objective 10.5	By June 30, 2012: secure funding to support trauma triage clinical effectiveness evaluation project.
<b>Goal 11: Increase number of pre-hospital provider agencies in the State that have off-line and on-line pediatric medical direction at the scene of an emergency.</b>	
Objective 11.1	By December 1, 2010: present pediatric off-line protocol guidelines to Utah's hospital emergency department leadership to develop their commitment to supporting the protocols during the provision of on-line medical direction to EMS

	providers.
Objective 11.2	By February 28, 2012: provide education, training, and resources to EMS agencies and EMS providers to support their implementation of the pediatric off-line protocol guidelines.
Objective 11.3	By December 1, 2010: to increase ED staff's ability to provide on-line medical direction, EMSC will conduct trainings for all Utah hospital emergency departments on the scope of practice of EMS providers and disseminate the EMS Scope of Practice booklet to ED staff.
Objective 11.4	By March 1, 2010: work with Utah EMSC partners to identify barriers faced by ED staff during the provision of on-line medical direction at the scene of a pediatric emergency. By February 28, 2012: work with Utah EMSC partners to develop and implement strategies to overcome identified barriers to the provision of on-line medical direction at the scene of a pediatric emergency.
Objective 11.5	By March 1, 2010: conduct an assessment to determine Utah's resource hospitals' capacity to provide pediatric on-line medical direction.
Objective 11.6	By February 28, 2012: conduct NEDARC approved survey to assess percent of pre-hospital provider agencies in the State that have off-line and on-line pediatric medical direction at the scene of an emergency.
<b>Goal 12: Increase the percent of BLS and ALS patient care units in the State that have the essential pediatric equipment and supplies outlined in National Guidelines.</b>	
Objective 12.1	By February 28, 2011: identify education needs of EMS providers relating to using the new equipment that is recommended by the National Guidelines. By February 28, 2012: develop and disseminate pediatric equipment and training on the use of the pediatric equipment to provide care during a pediatric emergency to Utah EMS Providers.
Objective 12.2	By July 30, 2011: work with the State EMS Committee and EMSC Advisory Committee to develop and implement a state required equipment and supply list for Utah BLS and ALS ambulances that includes all of the pediatric equipment and supplies outlined in the National Guidelines.
Objective 12.3	By February 28, 2012: conduct ambulance inspections using a NEDARC approved inspection form to assess the percentage of BLS and ALS ambulances within the state of Utah that carry the National Guidelines equipment and supplies.
<b>Goal 13: Improve the emergency medical care of children in Utah.</b>	
Objective 13.1	By February 28, 2012: provide at least 70 pediatric medical emergency trainings for Utah EMS providers.
Objective 13.2	February 28, 2012: conduct at least 12 EMSC Advisory Committee meetings.
Objective 13.3	By February 28, 2012: provide at least 3 pediatric medical emergency Train the Trainers for Utah's EMSC Coordinators. By February 28, 2012: 95% of EMSC Coordinators will provide pediatric education and training for EMS providers in their community.
Objective 13.4	By February 28, 2012: partner with Utah organizations involved in the coordination of care for Children with Special Healthcare Needs (CSHCN) in order to increase the enrollment of children in the Medical Emergency Medical

	Information for CSHCN program by 50%.
Objective 13.5	By February 28, 2012: EMSC Coordinators will work in partnership with Utah organizations and programs to conduct at least 40 pediatric injury prevention programs.
Objective 13.6	By February 28, 2012: collaborate with EMSC program managers and family representatives from the IRECC region to develop and disseminate a 1) family-centered care policy template for EMS agencies, and 2) Train the Trainer module on how to provide family-centered care in the Pre-hospital Setting.
Objective 13.7	By February 28, 2012: work in partnership with EMSC and healthcare organizations involved in serving Utah's children in order to develop disaster plans and secure resources to serve pediatric patients during a disaster.
<b>Goal 14: Assure a well coordinated, equipped, and tiered response to healthcare emergencies and disasters in Utah.</b>	
Objective 14.1	By June 30, 2012: successfully meet all objectives outlined in the 2009 Application for Hospital Preparedness Program Cooperative Agreement Funding.
<b>Goal 15: Develop, enhance, and maintain Public Health Preparedness efforts.</b>	
Objective 15.1	By June 30, 2012: successfully meet all objectives outlined in the 2009 Application for Public Health Preparedness Program Cooperative Agreement Funding.

## V. Bureau of EMS and Preparedness Goals and Objectives

**Goal 1:** Improve the medical direction system for prehospital care in Utah.

Objective 1.1 By June 30, 2012: develop, disseminate, and adopt a set of evidence based or consensus based statewide core adult off-line medical direction protocols for basic and advanced life support providers.

Objective 1.2 By December 31, 2012: develop and disseminate training on the core adult off-line medical direction protocols for EMS providers and Emergency Department staff.

Objective 1.3 By June 30, 2013: develop and implement electronic based system to monitor the completion of EMS provider protocol and treatment education.

Objective 1.4 By December 31, 2012: develop audit filters within the POLARIS system to monitor compliance with the care outlined in the core adult off-line medical direction protocols and the pediatric off-line protocol guidelines.

Objective 1.5 By June 30, 2013: engage key stakeholders to assess the feasibility of developing regionalized base hospitals for on-line and off-line medical direction.

Objective 1.6 By December 31, 2010: conduct needs assessment to identify resources needed by EMS Medical Directors and develop and disseminate resources to meet the identified needs...

Objective 1.7 By December 31, 2011: engage key stakeholders to develop and adopt minimum training requirements for EMS Medical Directors.

Objective 1.8 By December 31, 2011: engage key stakeholders to develop template EMS Medical Director job description and service contract and disseminate resource to all EMS Agencies.

Objective 1.9 By December 31, 2011: utilize POLARIS and Trauma Registry data to develop standardized EMS Agency patient care performance improvement reports for EMS Medical Directors.

Objective 1.10 By June 30, 2011: engage key stakeholders to develop, adopt, and enforce minimum training and certification requirements for resource hospital emergency department staff providing on-line medical direction to EMS providers.

Within a Model EMS system, the lead EMS agency utilizes well-defined standards to enforce all prehospital clinical practice. In order to achieve this vision, Objectives 1.1 and 1.2 focus on the development of a set of core protocols that will serve as the patient care standards. Objectives 1.3 through 1.5 address the development of the resources and processes necessary to evaluate prehospital clinical practice.

In Utah, there is a large variation between EMS Agencies in their requirements for EMS Medical Directors. Utah is not alone in this variation, and in fact it has been identified as a nationwide concern. In order to provide some guidance on the subject, the National Association of EMS Physicians developed a list of desirable and acceptable qualifications for EMS Medical Directors (Alonso-Serra, 1997). To comply with the standards outlined in this document, Objectives 1.6 through 1.9 focus on the standardization of the EMS Medical Director role and the standardization of EMS Medical Director competencies.

Utah's Rule 426-15-400 requires on-line medical direction to be provided by a physician or a registered nurse or physician assistant licensed in Utah who is in voice contact with a physician. However, this rule does not ensure that the individual providing on-line medical direction has knowledge of EMS providers' scope of practice. In a recent study, the Utah BEMS found that emergency department staff providing on-line medical direction did not possess an understanding of EMS providers' scope of practice. The National Highway and Traffic Safety Administration's Emergency Medical Services Agenda for the Future recommends that medical direction should be provided by individuals with a special competency in EMS (1996). In order to ensure medical direction is provided by knowledgeable and qualified individuals, Objective 1.10 focuses on standardizing and certifying the expertise of emergency department staff providing on-line medical direction to EMS providers.

**Goal 2:** Establish a statewide, mandatory performance improvement system.

Objective 2.1 By June 30, 2011: establish legislative protection from discoverability of all Utah EMS performance improvement data.

Objective 2.2 By June 30, 2010: establish or identify a project manager to oversee the development of a statewide, mandatory performance improvement system.

Objective 2.3 By June 30, 2011: identify local/jurisdictional/regional best practice performance improvement systems in Utah and identify key strategies within these systems to incorporate into the development of the statewide, mandatory performance improvement system.

Objective 2.4 By June 30, 2011: engage key stakeholders to identify performance improvement projects and the information technology, data, infrastructure, and personnel necessary to support the identified performance improvement projects.

Objective 2.5 By December 31, 2012: secure funding to support identified performance improvement projects.

Objective 2.6 By June 30, 2013: implement pilot performance improvement system and evaluate pilot program.

Objective 2.7 By December 31, 2014: implement statewide, mandatory performance improvement system.

The Institute of Medicine Committee on the Future of Emergency Care in the U.S. Health System recommends a new vision for emergency care that includes system accountability (2006). They state that there should be a way of determining the performance of the different system components. The achievement of accountability will require the development of well-defined standards and methods to collect data and measure performance against those standards. A statewide mandatory performance improvement system will incorporate all of these functions and ensure system accountability. In order to establish an effective performance improvement plan, legislated protection from discoverability of all EMS performance improvement data is essential and this is addressed by Objective 2.1. Objectives 2.2 through 2.7 focus on the development and implementation of a mandatory statewide performance improvement plan at the state, regional, jurisdictional, and local agency level with dedicated, specified medical oversight.

**Goal 3:** Improve coordination and communication within the Bureau of EMS and Preparedness.

Objective 3.1 By June 30, 2010: encourage existing managers to complete Utah's Certified Program Manager Certification.

Objective 3.2 By June 30, 2010: implement quarterly Bureau of EMS and Preparedness meetings.

Objective 3.3 By June 30, 2010: identify a liaison for each of the three sections to attend the other two sections staff meetings.

Objective 3.4 By June 30, 2010: implement bi-annual performance evaluation meetings for all Bureau staff.

Objectives 3.1 through 3.4 address increasing the existing capabilities and resources within the BEMS. These objectives also address improving the coordination of Bureau services, optimization of available resources, and increasing staff productivity.

**Goal 4:** Establish a designated regional, accountable emergency medical system of prehospital care.

Objective 4.1 By December 31, 2011: develop and implement a statewide system that recognizes specialty hospitals that are able to stabilize and/or manage trauma.

Objective 4.2 By December 31, 2011: develop and implement a statewide system that recognizes specialty hospitals that are able to stabilize and/or manage acute stroke patients and ensure that these hospitals work with their local EMS agencies to coordinate pre-hospital patient care.

Objective 4.3 By December 31, 2011: develop and implement a statewide system that recognizes specialty hospitals that are able to stabilize and/or manage pediatric medical emergencies.

Objective 4.4 By December 31, 2011: develop and implement a statewide system that recognizes specialty hospitals that are able to stabilize and/or manage ST-elevation myocardial infarction (STEMI) patients.

Objective 4.5 By December 31, 2010: assess the processes and infrastructure needed to support planning, implementation, and coordination between local EMS Agencies and the specialty hospitals in their region.

Objective 4.6 By December 31, 2011: engage key stakeholders to develop the resources to support planning, implementation, and coordination between local EMS Agencies and the specialty hospitals in their region.

Objective 4.7 By December 31, 2012: assess the current mutual aid agreements and identify strategies to improve the process of establishing mutual aid agreements.

The Institute of Medicine Committee on the Future of Emergency Care in the U.S. Health System, recommend a new vision for emergency care that includes regionalization (2006). The vision of regionalization is described where neighboring hospitals, EMS, and other agencies work together as an organized system of care to provide emergency care to everyone in that region. A patient should be transported to the optimal facility within the region based on his or her condition and the distances involved. This recommendation complements the requirements of a Model EMS System to have a designated regional accountable emergency medical system of prehospital care.

EMS represents the intersection of public safety, public health, and healthcare systems (Institute of Medicine, 2006). In order to deliver quality patient care, it is crucial that EMS coordinate with the patient, public safety, and hospitals. As a state entity, the BEMS is ideally suited to serve as the neutral party spearheading, coordinating, and overseeing efforts to develop

trauma, stroke, pediatric, and STEMI systems of emergency care incorporating all of Utah's hospitals and EMS agencies.

It has been well documented that trauma systems improve survival in injured patients (Lansink & Leenan, 2007; Papa et al., 2006; Durham et al., 2006; Mackenzie et al., 2006). The risk of death is twenty-five percent lower when care is provided in a trauma center versus when care is provided in a nontrauma center (Lansink & Leenan, 2007). Objective 4.1 focuses on continuing to support the development of Utah's statewide trauma system.

Stroke is a leading cause of long-term disability and morbidity and mortality in the country (American Heart Association, 2003). However, stroke care is fragmented and the American Stroke Association recommends the development of a stroke system to address the fragmentation (2005). The American Stroke Association also cites improved patient outcomes in the prevention, treatment, and rehabilitation of stroke as additional benefits of developing a stroke system. The Joint Commission worked with the American Stroke Association to develop a Primary Stroke Center Certification to recognize hospitals making exceptional efforts to foster better outcomes for stroke care. To date, four hospitals in Utah have received this Certification and others are working toward this goal. EMS plays a key role in the effective and timely treatment of stroke. According to the American Stroke Association, EMS response involves a complex interaction between the public, EMS, and the hospital emergency department. Objective 4.2 addresses the development of this system in Utah and the need for hospitals to coordinate care with EMS in order to improve outcomes for stroke patients.

In 1993, the Institute of Medicine recommended that hospital emergency departments have available and maintain equipment and supplies appropriate for the emergency care of children. Since this recommendation, studies have found that less than 10% of US emergency departments have all the recommended pediatric supplies and equipment outlined in national guidelines (Middleton and Burt, 2006; Gausche-Hill et al., 2003; Athey et al., 2001). This lack of pediatric equipment in addition to deficiencies in pediatric trained emergency department staff prohibits access to optimal emergency care for children (American Academy of Pediatrics, 2007). In order to improve access to optimal emergency care for children, the Institute of Medicine (2006) and the Health Resources and Services Administration- EMSC program (2009) have recommended the development of statewide standardized systems that recognize hospitals able to provide pediatric emergency care. This statewide pediatric hospital recognition process

can ensure a state of readiness to care for pediatric patients (Cichon et al., 2008). Objective 4.3 addresses the development of this pediatric system in Utah.

Individuals experiencing symptoms of a heart attack (ST-segment elevation myocardial infarction – STEMI) benefit from early reperfusion treatment (Fibrinolytic Therapy Trialists, 1994; Keeley et al., 2003). However, there is a large variability in which reperfusion treatment is used and in which patients it is administered (Fox, 2004). Although there is a well documented benefit to this treatment, 30% of STEMI patients do not receive reperfusion treatment (Eagle, 2002). In order to address this unmet need, the American Heart Association has created an initiative for the development of STEMI systems nationwide. Objective 4.4 focuses on the development of a STEMI system in Utah. Finally, Objectives 4.5 through 4.7 focus on determining if key stakeholders would support the development of regionalized care, identifying the resources necessary to support a regionalized system of care, and ensuring the EMS system is integrated with the regionalized hospital systems of care.

**Goal 5:** Establish a system to monitor and address EMS workforce needs.

Objective 5.1 By December 31, 2010: develop page on Bureau of EMS and Preparedness website to publicize EMS provider job openings monthly in Utah and to share recruitment/retention support materials for EMS agencies.

Objective 5.2 By June 30, 2010: engage key stakeholders to develop a survey to assess the workforce needs of EMS Agencies and by June 30<sup>th</sup> 2011 disseminate results of assessment to EMS Agencies and EMS providers by posting on the Bureau of EMS and Preparedness website.

Objective 5.3 By December 31, 2010: develop and conduct training for EMS Agency Directors on management and leadership skills and recruitment and retention strategies.

Objective 5.4 By December 31, 2013: assess EMS Agencies support for an EMS provider workforce exchange program to assist with staffing needs and provide shared experience and best practices to paramedics.

The 2004 National Association of State EMS Directors State EMS Rural Needs Survey identified personnel recruitment and retention as the single most significant need in the provision of rural EMS. Utah is the 9<sup>th</sup> most rural state in the country and faces this personnel recruitment and retention need. Contributing factors to this need in rural areas often include lower pay, long hours, and insufficient training and equipment (Coopey, 2000). Objectives 5.1 and 5.2 focus on assessing and disseminating the current workforce needs in Utah. These two objectives also focus on linking newly licensed EMS providers with job opportunities. Objective 5.3 focuses on developing and retaining the current EMS workforce. Lastly, Objective 5.4 focuses on assessing the support for a program that would allow EMS providers from one area to provide coverage in another agency with an identified workforce need. Such a program would also allow the sharing of paramedic experience and best practices between agencies.

**Goal 6:** Improve the ability of EMS agencies to provide quality patient care to their service areas.

Objective 6.1 By June 30, 2010: make EMS Grant Program funding available for activities that improve EMS agency's provision of quality patient care in their service areas.

Objective 6.2 By June 30, 2013: assess the impact of the EMS Grant Program funding on EMS agencies' delivery of quality patient care.

Objective 6.3 By June 30, 2011: assess the impact of the EMS Grant Program funding cut on EMS agencies' delivery of quality patient care.

Objective 6.4 By December 31, 2014: use data assessment results from Objective 6.2 and 6.3 to increase EMS agencies ability to provide quality patient care to their service areas.

The 2004 National Association of State EMS Directors State EMS Rural Needs Survey identified financing, training equipment, medical equipment, and ambulances as some of the top needs in the provision of rural EMS. Utah is the 9<sup>th</sup> most rural state in the country and its EMS agencies have identified all of these needs for their organizations. The EMS Grants Program is the BEMS' mechanism to provide training equipment, medical equipment and ambulances to the EMS agencies. The FY09 Legislative Session reduction in funding for the EMS Grants Program indicated a need for the BEMS to evaluate and document the impact of the EMS Grants Program in relation to these national needs. The collection of this evaluation data is essential to justify to the Legislature continued and increased funding for the EMS Grants Program. Objectives 6.1 through 6.4 address ensuring the continued existence of the EMS Grants Program, assessing the impact of the Program's activities, and revising the Program's activities in order to increase EMS agency's ability to provide quality patient care.

**Goal 7: Adopt National Emergency Medical Services Education Standards.**

Objective 7.1 By December 31, 2010: conduct gap analysis using the NASEMSO gap analysis resource tool.

Objective 7.2 By June 30, 2011: develop implementation plan for the statewide adoption of the National Emergency Medical Services Education Standards for all levels of Utah EMS providers.

Objective 7.3 By December 31, 2012: identify and develop training resources for EMS Instructors to support their implementation of the National Emergency Medical Services Education Standards in their EMS provider courses, and by June 30<sup>th</sup> 2012 disseminate these training resources.

In 2000, the National Highway Traffic Safety Administration published the EMS Education Agenda for the Future: A Systems Approach. The goal of the Education Agenda is to establish a system for EMS education that is similar to other health care professionals. Within the Education Agenda is the revision of the National Emergency Education Standards. The National Emergency Medical Services Education Standards provide the minimal terminal objectives for each certification level of EMS provider. The target rollout date for the National Emergency Education Standards is 2012. Many of the updated Education Standards will be a significant change for states. In order to determine what changes each state will need to make, the National Association of State EMS Officials (NASEMSO) created a gap analysis tool. This tool is used to determine the difference between the National Standards Curriculum and the new Education Standards. Objectives 7.1 through 7.3 focus on actions to implement this nationwide initiative in Utah.

**Goal 8:** Improve the data linkages between the trauma, public health, highway safety, and emergency preparedness systems.

Objective 8.1 By June 30, 2010: engage key stakeholders from the Department of Health Violence and Injury Prevention Program, the Utah Highway Safety Office, and Vital Records to participate on Trauma System Advisory Committee.

Objective 8.2 By December 31, 2010: establish a partnership between the Trauma Systems Program, the Violence and Injury Prevention Program, and the Utah Highway Safety Office.

Objective 8.3 By December 31, 2011: assess current surveillance data resources within the Trauma Systems Program and the Violence and Injury Prevention Program and identify one specific traumatic injury to share surveillance data between programs.

Objective 8.4 By June 30, 2012: develop a joint program fact sheet to disseminate data associated with the traumatic injury collaboration area.

Objective 8.5 By December 31, 2014: establish the ability for the Trauma Systems Program to access real-time trauma data.

Objective 8.6 By December 31, 2012: inform key stakeholders of the available Trauma Systems Program data and collaboration opportunities.

A key component of a Model State EMS System and a Model Trauma System are primary injury prevention programs. The BEMS has not fully capitalized on its ability to collaborate with the Violence and Injury Prevention Program within the Utah Department of Health. The goal of this partnership would be to develop data linkages between the two programs. Another key component of a Model State EMS System is a linkage between EMS and Highway Safety. The goal of this partnership would be to ensure that prehospital data is used to evaluate highway safety problems. The Utah BEMS collects data in accordance to several national data standards and initiatives. The Prehospital Online Active Reporting Information System (POLARIS) is the prehospital patient care data collection system. The data collected through POLARIS meets the National EMS Information System (NEMSIS) data requirements and Utah is participating in the initiative to create a national EMS database. The BEMS also collects trauma patient care data. This data is collected utilizing the Trauma Registry Database and the data collected is in accordance with the National Trauma Data Bank requirements. Unfortunately, the state statute does not currently allow the BEMS to participate in the initiative to create a national trauma database. Objectives 8.1 through 8.6 focus on developing a formal

partnership between the Emergency Health Systems Program and the Violence and Injury Prevention Program. These data linkages have the potential to improve the ability to 1) identify priorities for injury prevention programs, 2) identify the sub-populations most at risk for injuries, 3) evaluate the impact of injury prevention programs, 4) evaluate highway safety problems, and 5) improve post crash care and survivability.

**Goal 9:** Establish medical oversight for the trauma system and conduct performance improvement projects to evaluate the effectiveness of the on-line and off-line medical oversight for trauma patients.

Objective 9.1 By June 30, 2012: develop, disseminate, and adopt a set of evidence based or consensus based statewide core adult and pediatric trauma off-line medical direction protocols for basic and advanced life support providers.

Objective 9.2 By December 31, 2012: develop and disseminate training on the core adult and pediatric trauma off-line medical direction protocols for EMS providers and ED staff.

Objective 9.3 By December 31, 2012: establish audit filters within POLARIS and the Trauma Registry to monitor compliance with the care outlined in the core adult trauma off-line medical direction protocols and the pediatric trauma off-line protocol guidelines.

Objective 9.4 By June 30, 2012: engage key stakeholders to identify trauma care performance improvement projects and the information technology, data, infrastructure, and personnel necessary to support the identified performance improvement projects.

Objective 9.5 By June 30, 2013: secure funding to support identified performance improvement projects.

Objective 9.6 By December 31, 2011: engage key stakeholders to develop and adopt minimum training requirements for Trauma Center Medical Directors.

Objective 9.7 By December 31, 2011: develop a template Trauma Medical Director job description and disseminate to all Utah Trauma Centers.

Objective 9.8 By June 30, 2011: conduct needs assessment to identify resources needed by Trauma Center Medical Directors and develop and disseminate resources to meet the identified needs.

The American College of Surgeon's recommends that trauma care systems measure compliance to standards, documents, system effectiveness, and identify quality improvement opportunities. In order to achieve this recommendation, Objectives 9.1 through 9.3 focus on the development of patient care protocols that will serve as the patient trauma care standards. Objectives 9.4 and 9.5 address the development of a quality improvement process that will assess the effectiveness of the trauma system and the compliance to standards. Objectives 9.6 through 9.8 focus on the standardization of the role and responsibilities of a Trauma Center Medical Director and increasing the Emergency Health System Program's support of Trauma Center Medical Directors.

**Goal 10:** Establish mandatory pre-hospital trauma triage criteria and evaluate the clinical effectiveness of the trauma triage criteria.

Objective 10.1 By December 31, 2010: disseminate pre-hospital trauma triage criteria to EMS providers and Emergency Department staff.

Objective 10.2 By June 30, 2011: develop and disseminate training on the core pre-hospital trauma triage criteria to EMS providers and Emergency Department staff.

Objective 10.3 By December 31, 2011: engage key stakeholders to evaluate the clinical effectiveness of the trauma triage criteria and identify the information technology, data, infrastructure, and personnel necessary to support the evaluation.

Objective 10.4 By December 31, 2013: evaluate the clinical effectiveness of the trauma triage criteria, and by December 31<sup>st</sup> 2014 utilize evaluation findings to make any necessary revisions to the trauma triage criteria.

Objective 10.5 By June 30, 2012: secure funding to support trauma triage clinical effectiveness evaluation project.

The American College of Surgeon's recommends evaluating the following criteria within the trauma system: triage, patient delivery decisions, treatment, and transfer protocols. In order to achieve this recommendation, Objectives 10.1 and 10.2 focus on the development of pre-hospital trauma triage criteria that will serve as the patient triage standards. Objectives 10.3 through 10.5 address the development of a quality improvement process that will assess the clinical effectiveness of the trauma triage criteria.

**Goal 11:** Increase number of pre-hospital provider agencies in the State that have off-line and on-line pediatric medical direction at the scene of an emergency.

Objective 11.1 By December 1, 2010: present pediatric off-line protocol guidelines to Utah's hospital emergency department leadership to develop their commitment to supporting the protocols during the provision of on-line medical direction to EMS providers.

Objective 11.2 By February 28, 2012: provide education, training, and resources to EMS agencies and EMS providers to support their implementation of the pediatric off-line protocol guidelines.

Objective 11.3 By December 1, 2010: to increase ED staff's ability to provide on-line medical direction, EMSC will conduct trainings for all Utah hospital emergency departments on the scope of practice of EMS providers and disseminate the EMS Scope of Practice booklet to ED staff.

Objective 11.4 By March 1, 2010: work with Utah EMSC partners to identify barriers faced by ED staff during the provision of on-line medical direction at the scene of a pediatric emergency. By February 28, 2012: work with Utah EMSC partners to develop and implement strategies to overcome identified barriers to the provision of on-line medical direction at the scene of a pediatric emergency.

Objective 11.5 By March 1, 2010: conduct an assessment to determine Utah's resource hospitals' capacity to provide pediatric on-line medical direction.

Objective 11.6 By February 28, 2012: conduct NEDARC approved survey to assess percent of pre-hospital provider agencies in the State that have off-line and on-line pediatric medical direction at the scene of an emergency.

Objective 11.1 focuses on developing statewide support for the adoption of the pediatric off-line protocol guidelines. In order to develop support for EMS providers using the pediatric off-line protocol guidelines, it will be essential to present the protocols to key stakeholders in the state. The EMSC Medical Director, The Bureau of EMS Medical Director, the EMSC Program Manager, the Pediatric Clinical Consultant, the Trauma Nurse Consultant, State Trauma Manager, and EMSC Coordinators will all play a role in this statewide effort.

Objective 11.2 focuses on providing education, training, and resources to EMS agencies and EMS providers to support their implementation of the pediatric off-line protocol guidelines. A concern from Utah EMSC's partners that is associated with the rollout of the pediatric off-line protocols is the ability of EMS providers to provide the care outlined in the off-line protocols. Many rural EMS providers in Utah only respond on a pediatric call once a year. In order to

maintain their pediatric skills, it is essential that EMS providers participate in regular trainings and hands-on skill practice. To ensure that EMS providers are able to provide the care outlined in the off-line protocols, EMSC staff will be utilized to provide statewide education and training to EMS providers.

Objective 11.3 and 11.4 focus on improving the coordination of emergency care services between the EMS System and the hospital emergency department. In order to identify barriers associated with the provision of on-line medical direction, EMSC staff will conduct focus groups with Utah's ED staff. Once the data is compiled, Utah EMSC will work with its partners to develop and implement strategies to overcome the barriers to the provision of on-line medical direction at the scene of a pediatric emergency.

Objective 11.5 focuses on determining Utah's resource hospitals' capacity to provide pediatric on-line medical direction. Although this structure for the provision of on-line medical direction is in place, only 53 % of BLS providers and 36% of ALS providers perceive they have on-line pediatric medical direction at the scene of an emergency. In order to determine Utah's resource hospitals' capacity to provide pediatric on-line medical direction, EMSC staff will conduct a Facility Resource Assessment. This Assessment will survey the resource hospitals about their 1) pediatric resuscitation protocols, 2) pediatric in house continuing education for nurses and physicians, 3) pediatric certification requirements for ED nurses and physicians, 4) the availability of an advocate and resource for pediatric patients, 5) availability of staff with pediatric specific training, 6) availability of pediatric equipment in the ED, and 7) the existence of a quality assurance program with EMS agencies. Following the assessment, EMSC will work with these hospitals to help them identify strategies to increase their pediatric resources in order to improve their provision of on-line pediatric medical direction.

In order to assess the impact of objectives 11.1 – 11.5, objective 11.6 focuses on assessing the percent of pre-hospital provider agencies in the State that have off-line and on-line pediatric medical direction at the scene of an emergency.

**Goal 12:** Increase the percent of BLS and ALS patient care units in the State that have the essential pediatric equipment and supplies outlined in National Guidelines.

Objective 12.1 By February 28, 2011: identify education needs of EMS providers relating to using the new equipment that is recommended by the National Guidelines. By February 28<sup>th</sup> 2012: develop and disseminate pediatric equipment and training on the use of the pediatric equipment to provide care during a pediatric emergency to Utah EMS Providers.

Objective 12.2 By July 30, 2011: work with the State EMS Committee and EMSC Advisory Committee to develop and implement a state required equipment and supply list for Utah BLS and ALS ambulances that includes all of the pediatric equipment and supplies outlined in the National Guidelines.

Objective 12.3 By February 28, 2012: conduct ambulance inspections using a NEDARC approved inspection form to assess the percentage of BLS and ALS ambulances within the state of Utah that carry the National Guidelines equipment and supplies.

Objectives 12.1, 12.2, and 12.3 focus on ensuring the pediatric equipment and supplies listed on the National Guidelines for BLS and ALS Ambulances are carried on Utah's basic and advanced life support ambulances. Rural EMS providers respond in an environment that lacks the pediatric resources that are more readily available in urban areas. The 2006 Utah EMSC Needs Assessment directed several questions to the availability of pediatric equipment and training. The assessment found that rural EMS providers were significantly more likely to report a lack of pediatric equipment than urban EMS providers. Utah EMSC will continue to develop and disseminate the training to EMS providers statewide. Utah EMSC will also continue to collaborate with the UHPP in order to provide pediatric equipment to EMS agencies in the State. This collaboration was developed in order to reduce the financial burden that would be placed on EMS agencies. Many of Utah's EMS agencies are volunteer based, and they do not have the financial resources necessary to purchase the needed pediatric equipment.

**Goal 13:** Improve the emergency medical care of children in Utah.

Objective 13.1 By February 28, 2012: provide at least 70 pediatric medical emergency trainings for Utah EMS providers.

Objective 13.2 By February 28, 2012: conduct at least 12 EMSC Advisory Committee meetings.

Objective 13.3 By February 28, 2012: provide at least 3 pediatric medical emergency Train the Trainers for Utah's EMSC Coordinators. By February 28<sup>th</sup> 2012, 95% of EMSC Coordinators will provide pediatric education and training for EMS providers in their community.

Objective 13.4 By February 28, 2012: partner with Utah organizations involved in the coordination of care for Children with Special Healthcare Needs (CSHCN) in order to increase the enrollment of children in the Medical Emergency Medical Information for CSHCN program by 50%.

Objective 13.5 By February 28, 2012: EMSC Coordinators will work in partnership with Utah organizations and programs to conduct at least 40 pediatric injury prevention programs.

Objective 13.6 By February 28, 2012: collaborate with EMSC program managers and family representatives from the IRECC region to develop and disseminate a 1) family-centered care policy template for EMS agencies, and 2) Train the Trainer module on how to provide family-centered care in the Pre-hospital Setting.

Objective 13.7 By February 28, 2012: work in partnership with EMSC and healthcare organizations involved in serving Utah's children in order to develop disaster plans and secure resources to serve pediatric patients during a disaster.

Objective 13.1 focuses on providing pediatric medical emergency trainings for Utah EMS providers. Utah EMSC has a long-standing commitment to providing statewide PEPP, PALS, and CME classes for EMS providers. The purpose of this activity is to ensure quality pediatric CME opportunities are available for EMS providers' pediatric recertification hours. When the Utah EMS providers who participated in the 2006 Needs Assessment were asked to identify what made it difficult to obtain pediatric continuing medical education (CME), the following items were identified as barriers: 1) a lack of qualified teachers, 2) a lack of quality training, and 3) a lack of support from their EMS agency for pediatric CME. One EMS provider stated, "*No one in the agency is (an) expert in (the) field enough to teach others and help them excel in pediatric treatment.*"

Objective 13.2 focuses on the continuation of the EMSC Advisory Committee. The EMSC Advisory Committee will meet at least 4 times during each grant year. The EMSC Advisory Committee plays an integral role in the development and implementation of Utah EMSC's initiatives. It is essential to the success of Utah EMSC that the Advisory Committee remains active.

Objective 13.3 focuses on the development and maintenance of local pediatric teaching resources for EMS providers. Utah EMSC has 40 EMSC Coordinators that are located throughout Utah. The role of these individuals is to serve as training resources and pediatric pre-hospital experts in their communities. In order to ensure the EMSC Coordinators remain pre-hospital experts, Utah EMSC requires extensive pediatric training for the Coordinators. The EMSC Coordinators are then required to provide at least three education and training opportunities for EMS providers in their community.

Objective 13.4 focuses on the utilization of the Medical Emergency Medical Information for Children with Special Healthcare Needs (CSHCN) system. The goal of this program is to help families and EMS providers communicate clearly about the care your child may require if a medical emergency arises for your child.

Objective 13.5 focuses on EMSC Coordinators conducting local pediatric injury prevention programs. In 2006, Utah EMSC partnered with the Violence and Injury Prevention Program (VIPPP) and the Office of Highway Safety, to integrate the programs' pediatric injury prevention efforts. The partnership with the Department of Highway Safety resulted in the Buckle Tough Program Grant for EMSC. The goal of the Buckle Tough Program is to encourage rural teenagers to buckle up while riding in a light truck. EMSC Coordinators are responsible for educating teenagers in their communities on the importance of buckling up in a light truck

Objective 13.6 focuses on collaborating across the 8 Intermountain States to ensure the provision of family-centered care in the Pre-hospital Setting. In 2008, the IRECC region conducted a family centered care needs assessment with EMS providers from the 8 states. Data from this assessment indicated a need for 1) a family-centered care policy template for EMS agencies, and 2) a Train the Trainer on how to provide family-centered care in the pre-hospital setting.

Objective 13.7 focuses on developing disaster plans and securing resources to serve pediatric patients during a disaster. In Utah, the only medical facility that lists pediatric beds in a

surge situation is Primary Children's Medical Center. Hospital pediatric surge capacity guidelines will be developed and disseminated statewide. EMSC will work with Utah's hospitals to help them identify strategies to implement the recommendations outlined in the guidelines.

**Goal 14:** Assure a well coordinated, equipped, and tiered response to healthcare emergencies and disasters in Utah.

Objective 14.1 By June 30, 2012: successfully meet all objectives outlined in the 2009 Application for Hospital Preparedness Program Cooperative Agreement Funding.

Objective 14.1 focuses on meeting objectives in following areas within the Hospital Preparedness Program; Interoperable Communications, Bed Tracking and Emergency Department Status / Surge Capacity, ESAR/VHP, Fatality Management, Medical Evacuation and Shelter-in-Place, Partnership Development, Alternate Care Sites, Mobile Medical Assets, Pharmaceutical Caches, Personal Protective Equipment, and Medical Reserve Corps.

**Goal 15:** Develop, enhance, and maintain Public Health Preparedness efforts.

Objective 15.1 By June 30, 2012: successfully meet all objectives outlined in the 2009 Application for Public Health Preparedness Program Cooperative Agreement Funding.

Objective 15.1 is accomplished by being a liaison, support, and resource by developing and enhancing strong partnerships with the following groups; Local Health Departments, other UDOH preparedness staff (Epidemiology, Laboratory, Public Information, IT, Immunization, finance, EDO and others.), other State Agencies (Department of Public Safety, Department of Agriculture and Food, Utah National Guard, and others), other Community Partners (Hospitals, Health Clinics, Indian Health, volunteer organizations, Utah Hospital Association, and others).

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