

ACS Recommendations

(Priority Recommendations are in bold.)

Injury Epidemiology

Recommendations

- Monitor the deployment of the Emergency Medical Services (EMS) Electronic Patient Care Reporting System and the Trauma Registry during the ImageTrend software installation and early trials to ensure that all opportunities for linkage are built into the data system.
- Secure additional funding to enlist the University of Iowa's Injury Prevention Research Center for epidemiologic support and analysis of EMS and Trauma Registry data.
- Develop an efficient process for the dissemination of injury data analyses and findings to all trauma stakeholders.

Indicators as a Tool for System Assessment

Recommendations

- **Complete an assessment of the current trauma system performance that can assist in system planning and serve as a baseline for ongoing system benchmarking.**
 - Use a facilitated process to complete the assessment using BIS criteria to serve as the baseline for future trauma system assessment and benchmarking.

Statutory Authority and Administrative Rules

Recommendations

- **Create a broadly representative ad hoc subcommittee under the authority of the Trauma System Advisory Council (TSAC) to review all statutes and regulations pertaining to trauma with a focus on updating and/or revising sections needing attention.**
 - Develop processes to ensure compliance with the Out-of-Hospital Trauma Triage Destination Decision matrix (ground and air).
 - Develop, implement, and enforce a rule requiring all trauma care facilities to submit a minimum set of data elements to state trauma registry.
- **Codify into administrative rule the scope, function and rules of governance for the Trauma System Advisory Council.**
 - Consider using Chapter 130 Emergency Medical Services Advisory Council (EMSAC) as model language for drafting this section.
 - Include a description of communication channels and responsibilities for all identified groups.
 - Establish terms for TSAC members and officers.
 - Establish a functional executive committee of TSAC
- **Enforce trauma rules consistent with statutory authority.**
- Consider requiring air ambulance agencies to use Iowa Department of Public Health-approved protocols, similar to the current requirement for ground emergency medical services agencies, when future regulations are drafted.

System Leadership

Recommendations

- **Formalize communication channels and processes between the Iowa Department of Public Health (IDPH) and the Trauma System Advisory Council (TSAC).**
 - Develop a process to facilitate timely communication between TSAC and IDPH that includes sharing financial information and the submission and response to action requests.
- Identify standing agenda items for TSAC meetings that focus on trauma system function, for example, trauma system-based metrics and performance improvement metrics
- Establish a functional executive committee of the TSAC.
- Establish trauma regions centered around key trauma care facilities that are empowered to perform regional performance improvement and trauma system analysis and to provide periodic reports to TSAC.

Coalition and Community Support

Recommendations

- Explore opportunities to engage a committed and broad-based constituency for the trauma system.
- Establish a process for succession of TSAC membership and recruitment of new members to ensure gradual turnover of membership.
- Develop a process to create public awareness of the burden of injury and the role of the trauma system.
 - Include public education through various outlets, including social media, websites and broadcast media.
 - Include education to elected officials.
- Establish a link on the IDPH website between the trauma system program and the Office on Disability, Injury, and Violence Prevention (ODIVP) to increase access to information and resources.

Lead Agency and Human Resources Within the Lead Agency

Recommendations

- **Create a position and hire a state trauma/emergency medical services (EMS) medical director.** See Appendix D for sample job description.
- **Create a position and hire a full-time state trauma registrar.** See Appendix D for sample job description.

Trauma System Plan

Recommendations

- **Develop, within 18 months, a new State Trauma Plan using the Health Resources and Services Administration's (2006) *Model Trauma System Planning and Evaluation* document as a template**
 - Empower the Trauma Services Advisory Council as the core leadership group to undertake the development of the trauma system plan.
 - Include within the plan specific goals and objectives, timelines, responsible parties, and resources needed.
 - Include a vision and mission statement to guide future development.
- Provide sufficient fiscal and personnel resources to complete the development of the plan as well as the review and approval process.
- Ensure that the revised state trauma system plan creates the overarching climate that supports system integration across the continuum of services.

- Establish a process for the routine review and revision of the Trauma System Plan.

System Integration

Recommendations

- Ensure that a revised state trauma system plan creates the overarching climate supporting integration across the continuum of services (e.g., prevention, EMS, disaster preparedness, other time-sensitive conditions, rehabilitation, etc.).
- Formalize existing grassroots efforts and develop new regional advisory committees to facilitate integration efforts and enhance stakeholder participation.
- Enhance communication and cooperation between the trauma system and other time-sensitive disease programs such as Stroke and ST elevation myocardial infarction.
- Continue collaboration efforts with the Injury Prevention Research Center.

Financing

Recommendations

- Introduce legislation that establishes a fee structure to be used by the trauma system program to support and improve the process for verification and re-verification of trauma care facilities.
 - Impose the fee on Level I, II, and III trauma care facilities.
- Identify and provide sustainable funding to support the activities of a comprehensive state trauma program.
 - Advocate for legislation to create dedicated long-term funding to support the trauma system such as additional fees on moving violations/driving under the influence fines, vehicle licensing, or other activities that contribute to traumatic injuries.
 - Refer to the National Conference of State Legislatures document *The Right Patient, The Right Place, The Right Time: A Look at Trauma and Emergency Medical Services Policy in the States* that identifies state financing for trauma systems. Obtain this report from <http://www.ncsl.org/documents/health/NCSLTraumaReport812.pdf>
- Assure that financial information pertaining to the trauma system is analyzed and shared with the Trauma System Advisory Council (TSAC) and trauma care facilities.
 - Provide reports to the TSAC in a format that clearly articulates revenues, expenditures, and encumbered funds.

Prevention and Outreach

Recommendations

- Develop and implement a statewide Injury Prevention Plan based upon a current *Burden of Injury* Report.
 - Include trauma stakeholders as partners in the planning and implementation process
- Establish a web-based resource to enhance communication and collaboration among all stakeholders and promote the use of evidence-based injury prevention strategies.
- Establish an injury prevention coalition to address priority injuries, implement recommended evidence-based injury interventions, and evaluate outcomes.
- Educate policy makers and the public about the burden of injury and the value of an inclusive trauma system as part of an overall injury prevention and control strategy.

Emergency Medical Services

Recommendations

- Continue to seek a NHTSA EMS assessment.
 - Implement the recommendations from the NHTSA EMS assessment.
- Require the National Registry of Emergency Medical Technicians recertification process for EMS provider recertification.
- Require continuing education for recertification that includes sufficient representation of trauma and pediatric training.

Definitive Care Facilities

Recommendations

- **Strengthen the hospital verification process for Level I, II, and III trauma care facilities**
 - **Develop rules and procedures for remediation of trauma care facility deficiencies, such as lowering the level of verification and withdrawal of verification for hospitals not in compliance with standards.**
 - **Adopt the designation criteria specified in the most recent version of the American College of Surgeons' *Resources for the Optimal Care of the Injured Patient* document.**
 - **Develop a process to include comprehensive chart review in the verification site visit.**
 - **Utilize out-of-state reviewers for Level I, II, and III trauma care facility verification visits.**
- **Change the verification process for Level IV trauma care facilities to focus on technical assistance and facilitation of rapid triage and transfer of seriously injured patients that includes resuscitation protocols, pre-identification of patient and injury types that will be transferred, and pre-selection of destination hospitals.**
 - Use reviewers from within the region, ideally from trauma care facilities that receive patients in transfer from the index hospital
- Consider utilization of the American College of Surgeons Committee on Trauma (ACS-COT) trauma center verification process, especially for Level I, II, and III trauma care facilities to standardize the approach and to free up resources within the Iowa Department of Public Health.
- Include an analysis of community need in decisions regarding verification and designation of new Level I and II trauma care facilities.
 - Analyze the interaction between definitive care facilities on a regular basis, including the following: primary (field to initial hospital) and secondary (inter-facility transfer) overtriage and undertriage, delays in transfer, multi-step transfers, and trauma patient mortality occurring in facilities other than Level I and II trauma care facilities
- Develop a process to recognize and engage trauma care facilities from bordering states that are functioning as part of the Iowa system.
 - Identify the extent of their contribution and function in the Iowa trauma system.
 - Request data related to Iowa patients treated.
 - Seek a performance improvement interface.

System Coordination and Patient Flow

Recommendations

- **Require each trauma care facility to have an agreement with an emergency medical services (EMS) agency (or agencies) to facilitate timely ground and air interfacility transport of trauma patients when needed.**
- **Update the current out-of-hospital trauma triage destination decision protocol.**
 - Extend the acceptable ground transport time for patients that meet physiologic and anatomic triage criteria would increase the number of patients with a high injury severity score that get transported to a Level I or II trauma care facility as their initial destination.
 - Specify the maximum ground transport time for patients that should be taken to a Level III trauma care facility rather than a closer Level IV facility to ensure a higher level of care for patients who meet criteria for mechanism of injury or co-morbidities
 - Develop a separate trauma patient destination protocol that addresses which trauma patients should be transported by air and where they should be transported.
 - Study the compliance with this protocol by EMS agencies across the state during performance improvement.
 - Enforce the out-of-hospital trauma triage destination decision protocol.
- **Develop specific “transfer out” criteria for Level III and Level IV trauma care facilities that identify the patient injury complexes that should lead to transfer to a higher level facility.** See Appendix E for draft sample guidelines recently developed by the American College of Surgeons Committee on Trauma.
 - Ensure that this list is used during performance improvement activities when reviewing patient’s admitted to Level III or IV facilities and studying compliance with “transfer out” criteria.
- **Require EMS agencies to recognize and accept responsibilities for interfacility transfers as part of the conditions of agency licensure.**
 - Ensure that at least one agency is available for interfacility transport within each county at all times.

Rehabilitation

Recommendations

- Complete a needs assessment and gap analysis of rehabilitation capabilities and capacity across the state.
- Publish and regularly update a list of trauma rehabilitation facilities on the trauma system program website or otherwise distribute this list regularly to the trauma care facilities.
 - Inventory rehabilitation centers to determine which ones treat patients with serious injuries and any subspecialty capabilities for pediatrics, spinal cord injury, burns, and traumatic brain injury.
- Incorporate outcome data from rehabilitation facilities into the state trauma data base.
- Implement a statewide performance improvement project to define the magnitude of the problem related to delays in access to rehabilitation.
 - Audit avoidable length of stay for the trauma care facilities to quantify delays in transfer to a rehabilitation facility.
 - Complete a focused audit of the findings at 12 months.
 - Present results to trauma and rehabilitation leadership.
 - Identify corrective strategies, implement, and re-evaluate.
- Review state verification criteria to ensure early involvement of rehabilitation personnel in the care of patients admitted to the trauma facility.
 - Require specific plans for utilization of rehabilitation facilities for patients admitted to that facility.

Disaster Preparedness

Recommendations

- Develop a large-scale regional structure for disaster preparedness that coincides with trauma regions, mirroring existing patterns of patient referral.
 - Exercise these regions with regular region-wide drills.
 - Have larger referral facilities participate in planning, drills, and operations.
- Develop a statewide method of tracking patients during disaster and mass casualty events.

System wide Evaluation and Quality Assurance

Recommendations

- **Evaluate the current performance improvement (PI) protection statute and revise the rules to specifically include chart reviews within the PI and verifications processes.**
 - Engage stakeholders, including the Iowa Hospital Association, in the revision process.
- Establish guidelines that describe the expectations of the Trauma System Advisory Committee and its System Evaluation Quality Improvement Subcommittee (SEQIS) for peer review and system and patient outcomes.
- Evaluate the current membership of the SEQIS.
- Organize meetings to review specific measures and de-identified cases to find opportunities to improve care, implement action plans, and ensure loop closure.
- Establish a process so that issues identified and recommendations made are addressed and corrected in a timely fashion.
- Disseminate reports and aggregated PI statistics to all trauma system stakeholders.

Trauma Management Information Systems

Recommendations

- **Monitor implementation of the new emergency medical services and trauma registry systems to identify and correct potential issues.**
 - Ensure sufficient staff and vendor support to resolve all issues quickly (keep users happy)
- Hire a full-time trauma registrar to manage operations and maximize utility of new data system.
- Explore opportunities for data integration (EMS/Trauma) with vendor
 - Consider a unique trauma patient identifier
 - Consider a probabilistic matching scheme

Research

Recommendations

- Establish a research subcommittee of the TSAC to promote, coordinate and monitor collaborative trauma system research based upon priorities established in the trauma plan.
- Develop a systemwide research agenda to guide and facilitate focused, prioritized research at the state, regional, and local levels.
- Compile, maintain, and distribute a list of active trauma research projects being conducted out by Iowa trauma care facilities, with the goal of fostering cooperation and collaboration.
- Prioritize data linkage and optimal functionality of the new ImageTrend registry system to maximize its utility for research.

- Establish a policy and procedure for review and approval of research data requests from the state trauma registry.

Focus Questions

Focus Question 1: How can Iowa strengthen integration and relationships across the trauma system?

Recommendations

- Explore opportunities to engage a committed and broad-based constituency for the trauma system.
- Identify engaged volunteers to serve as subcommittee leaders and clearly identify objectives and timelines for subcommittee work.
- Identify a mechanism to provide frequent communications with council and subcommittee members, as well as stakeholders regarding trauma system development, including plans, timelines, challenges, and help needed.
- Give recognition to volunteer leaders and celebrate accomplishments.

Focus Question 2: How can Iowa more adequately involve rehabilitation experts in the trauma system?

Recommendations

- Incorporate rehabilitation services into the next trauma system plan and the requirements for trauma care facilities.
- Complete a needs assessment and gap analysis of rehabilitation capabilities and capacity for trauma patients across the state.
- Implement a statewide performance improvement project to define the magnitude of the problem regarding delays in access to rehabilitation.
 - Survey trauma care facilities to determine whether issues with access to rehabilitation exist and the extent of these access issues.
 - Determine how many trauma care facilities have the capability of obtaining inpatient rehabilitation medicine consultation.
 - Determine how often a transfer delay to rehabilitation occurs when a patient is ready for this level of care.
 - Determine whether issues related to obtaining interfacility ambulance transportation to rehabilitation facilities exists.
 - Use this information to assess for regional variation regarding access to rehabilitation.
 - Subcategorize this information to analyze rehabilitation resources and access delays for various trauma conditions, including hip fractures, multiple trauma, traumatic brain injury, spinal cord injury, burns, and pediatric patients.
- Publish and regularly update a list of trauma rehabilitation facilities on the trauma program's website or otherwise distribute this list regularly to the trauma care facilities.
 - Inventory rehabilitation centers to determine which ones treat patients with serious injuries and any subspecialty capabilities for pediatrics, spinal cord injury, burns, and traumatic brain injury.
- Incorporate outcome data from rehabilitation into the state trauma registry.

- Review state trauma care facility designation criteria to ensure early involvement of rehabilitation personnel in the care of patients admitted to the facility and to require specific plans for utilization of rehabilitation facilities for patients admitted to that facility.

Focus Question 3: Help us to understand ways Iowa could measure outcomes related to the trauma system through benchmarking and system indicators. What guidance or recommendations can the Trauma System Consultation committee provide for improving system PI initiatives or method of loop closure?

Recommendations

- Update and revise the 2012 State Performance Improvement (PI) Plan outlining duties and expectations, reporting processes, timelines, and the development of standardized trauma registry reports needed for evaluation of the selected indicators.
 - Establish a schedule for review and revisions to the State PI Plan.
- Revise the trauma system statute and rules to outline PI processes and to ensure protection for all trauma system PI activities.
 - Include trauma case review as part of the PI and verification process.
- Hire a trauma registrar to monitor data quality and timely submissions with the new trauma registry.
- Develop standardized trauma registry reports needed for evaluation of the selected trauma indicators.
 - Include mortality rates (broken down by age and injury severity score) and cost of trauma as indicators for evaluation.

Focus Question 4: When the legislation was written for development of the state trauma system appropriate funding was not identified. What recommendations would the TSC Committee have for obtaining funds to support the statewide trauma system?

Recommendations

- Investigate options for stable funding of the state trauma system that may be supported by stakeholders.
- Review priorities in the new State Trauma Plan and identify potential state programs that may offer partnerships and funding for aspects of the trauma system.

Focus Question 5: After analyzing Iowa’s trauma system infrastructure, please describe a sample model for developing regionalized trauma systems.

Recommendations

- Review the patient transport and transfer pattern to each Level I and II trauma care facility and identify potential geographic trauma regions.
- Identify Level I and II trauma care facilities that are willing to lead or co-lead regional performance improvement coordination.
- Develop regional destination protocols based on a state minimum standard.
- Establish the guidelines for membership on regional advisory councils.
- Identify strategies for financial support of the regional infrastructure.
 - Identify specific contractual expectations for trauma region financial support provided.
- Develop a plan for communication and information exchange between regional trauma councils and the state trauma system.

