

INTRODUCTION

The Trauma System Self-Assessment Supplemental Tool: Benchmarks, Indicator, and Scoring (HRSA, 2006) was used to evaluate the existing resources available within Region VI in order to obtain a baseline from which to build the regional trauma plan. This review process will assist in assessing the status of trauma care and move the regional system forward in developing an inclusive and comprehensive system of trauma care.

Background

In 2006, the U.S. Department of Health and Human Services, Health Resources and Services Administration (HRSA) published the Model Trauma System Planning and Evaluation tool (MTSPE). This tool was designed to provide stake-holders with direction for using a public health approach to evaluate resources in order to understand the gaps in developing regional or state-wide trauma systems.

The assessment tool utilizes a Benchmark, Indicator, and Scoring assessment process. Benchmarks (B) are global overarching goals, expectations, or outcomes. In the context of the trauma system, a benchmark identifies a broad system attribute. Indicators (I) are that tasks or outputs that characterize the benchmark. Indicators identify actions or capacities within a benchmark. Indicators are the measure components of benchmarks. Scoring (S) breaks down the indicator into completion steps. Scoring provides an assessment of the current status and marks progress over time to reach a certain milestone (HRSA, 2006).

The tool utilizes the three core functions of public health; assessment, assurance and policy development, to frame the model standard which are represented by 24 benchmarks and 114 indicators.

Process

In June of 2011, Region VI trauma stake-holders met to discuss the existing trauma care delivery infrastructure. The goal was to assess the current system status in an effort to identify the gaps that needed to be addressed in the development of an inclusive and comprehensive system of care.

Task forces were developed to focus on key areas of development, Administrative, Pre-Hospital, Hospital, Performance Improvement and Injury Prevention and Outreach. Each task force was given the Model Trauma System Planning and Evaluation Trauma System Self-Assessment Tool to begin the process of identifying the resources of the existing plan and the areas for improvement. Each group completed one assessment. Consensus regarding Region VI's specific benchmark scores was obtained after review of all scores was completed.

The scoring criteria ranged from 0 – 5 and were defined as:

- 0 The scorer does not know enough about the indicator to evaluate it effectively
- 1 The indicator is not met
- 2 The indicator is minimally met
- 3 The indicator is met in a limited way
- 4 The indicator is met in a substantial way
- 5 The indicator is fully met

ASSESSMENT

Section 100 – ASSESSMENT - Regular systematic collection, assembly, analysis and dissemination of information on the health of the community.

(Benchmark) 101 there is a thorough description of the epidemiology of injury in Region VI using both population-based data and clinical databases.

(I) 101.1 there is a thorough description of the epidemiology of injury mortality in Region VI using population-based data.

(S) 3 there is information and reports regarding injury mortality and epidemiology but it is fragmented and not provided specifically as a regional resource for planning. For example there is CDC data, EMS trip sheet data and registry data but not aggregate or correlated data specific to Region VI. Gaps exist in injury information for non-designated trauma centers.

(I) 101.2 there is a description of injuries within Region VI including the distribution by geographic area, high-risk population, incidence, prevalence, mechanism, manner, intent, mortality, contributing factors, determinants, morbidity, injury severity, and patient distribution using any or all of the following: vital statistics, ED data, EMS data, hospital discharge data, State police data, medical examiner data, trauma registry and other data sources.

(S) 2 as referenced in the above indicator there is a multitude of data sources but no collaborative or correlated reports used to identify specific geographic area, incidences, etc. that can be targeted for reduction and prevention.

(I) 101.3 there is a comparison of injury mortality using local, regional, statewide, and national data.

(S) 2 there is a some descriptive comparisons of the leading causes of injury death using local, regional, statewide and national data.

(I) 101.4 collaboration exists between EMS, public health officials, and trauma system leaders to complete injury assessment risk assessments.

(S) 1 no injury risk assessments are conducted. If they are, the information is not readily available or used.

(I) 101.5 Integration of injury into other public health risk assessments occurs at state, regional and community levels, resulting in the integration into key reports and planning documents.

(S) 1 while injury risk assessments may be completed by Public Health that information is not available or utilized to develop planning documents.

(I) 101.6 the trauma system works with EMS and the public health system to complete a regional study of the determinants of injury using existing data sources and public health tools.

(S) 1 there is no regional study of the determinants of injury

(I)101.7 the trauma system works with EMS and public health to identify special at-risk populations

(S) 1 there is no effort to describe risks to special at-risk populations such as age categories, cultural/ethnic populations, geographic variances, pediatrics, and high-risk co-morbidities.

(Benchmark) 102 there is an established trauma management information system (MIS) for ongoing injury surveillance and system performance assessment.

(I) 102.1 there is an established injury surveillance process that can, in part, be used as an MIS performance measure

(S) 2 there is a state trauma registry, but not all hospitals within the region contribute.

(I) 102.2 injury surveillance is coordinated with statewide and local community health surveillance.

(S) 2 injury surveillance occurs in isolation from other health risk surveillance and is reported separately. There is no collaboration or sharing of information.

(I)102.3 trauma data are electronically linked from a variety of sources.

(S) 1 trauma data exists but in separate databases that are not linked to one another. There is no collaboration or coordination between databases.

(I) 102.4 there is a process to evaluate the quality, timeliness, completeness and confidentiality of data.

(S) 1 there is a limited process at the state level for review of trauma registry data only. There is no written policy to evaluate the quality, timeliness, completeness, and confidentiality of the regional data collected.

(I) 102.5 there is an established method of collecting trauma financial data from all health care facilities and trauma agencies including patient charges as well as administrative and system costs.

(S)1 There is no established method of collecting trauma financial data at this time.

(Benchmark) 103 a resource assessment for the trauma system has been completed and is regularly updated.

(I)103.1 the trauma system has completed a comprehensive system status inventory that identifies the availability and distribution of current capabilities and resources

(S)1 the state had an evaluation done by the American College of Surgeons.

(I)103.2 the trauma system has completed a gap analysis based on the inventories of internal and external system status as well as system resource standards.

(S)1 there are no current resource standards on which to base a gap analysis

(I)103.3 there has been an initial assessment (and periodic reassessment) of the overall system effectiveness.

(S)1 system under development, no state-wide initial assessment has been done.

(I)103.4 the trauma system has undergone a jurisdiction wide external independent analysis

(S) 1 no external examination of the trauma system or individual components has occurred although this is in process now.

(Benchmark) 104 an assessment of the trauma system's emergency preparedness has been completed including coordination with the public health, EMS system, and the emergency management agency.

(I) 104.1 there is a resource assessment of the trauma system's ability to expand its capacity to respond to mass casualty incidents (MCI's) in an all hazards approach.

(S)2 an assessment of the ability of some components of the trauma care system to respond to a mass casualty incident has been included in all hazards planning.

(I) 104.2 there has been a consultation by external experts to assist in identifying current status and needs of the trauma system to be able to respond to mass casualty incidents.

(S) 3 in addition to the involvement of at least some individual trauma centers, at least one other component of the trauma system has been analyzed by external reviewers, for example, pre-hospital, communications, information systems, and others.

(I) 104.3 the trauma system has completed a gap analysis based on the resource assessment for trauma emergency preparedness.

(S) 1 there is no resource standards on which to base a gap analysis

(Benchmark) 105 the system assesses and monitors its value to its constituents in terms of cost-benefit analysis and societal investment.

(I) 105.1 the benefits of the trauma system, in terms of years of productive life lost (YPLL), quality adjusted life years (QALY), disability adjusted life years (DALY), and so on, are described.

(S) 1 there is no cost data available to the system to compare to quality of life indicators

(I) 105.2 cases that document the societal benefits are reported on so that the community sees and hears the benefit of the trauma system to society.

(S) 1 No effort is made to gather, catalogue, or report cases that document the societal benefit of the trauma system so that the community sees and hears the benefit of the trauma system to society. Such cases, for example, document descriptive information

(I) 105.3 an assessment of the needs of the media concerning trauma system information has been conducted

(S) 1 there is no routine contact with the media.

(I) 105.4 an assessment of the needs of public officials concerning trauma system information has been conducted.

(S) 1 there is no contact with public officials

(I) 105.5 an assessment of the needs of the general public concerning trauma system information has been conducted.

(S) 1 there is no routine or planned contact with the general public

(I) 105.6 an assessment of the needs of health insurers concerning trauma system information has been conducted.

(S) 1 there is no routine contact with health insurers

(I) 105.7 an assessment of the general medical community, including physicians, nurses, pre-hospital care providers, and others, concerning trauma system information, has been conducted.

(S) 1 there is no routine contact with the regional medical community.

POLICY DEVELOPMENT

Section 200 - Policy Development. - Promoting the use of scientific knowledge in decision making that includes building constituencies; identifying needs and setting priorities; legislative authority and funding to develop plans and policies to address needs; and ensuring the public's health and safety.

(Benchmark) 201 Comprehensive State statutory authority and administrative rules support trauma system leaders and maintain trauma system infrastructure, planning, oversight, and future development.

(I) 201.1 the legislative authority plans, develops, implements, manages, and evaluates the trauma system and its component parts, including the identification of the lead agency and the designation of trauma facilities.

(S) 4 the Office of EMS and Trauma (OEMS&T) along with the Georgia Trauma Care Network Commission (GTCNC) is authorized to take actions to implement the trauma system and to report on the progress and effectiveness of system implementation

(I) 201.2 the legislative authority states that all the trauma system components, EMS, injury control, incident management, and planning documents, work together for the effective implementation of the trauma system (infrastructure is in place).

(S) 3 SB – 60 provides for the development of a trauma system which will include authority for system effectiveness and management within each trauma region.

(I) 201.3 administrative rules/regulations direct the development of operational policies and procedures at the state, regional, and local levels

(S) 4 there are existing statewide administrative rules/regulations for planning, developing and implementing the trauma system and its components at the state, regional, and local levels.

(I) 201.4 OEMS&T has adopted clearly defined trauma system standards (e.g., facility standards, triage and transfer guidelines, and data collection standards) and has sufficient legal authority to ensure and enforce compliance.

(S) 2 authority exists to define and adopt standards for trauma system performance and operations.

(Benchmark) 202 Trauma system leaders (lead agency, trauma center personnel, and other stakeholders) use a process to establish, maintain, and constantly evaluate and improve a comprehensive trauma system in cooperation with medical, professional, governmental, and citizen organizations.

(I) 202.1 the lead agency demonstrates that it can bring organizations together to implement and maintain a comprehensive trauma system.

(S) 3 OEMS&T along with GTCNC has organized meetings to develop and implement a comprehensive trauma system plan.

(I) 202.2 the lead agency has developed and implemented a trauma specific statewide multidisciplinary, multiagency advisory committee to provide overall guidance to trauma system planning and implementation strategies. The committee meets regularly and is instrumental in providing guidance to the lead agency.

(S) 4 there is trauma specific statewide multidisciplinary, multiagency advisory committee. Committee members and stakeholders regularly attend meetings. Collaboration and consensus are beginning.

(I) 202.3 a clearly defined and easily understood structure is in place for the trauma system decision-making process.

(S) 1 there is no defined decision making process (written policy and procedure) regarding the trauma program within the trauma system lead agency or its committee.

(I) 202.4 trauma system leaders have adopted and use goals and time specific, quantifiable, and measurable objectives for the trauma system

(S) 3 trauma system leaders are beginning the process of identifying measurable program goals and outcome-based, time-specific, quantifiable, and measurable objectives.

(Benchmark) 203 The State lead agency has a comprehensive written trauma system plan based on national guidelines. The plan integrates the trauma system with EMS, public health, emergency preparedness, and incident management. The written trauma system plan is developed in collaboration with community partners and stakeholders.

(I) 203.1 the lead agency, in concert with a trauma-specific multidisciplinary, multi-agency advisory committee, has adopted a trauma system plan.

(S) 2 there is no trauma system plan, although some groups have begun meeting to discuss the development of a trauma system plan.

(I) 203.2 a trauma system plan exists and is based on analysis of the trauma demographics and resource assessments.

(S) 1 there is no effort under way to develop a trauma system plan

(I) 203.3 there is within the trauma system plan congruence of the population demographics with system development and resource allocation priorities. Needs of specific populations (such as pediatric, burn and Native American) are integrated into the plan. Considerations should be given to age, population characteristics, and urban and rural environments.

(S) 1 there is no evidence that population demographics drive resource allocation or that this information is used to establish system priorities in developing or implementing the trauma system plan.

(I) 203.4 the trauma system plan clearly describes the system design (including the components necessary to have an integrated and inclusive trauma system) and is used to guide system implementation and management. For example, the plan includes references to regulatory standards and documents, and includes methods of data collection and analysis.

(S) 2 the trauma system plan does not address or incorporate the trauma system components (pre-hospital, communication, transportation, acute care, rehabilitation and others), nor is it inclusive of all-hazards preparedness, EMS, or public health integration.

(I) 203.5 a written injury prevention and control plan is developed and coordinated with other agencies and community health programs. The injury program is data driven and targeted programs are developed based on high injury risk areas. Specific goals with measurable objectives are incorporated into the injury plan.

(S) 1 there is no written plan for a coordinated injury prevention and control program.

(I) 203.6 the trauma system plan has established clearly defined methods of integrating with emergency preparedness plans (all hazards).

(S) 2 there is an established trauma system plan; but it is silent on emergency integration, and no evidence is present to demonstrate integrated incident management and trauma systems.

(I) 203.7 the trauma system plan has established clearly defined methods of integrating the trauma system plan with the EMS, emergency, and public health preparedness plans.

(S) 2 there is some cross reference between plans, but defined methods of working collaboratively are not developed.

(Benchmark) 204 Sufficient resources, including those both financial and infrastructure related, support system planning, implementation, and maintenance.

(I) 204.1 the trauma system plan clearly identifies the human resources and equipment necessary to develop, implement, and manage the trauma program, both clinically and administratively. (The trauma system plan integrates with the Assessment of Resources done previously).

(S) 1 there is no method of assessing available resources or of identifying resource deficiencies in either the clinical or administrative areas of the trauma system.

(I) 204.2 financial resources exist that support the planning, implementation, and ongoing management of the administrative and clinical care components of the trauma system.

(S) 3 there is current funding for the development of the trauma system within the lead agency organization consistent with the trauma system plan, but costs to support clinical care support services have not been identified (transportation, communication, uncompensated care, standby fees, and others). No ongoing commitment of funding has been secured.

(I) 204.3 designated funding for trauma system infrastructure support (lead agency) is legislatively appropriated. Although nomenclature concerning designated, appropriated, and general funds varies between jurisdictions, the intent of this indicator is to demonstrate long-term, stable funding for trauma system development, management, evaluation, and improvement.

(S) 4 consistent, though limited, infrastructure funding has been designated and appropriated to the lead agency budget.

(I) 204.4 operational budgets (system administration and operations, facilities administration and operations, and EMS administration and operations) are aligned with the trauma system plan and priorities. Examples: Full-time Equivalents (FTE's) per population to support the infrastructure; costs to improve the communication system.

(S) 1 there is no operational budgets.

(I) 204.5 the trauma system plan includes identification of additional resources (both manpower and equipment) necessary to respond to mass casualty incidents.

(S) 1 the trauma system plan does not include the identification of additional resources necessary to respond to mass casualty incidents.

(Benchmark) 205 Collected data are used to evaluate system performance and to develop public policy.

(I) 205.1 collected data are used for strategic and budgetary planning.

(S) 1 there is no central data repository that can be accessed for strategic or budgetary planning.

(I) 205.2 collected data from a variety of sources are used to review the appropriateness of trauma system policies and procedures. The format of the reports in this and other sections may be written, web-based, or other electronic media.

(S) 1 there is no written, quantifiable trauma system performance standards or performance improvement mechanisms.

(I) 205.3 the trauma management information system (MIS) is used to assess system performance, to measure system compliance with applicable standards, and to allocate trauma system resources to areas of need or to acquire new resources.

(S) 2 There is a limited trauma management information system consisting of a trauma patient registry, but no data extraction is used to identify resource needs, to establish performance standards, or to routinely assess and evaluate system effectiveness.

(I) 205.4 injury prevention programs use trauma MIS data to develop intervention strategies.

(S) 1 there is no evidence to suggest that trauma MIS data are used to determine injury prevention strategies.

(I) 205.5 education for trauma system participants is developed based on a review and evaluation of trauma MIS data.

(S) 1 there is no correlation between training programs for providers and the trauma management information system.

(Benchmark) 206 Trauma system leaders, including a trauma-specific statewide multidisciplinary, multi-agency advisory committee, regularly review system performance reports.

(I) 206.1 trauma data reports are generated by the trauma system no less than once per year and are disseminated to trauma system leaders and stakeholders to evaluate and improve system performance effectiveness.

(S) 2 some general trauma system information is available for the stakeholders, but it is not consistent or regular.

(I) 206.2 the trauma specific statewide multidisciplinary, multiagency advisory committee regularly reviews annotated trauma system data reports and system compliance information to monitor trauma system performance and to determine the need for system modifications.

(S) 3 the trauma-specific statewide multidisciplinary, multiagency advisory committee meets regularly and reviews process-type reports; no critical assessment of system performance has been completed.

(Benchmark) 207 The lead agency informs and educates State, regional, and local constituencies and policy makers to foster collaboration and cooperation for system enhancement and injury control.

(I) 207.1 the lead agency ensures communications, collaboration, and cooperation between State regional and local systems.

(S) 3 the lead agency issues a quarterly update on trauma system activities. The update is largely one-way communication to other government agencies. Routine communication usually revolves around an event (reactionary); proactive, open communication is not the norm.

(I) 207.2 the trauma system leaders (lead agency, advisory committees, and others) informs and educates constituencies and policy makers through community development activities, targeted media messaging, and active collaborations aimed at injury prevention and trauma system development.

(S) 2 limited interfaces with policy makers and the media, aimed at both injury prevention and trauma system development, have occurred. Community development activities have been limited to incident-specific response opportunities.

(I) 207.3 trauma system leaders (lead agency; trauma-specific statewide multidisciplinary, multi-agency advisory committees; and others) mobilize community partners in identifying the injury problem throughout the State and in building coalitions of personnel to design systems that can reduce the burden of injury.

(S) 1 no State lead agency exists to establish, maintain, or mobilize community partners in identifying the injury problem or in building community coalitions.

(I) 207.4 a trauma system public information and education plan exists that heightens public awareness of trauma as a disease the need for a trauma care system, and the prevention of injury.

(S) 1 there is no written public information and education plan on trauma system or injury prevention and control.

(Benchmark) 208 The trauma, public health, and emergency preparedness systems are closely linked.

(I) 208.1 the trauma system and the public health system have established linkages including programs with an emphasis on population-based public health surveillance, and evaluation, for acute and chronic traumatic injury and injury prevention.

(S) 1 there is no evidence that demonstrates program linkages, a working relationship, or the sharing of data between public health and the trauma system. Population-based public health surveillance, and evaluation, for acute or chronic traumatic injury and injury prevention has not been integrated with the trauma system.

(I) 208.2 the incident management and trauma systems have formal established linkages for system integration and operational management.

(S) 1 there is no formal established linkages for system integration or operational management between the incident management and trauma systems.

ASSURANCE

Section 300 - ASSURANCE: Assurance to constituents that services necessary to achieve agreed on goals are provided by encouraging actions of others (public or private), requiring action through regulation, or providing services directly.

(Benchmark) 301 The trauma management information system (MIS) is used to facilitate ongoing assessment and assurance of system performance and outcomes and provides a basis for continuously improving the trauma system including a cost-benefit analysis.

(I) 301.1 the lead trauma authority ensures that each member hospital of the trauma system collects and uses patient data as well as provider data to assess system performance and to improve quality of care. Assessment data are routinely submitted to the lead trauma authority.

(S) 2 there is a trauma registry system in place in the trauma centers, but it is used by neither all facilities within the system nor the lead trauma authority to assess system performance.

(I) 301.2 pre-hospital care providers collect patient care and administrative data for each episode of care and provide these data not only to the hospital, but have a mechanism to evaluate the data within their own agency including monitoring trends and identifying outliers.

(S) 2 pre-hospital care providers have a patient care record for each episode of care, but it is not yet automated or integrated with the trauma management information system.

(I) 301.3 trauma registry, emergency department (ED), pre-hospital, rehabilitation, and other databases are linked or combined to create a trauma system registry.

(S) 1 some trauma registry and pre-hospital patient records are manually entered into a database when needed to answer system questions. There is no rehabilitation registry.

(I) 301.4 the lead agency has available for use the latest in computer/technology advances and analytical tools for monitoring injury prevention and control components of the trauma system. There is reporting on the outcome of implemented strategies for injury prevention and control programs within the trauma system.

(S) 1 no computer/technology systems or analytical tools are available to the lead agency or other stakeholders to facilitate the monitoring of, or reporting on, the outcome of the implemented strategies for injury prevention and control within the trauma system.

(Benchmark) 302 The trauma system is supported by an EMS system that includes communications medical oversight, pre-hospital triage and transportation; the trauma system, EMS system, and public health agency are well integrated.

(I) 302.1 there is well-defined trauma system medical oversight integrating the specialty needs of the trauma system with the medical oversight for the overall EMS system.

(S) 2 EMS medical oversight for all levels of pre-hospital providers caring for the trauma patient is provided, but such oversight is provided outside of the purview of the trauma system.

(I) 302.2 there is a clearly defined, cooperative, and ongoing relationship between the trauma specialty physician leaders (e.g., trauma medical director within each trauma center) and the EMS system medical director.

(S) 3 there is no formally established, ongoing relationship between the trauma medical director (within each trauma center) and the EMS system medical director; however, the trauma medical director and the EMS system medical director meet or visit informally to resolve problems, “to plan strategies”, and to coordinate efforts.

(I) 302.3 there is clear-cut legal authority and responsibility for the EMS system medical director including the authority to adopt protocols, to implement a performance improvement system, to restrict the practice of pre-hospital care providers, and to generally ensure medical appropriateness of the EMS system.

(S) 4 there is an EMS system medical director with a written job description; however, the individual has no specific legal authority or time allocated for those tasks.

(I) 302.4 the trauma system medical director is actively involved with the development, implementation and ongoing evaluation of system dispatch protocols to ensure they are congruent with the trauma system design. These protocols include, but are not limited to, which resources to dispatch, for example, Advanced Life Support (ALS) versus Basic Life Support (BLS), air-ground coordination early notification of the trauma care facility, pre-arrival instructions and other procedures necessary to ensure resources dispatched are consistent with the needs of injured patients. The trauma system medical director and the EMS system medical director may be the same person. However, specific responsibility for, and oversight of, the trauma system must be ensured.

(S) 2 trauma system dispatch protocols have been adopted, but without regard to the design of the trauma system.

(I) 302.5 the retrospective medical oversight of the EMS system for trauma triage, communications treatment, and transport is closely coordinated with the established performance improvement processes of the trauma system.

(S) 1 there is no retrospective medical oversight procedure for trauma triage, communications, treatment, and transport.

(I) 302.6 there are mandatory system-wide pre-hospital triage criteria to ensure that trauma patients are transported to an appropriate facility based on their injuries. These triage criteria are regularly evaluated and updated to ensure acceptable and system-defined rates of sensitivity and specificity for appropriately identifying the major trauma patient.

(S) 2 there are differing triage criteria guidelines used by different providers. Appropriateness of triage criteria and subsequent transportation are not evaluated for sensitivity or specificity.

(I) 302.7 there is a universal access number for citizens to access the EMS/trauma system, with dispatch of appropriate medical resources. There is a central communication system for the EMS/trauma system to ensure field-to-facility bidirectional communications, interfacility dialogue, and all-hazards response communications among all system participants. Note: In some systems with limited resources, for example, rural, the available resources are at least initially, the “appropriate resources.”

(S) 2 there is a universal access number (9-1-1) for quick citizen access to care. However, there is no coordinated communication system within a jurisdiction to allow for communications to occur among system participants either routinely or during all-hazards events.

(I) 302.8 there are sufficient and well-coordinated transportation resources to ensure EMS providers arrive at the scene promptly and expeditiously transport the patient to the correct hospital by the correct transportation mode.

(S) 3 there is a priority dispatch system that ensures appropriate resources arrive on scene promptly and transport patients to the hospital. A plan for transporting trauma patients from the field to the hospital has been completed.

(I) 302.9 there is a procedure for communications among medical facilities when arranging for interfacility transfers including contingencies for radio or telephone system failure.

(S) 2 interfacility communication procedures are generally included in the patient transfer protocols for each medical facility, but there is no system-wide procedure.

(I) 302.10 there are established procedures for EMS and trauma system communications in an all-hazards or major EMS incident that are effectively coordinated with the overall all-hazards response plan for the jurisdiction.

(S) 3 there are Statewide or regional EMS communication procedures in the event of an all-hazards or major EMS incident. These plans do not involve other jurisdictions and are not coordinated with the overall all-hazards response plan and incident management system.

(Benchmark) 303 Acute care facilities are integrated into a resource-efficient, inclusive network that meets required standards and that provides optimal care for all injured patients.

(I) 303.1 the trauma system plan has clearly defined the roles and responsibilities of all acute care facilities treating trauma and of facilities that provide care to specialty populations (e.g., burn, pediatric, spinal cord injury, and others).

(S) 1 there is no trauma system plan that outlines roles and responsibilities for all acute care facilities treating trauma and of facilities that provide care to special populations.

(I) 303.2 the trauma system lead agency should ensure that the number, levels, and distribution of trauma centers required to meet system demand are available.

(S) 1 there is no trauma system plan to identify the number, levels, and distribution of trauma centers required to meet system demand.

(I) 303.3 the trauma lead authority ensures that trauma facility patient outcomes and quality of care are monitored. Deficiencies are recognized and corrective action is implemented. Variations in standards of care are minimized, and improvements are made routinely.

(S) 3 designated trauma facilities are required to maintain a trauma registry and to use data from the registry in an ongoing performance improvement program to monitor and to improve the quality of care and patient outcomes.

(I) 303.4 when injured patients arrive at a medical facility that cannot provide the appropriate level of definitive care, there is an organized and regularly monitored system to ensure the patients are expeditiously transferred to the appropriate system-defined trauma facility.

(S) 1 there is no system to regularly review the conformity of interfacility transfers within the trauma system according to pre-established procedures.

(I) 303.5 the specific needs of unique populations, for example, English As a Second Language (EASL), socially disadvantaged, migrant/transient, remote, rural, and others, are accommodated within the existing trauma system.

(S) 1 there has been no consideration of the specific needs of unique populations, for example, EASL, in making an impact on the patient's access to care within the trauma system.

(Benchmark) 304 The jurisdictional lead agency, in cooperation with other agencies and organizations, uses analytical tools to monitor the performance of population-based prevention and trauma care services.

(I) 304.1 the lead agency, along with partner organizations, prepares annual reports on the status of injury prevention and trauma care in State regional or local areas. Note: Annual reports may be distributed electronically rather than, or in addition to printed copies.

(S) 1 no annual reports are available on the status of injury prevention or trauma care in State, regional, or local areas.

(I) 304.2 the trauma system MIS database is available for routine public health surveillance. There is concurrent access to the databases (emergency department, trauma, pre-hospital, medical examiner, and public health epidemiology) for the purpose of routine surveillance and monitoring of health status that occurs regularly and is a shared responsibility. Note: All legal requirements for confidentiality and safe-guarding of patient information must be met when sharing data between or among agencies.

(S) 1 there is no sharing of databases between emergency department, trauma, pre-hospital, medical examiner, or public health epidemiology.

(Benchmark) 305 The lead agency ensures that its trauma system plan is integrated with, and complementary to, the comprehensive mass casualty plan for both natural and man-made incidents, including an all-hazards approach to planning and operations.

(I) 305.1 the EMS, the trauma system, and the all-hazards medical response system have operational trauma and all-hazards response plans and have established an ongoing cooperative working relationship to ensure trauma system readiness to all-hazards events.

(S) 2 there have been some discussions between the EMS, the trauma system, and the all-hazards medical response system, but no formal plans have been developed.

(I) 305.2 all-hazards events routinely include situations involving natural (e.g., earthquake), unintentional (e.g., school bus crash) , and intentional (e.g., terrorist explosion) trauma-producing events that test expanded response capabilities and surge capacity of the trauma systems.

(S) 1 all-hazards training is not a routine part of the trauma system.

(I) 305.3 the trauma system, through the lead agency, has access to additional equipment, materials, and personnel for large-scale traumatic events. Note: The lead agency will work with other appropriate national, State, regional, and local agencies to secure these additional resources.

(S) 1 there is o surge capacity (pre-hospital, hospital, clinic, or coroner) built into the system for either smaller multi-patient events or mass casualty incidents.

(Benchmark) 306 The lead agency ensures that the trauma system demonstrates prevention and medical outreach activities within its defined service area.

(I) 306.1 the trauma system has developed mechanisms to engage the general medical community and other system participants in their research findings and performance improvement efforts.

(S) 1 there is no evidence that the trauma system reaches out to the general medical community at large to integrate it into trauma system improvements.

(I) 306.2 the trauma system is active within its jurisdiction with the evaluation of community-based activities and injury prevention and response programs.

(S) 2 there is no routine evaluation of medical community training/support or prevention activities accruing within the jurisdiction.

(I) 306.3 the effect or impact of outreach programs (both medical community training/support and prevention activities) is evaluated as part of a system performance improvement process. Note: "Evaluation" implies both informal evaluation processes and more structured research.

(S) 1 there is no effort by the lead agency to review the efforts of the trauma centers in either medical community training/support or prevention activities.

(Benchmark) 307 To maintain its State, regional, or local designation, each hospital will continually work to improve the trauma care as measured by patient outcomes.

(I) 307.1 the trauma system engages in regular evaluation of all licensed acute care facilities that provide trauma care to trauma patients and designated trauma hospitals. Such evaluation involves independent external reviews.

(S) 1 there is no ongoing mechanism for the trauma system to assess or evaluate the quality of trauma care delivered by all licensed acute care facilities that provide trauma care to trauma patients and designated trauma hospitals.

(I) 307.2 the trauma system implements and regularly reviews a standardized report on patient care outcomes as measured against national norms. Note: This process may include clinical and bench research.

(S) 1 there is no evidence that the trauma system engages in any review of patient care outcome data to evaluate its performance against national norms.

(Benchmark) 308 The lead agency ensures that adequate rehabilitation facilities have been integrated into the trauma system and that these resources are made available to all populations requiring them.

(I) 308.1 the lead agency has incorporated, within the trauma system plan and the trauma center standards, requirements for rehabilitation services including interfacility transfer of trauma patients to rehabilitation centers.

(S) 1 there is no written standards or plans for the integration of rehabilitation services with the trauma system or with trauma centers.

(I) 308.2 rehabilitation centers and out-patient rehabilitation services provide data on trauma patients to the central trauma system registry that include final disposition, functional outcome, and rehabilitation costs and also participate in performance improvement processes.

(S) 1 there is no requirement for the rehabilitation centers or outpatient rehabilitation services to contribute data on trauma patient outcomes.

(Benchmark) 309 The financial aspects of the trauma systems are integrated into the overall performance improvement system to ensure ongoing “fine-tuning” and cost-effectiveness.

(I) 309.1 cost data are collected and provided to the trauma system registry for each major component including prevention, pre-hospital, acute care, all-hazards response planning, and rehabilitation.

(S) 1 no cost data is collected.

(I) 309.2 collection and reimbursement data are submitted by each agency or institution on at least an annual basis. Common definitions exist for collection and reimbursement data and are submitted by each agency.

(S) 1 collection and reimbursement data are not gathered, nor do common definitions exist.

(I) 309.3 cost, charge, collection, and reimbursement data are aggregated with other data sources including insurers and data system costs and are included in annual trauma system reports. Note: "Outside" financial data means costs that may not routinely be captured in trauma center or registry data, for example, transportation, communications training, infrastructure, and the overall cost of readiness.

(S) 1 no outside financial data are captured.

(I) 309.4 financial data are combined with other cost, outcome, or surrogate measures, for example, years of potential life (YPLL), quality-adjusted life years (QALY), and disability-adjusted life years (DALY), length of stay; length of Intensive Care Unit (ICU) stay; number of ventilator days; and others, to estimate and track true system costs and cost-benefits.

(S) 1 no nonfinancial burden of disease costs and outcome measures are collected or modeled.

(Benchmark) 310 The lead trauma authority ensures a competent workforce.

(I) 310.1 in cooperation with the pre-hospital certification and licensure authority, set guidelines for pre-hospital personnel for initial and ongoing trauma training including trauma-specific courses and those courses that are readily available throughout the State.

(S) 5 pre-hospital personnel receive trauma training as part of their initial certification and licensure. Routine continuing education in pre-hospital trauma care is provided. Such additional certifications such as Basic Trauma Life Support (BTLS) and Pre-Hospital Trauma Life Support (PHTLS) are offered regularly throughout the State.

(I) 310.2 in cooperation with the pre-hospital certification and licensure authority, ensure that pre-hospital personnel who routinely provide care to trauma patients have a current trauma training certificate, for example, PHTLS, BTLS, and others, or that trauma training needs are driven by the performance improvement process.

(S) 1 there is no mechanism to ensure that pre-hospital personnel, for example, Emergency Medical Technicians (EMTs) routinely providing care to trauma patients are certified in PHTLS and BTLS or have completed other trauma training.

(I) 310.3 as part of the established standards, set appropriate levels of trauma training for nursing personnel who routinely care for trauma patients in acute care facilities.

(S) 1 there are no trauma training standards for nursing personnel who routinely care for trauma patients in acute care facilities, for example, Advanced Trauma Care for Nurses (ATCN), Trauma Nursing Core Course (TNCC), Advanced Trauma Life Support (ATLS), or any national or State-recognized trauma nurse verification course.

(I) 310.4 ensure that appropriate, approved trauma training courses are provided for nursing personnel on a regular basis.

(S) 2 there is a process to provide appropriate, approved trauma training courses for nursing personnel, but courses are sporadic and uncoordinated with needs.

(I) 310.5 in cooperation with the nursing licensure authority, ensure that all nursing personnel who routinely provide care to trauma patients have a current trauma training certificate (e.g., ATCN, TNCC, or any national or State trauma nurse verification course). As an alternative after initial trauma course completion training can be driven by the performance improvement process.

(S) 1 there is no mechanism to ensure that nurses providing care to trauma patients are certified in an ATCN, TNCC, or any national or State trauma nurse verification course.

(I) 310.6 as part of the established standards set appropriate levels of trauma training for physicians who routinely care for trauma patients in acute care facilities.

(S) 5 physicians working in acute care facilities that see trauma patients receive initial and ongoing trauma training, including updates in trauma care, continuing education, and certifications, as appropriate.

(I) 310.7 ensure that appropriate, approved trauma training courses are provided for physicians on a regular basis.

(S) 1 there is no mechanism to approve or provide appropriate trauma training courses for physicians throughout the jurisdiction.

(I) 310.8 in cooperation with the physician licensure authority, ensure that physicians who routinely provide care to trauma patients have a current trauma training certificate of completion, for example Advanced Trauma Life Support (ATLS), and others. Alternatively, physicians may maintain trauma competence through continuing medical education programs after initial ATLS completion.

(S) 1 there is no mechanism to ensure that physicians who routinely provide care to trauma patients are certified in ATLS.

(I) 310.9 conduct at least one multidisciplinary trauma conference annually that encourages system and team approaches to trauma care.

(S) 4 multidisciplinary trauma conferences are conducted at least annually.

(I) 310.10 as new protocols and treatment approaches are instituted within the system, structured mechanisms are in place to inform all personnel of those changes in a timely manner.

(S) 1 there is no structured mechanism to inform or educate personnel in new protocols or treatment approaches within the jurisdiction.

(I) 310.11 there are mechanisms within the system performance improvement processes to identify and correct systemic personnel deficiencies within the trauma system. Note: Systemic personnel deficiencies are those that cut across multiple agencies and institutions and impact the system as a whole. For example, if trauma triage protocols are not being adhered to by most pre-hospital providers from multiple agencies, then it is a systemic problem that could involve communication, training, medical direction or performance improvement issues.

(S) 1 there is no mechanism to identify, through performance improvement processes, systemic personnel deficiencies within the trauma system.

(I) 310.12 there are mechanisms in place within agency and institutional performance improvement processes to identify and correct deficiencies in trauma care practice patterns of individual practitioners (e.g., EMTs, paramedics, nurses, physicians, and others) within the trauma system.

(S) 1 there is no mechanism in place to routinely assess the deficiencies in trauma care practice patterns of individual practitioners (e.g., EMTs, paramedics, nurses, physicians, and others) within the trauma system.

(I) 310.13 there is authority for a trauma medical director and a clear job description, including requisite education training, and certification, for this position. Note: The trauma medical director and the EMS system medical director may be the same person.

(S) 1 there is no requirement for a trauma medical director, and no job description has been developed.

(Benchmark) 311 The lead agency acts to protect the public welfare by enforcing various laws, rules, and regulations as they pertain to the trauma system.

(I) 311.1 the lead agency works in conjunction with the pre-hospital regulatory agency to ensure that pre-hospital care is provided by licensed agencies that are in compliance with any rules, regulations, or protocols specific to pre-hospital trauma delivery (e.g., taking patients to the correct facility in accordance with pre-existing destination protocols).

(S) 3 the trauma system lead agency and the pre-hospital regulatory agency work together to resolve complaints involving pre-hospital agencies that relate to trauma system performance.

(I) 311.2 the lead agency refers issues of personnel noncompliance with trauma laws, rules, and regulations to appropriate boards or licensure authorities.

(S) 1 individual personnel performance is not monitored.

(I) 311.3 the lead agency enforces laws, rules, and regulations concerning the verification of trauma centers including the ability to de-designate trauma facilities for matters of noncompliance.

(S) 3 the lead agency has the authority to de-designate trauma facilities for matters of noncompliance but does not monitor facility performance.

(I) 311.4 laws, rules, and regulations are routinely reviewed and revised to continually strengthen and improve the trauma system.

(S) 3 laws, rules, and regulations are reviewed and revised on a periodic schedule (e.g., every 5 years).

(I) 311.5 the Office of EMS & Trauma routinely evaluates all system components to ensure compliance with various laws, rules, and regulations pertaining to their role and performance within the trauma system.

(S) 2 complaints concerning individual component performance within the trauma system go directly to the licensure agency responsible for that component.

(I) 311.6 incentives are provided to individual agencies and institutions to seek State or nationally recognized accreditation in areas that will contribute to overall improvement across the trauma system, for example, Commission on Accreditation of Ambulance Services (CAAS) for pre-hospital agencies, Council on Allied Health Education Accreditation (CAHEA) for training programs, and American College of Surgeons (ACS) verification for trauma facilities.

(S) 3 accreditation processes are strongly encouraged, and some incentives are provided, for example, extension of EMS agency review from 2 years to 3 years after CAAS accreditation.