Trauma Hospital Leadership Manual

Minnesota Department of Health
Office of Rural Health and Primary Care
Statewide Trauma System

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As Trauma Program Managers/Coordinators, we humbly acknowledge the difficult yet immensely rewarding privilege it is to restore hope and rebuild lives, recognizing that the true value lies in our unwavering commitment to healing, resilience, and the pursuit of second chances for all trauma victims.

Trauma Hospital Designation

Application

Hospitals seeking designation as a Level 3 or Level 4 Trauma Hospital in Minnesota must first establish a trauma program within their facility that meets the criteria adopted by the State Trauma Advisory Council (STAC). Then an application for designation is completed through the MDH Trauma Hospital Designation Portal. Once a complete application is submitted, MDH trauma program staff will review it and provide feedback.

Site Visit

Once the application is complete, an onsite visit will then be scheduled. MDH staff will provide a time frame for the visit and work with the hospital to identify available dates. Once a site visit team has been confirmed the hospital will be notified of the site visit date and MDH staff will provide the hospital with guidelines to help them prepare for the visit.

During the site visit, trauma system reviewers meet with hospital trauma program leaders to discuss the hospital's trauma program, understand the hospital's processes and procedures to care for trauma patients, verify the presence of required equipment, and validate that the hospital meets the minimum required criteria. The site visit team concentrates its efforts on reviewing cases to evaluate the effectiveness of the hospital's performance improvement (PI) activities.

Post site visit

Following the site visit, the State Trauma Advisory Council (STAC) will make a designation recommendation to the Commissioner of Health and the hospital will receive their site visit report. Once designated, the hospital may refer to itself as a "trauma center" or "trauma hospital" in its advertising and signage or otherwise indicate it has trauma treatment capabilities.

Minnesota Statutes 144.605, Subdivsion 6 requires a trauma hospital to notify the STAC if it experiences a change in its ability to meet the minimum required criteria at any time during the designation period. This is critical to the effectiveness of the statewide trauma program because it may require other hospitals and EMS providers in the region to adjust their operating guidelines.

Re-designation

Trauma hospital designation in Minnesota is valid for three years, during which time the hospital must apply for and complete the re-designation process. Trauma hospitals should apply for re-designation at least nine months before their expiration date.

Re-designation site visits focus on three areas: 1) Compliance with the designation criteria; 2) Progress made toward addressing the opportunities identified during prior site visits; and 3) Identifying how the trauma system can support the hospital's continuing trauma care commitment. Site visits are intended to be collaborative and constructive. MDH staff will work with the hospital to remedy any deficiencies identified and provide any additional materials requested by the site visit team before the STAC considers a re-designation recommendation. If a deficiency is cannot be resolved before the STAC makes its recommendation, the hospital's current designation may be extended for up to 18 months while the hospital resolves the deficiency.

Hospital Organization

Before being designated, a formal trauma program must be established and integrated within the hospital's organizational structure, appearing on the official hospital organizational chart. The trauma program leaders should have sufficient authority to lead the development of policies, procedures and guidelines that address trauma team deployment, emergent transfers, trauma patient admissions, and performance improvement (PI).

The hospital board and medical staff must demonstrate a commitment to providing trauma care commensurate with the criteria published by MDH. The hospital's commitment is typically demonstrated when both the board of directors and the medical staff resolve to provide the resources necessary to attain and sustain designation as a trauma hospital. The site visit review team also looks for evidence that the trauma program leaders are adequately supported with the protected time they need to complete their duties.

The hospital's trauma program requires the leadership of both a medical director/advisor and a program manager/coordinator.

Resources: Sample Hospital Board Resolution, Sample Medical Staff Resolution

Trauma Medical Director (Medical Advisor, Co-Medical Director)

The trauma medical director (TMD) is a physician who provides clinical oversight for the program. The TMD collaborates closely with the trauma program manager/coordinator (TPM/C), reviews the care provided during all phases of the patient's acute care experience, and leads the clinical staff in PI.

A co-medical director may be appointed to assist the TMD. In a Level 3 Trauma Hospital either the TMD or the co-medical director must be a general surgeon. In a Level 4 Trauma Hospital the co-medical director may be an advance practice provider (APP).

Key Responsibilities

- Ensure compliance with trauma system designation criteria requirements
- Collaborate with TPM/C to prepare the hospital for designation site visit
- Maintain dedicated time to accomplish program responsibilities
- Develop, implement, and evaluate the trauma team activation (TTA), trauma transfer, and trauma admission policies
- Develop, implement, and evaluate the trauma PI plan or process development
- Review trauma care, evaluating compliance with industry standards and acceptable practice; identify and resolve opportunities for improvement; lead improvement initiatives
- Collaborate with TPM/C to identify cases for tertiary review
- Lead tertiary case review committee meetings
- Ensure that clinical providers are aware of findings from case reviews and implement changes into their practice
- Develop, implement, and evaluate evidence-based practice expectations
- Attend state and regional meetings and educational offerings

Resources: Sample Trauma Program Medical Director Job Description

Trauma Program Manager/Coordinator

The trauma program manager/coordinator (TPM/C) is usually a registered nurse (RN) who is responsible for the administrative functions of the trauma program. If the TPM/C is not an RN, an RN must assist with the review of care, throughout the PI process. In collaboration with the TMD, the TPM/C is responsible for building positive relationships within the hospital that promote timely identification and mitigation of issues that threaten the safety and optimal outcomes of trauma patients.

Key Responsibilities

- Ensure compliance with trauma system designation criteria requirements
- Prepare the application for trauma hospital designation every three years
- Prepare the hospital for designation site visit
- Maintain dedicated time to accomplish program responsibilities
- Collaborate with TMD in the development, implementation, and evaluation of the TTA, trauma transfer, and trauma admission policies
- Collaborate with TMD in the development, implementation, and evaluation of the trauma PI plan or process development
- Coordinate the trauma case review process; shepherd cases through all levels of review

- Identify trauma cases that meet the criteria for review
- Measure compliance with required performance metrics (Level 4)
- Measure compliance with selected trauma performance standards (Level 3), such as activating the trauma team activation, response time expectations, length of stay before transfer
- Review trauma care, evaluating compliance with industry standards and acceptable nursing practice; identify and undertake activities to resolve opportunities for improvement
- Identify and refer cases for TMD review; collaborate with TMD to determine the need for and implement improvement initiatives
- Collaborate with TMD to identify cases for tertiary review
- Ensure that case review, issue identification, investigative activities, and corrective actions are documented
- Ensure documentation of issue resolution (Level 3)
- Attend state and regional meetings and educational offerings
- Collaborate with TMD to ensure that clinical providers are aware of findings from case reviews and implement changes into their practice
- Ensure the timely entry of trauma registry data

Resources: Sample Trauma Program Manager/Coordinator Job Description

Trauma Team Activation

The trauma team activation (TTA) policy lists objective criteria that, when met, requires the assembly of a team that will respond to the patient's bedside and be available to assist in the resuscitation of a trauma patient who is or may be seriously injured. The activation criteria can contain both physiological and mechanism of injury indicators that describe patients at risk for serious injury. While not all patients meeting the TTA criteria will end up being seriously injured, the purpose of the policy is to ensure that resources that may be needed are readily available until serious injuries can be ruled out. Level 3 Trauma Hospitals have minimum required TTA criteria.

In addition to specifying when the team should be assembled, the TTA policy also indicates who is to respond, how they are to be notified, and when they are expected to arrive. The policy should consider existing internal operating procedures, staffing resources, and suggested and required minimum criteria.

Resources: Sample Single-Tier Trauma Team Activation Guideline, Sample Multi-Tier Trauma Team Activation Guideline

Documentation of the patient's resuscitation can be easily accomplished with the use of a trauma flow sheet. A comprehensive flow sheet can make documenting a fast-paced trauma resuscitation easier and more accurate. It can also be used to easily identify data elements in

the patient's chart that are required for trauma and traumatic brain injury/spinal cord injury (TBI/SCI) reporting (through the trauma registry) or for PI activities.

Resource: *Trauma Resuscitation Record*

Hospitals must work with their emergency medical services (EMS) providers to establish and train on policies designed to quickly identify seriously injured patients, route them to appropriate trauma hospitals, and activate resources. The trauma team should be activated upon notice by EMS. It is up to the individual hospital to determine if EMS personnel will activate the team or if EMS will consult with the emergency department staff, who will then determine the need for trauma team activation. Regular collaboration with the EMS professionals in your area will promote a smooth process.

Education

Those responsible for caring for trauma patients in Level 3 and 4 Trauma Hospitals must have trauma-specific training consistent with their roles. Physicians, surgeons, and advance practice providers must take either Advanced Trauma Life Support (ATLS) or Comprehensive Advanced Life Support (CALS) including the Trauma Module every four years.

Registered nurses and licensed practical nurses whose duties include caring for trauma patients must successfully complete an educational program suited to their role. Acceptable training courses might include:

- Trauma Nursing Core Course (TNCC)
- Comprehensive Advanced Life Support (CALS) Provider Course
- Advanced Trauma Care for Nurses (ATCN)
- Rural Trauma Team Development Course (RTTDC)
- Trauma Care After Resuscitation (TCAR)
- Trauma system e-learning modules
- An in-house training curriculum that meets the required objectives

The acceptable education program for a nurse's specific role is defined in the Level 3 and Level 4 Trauma Hospital Designation Criteria. Nurses are only required to complete the training once, but hospitals are encouraged to adopt their own schedule for recurrent education to help nurses remain up to date in their trauma knowledge.

Admission

While most trauma patients requiring admission will be transferred to higher-level trauma hospitals, some may be admitted locally. Level 3 and 4 Trauma Hospitals must determine their resource capabilities and establish a trauma admission policy that describes the types of trauma patients considered for admission and the specialties responsible for admitting and providing consults. Patients outside the hospital's resource capabilities can then be quickly identified so that transfer can be accomplished without delay.

Resources: Sample Level 4 Trauma Admission Guideline

Transfer

A trauma system treats seriously injured trauma patients effectively and efficiently, which involves recognizing the need to transfer patients in a timely manner. Improved outcomes are associated with the time it takes for a hospital to determine the need for and accomplish the transfer.

Trauma hospitals must have a trauma transfer policy that describes conditions that, when present, results in immediate transfer. Predetermined criteria can help staff to recognize patients in need of prompt transfer and prevent delays.

Resources: Sample Level 3 Trauma Transfer Guideline, Sample Level 4 Trauma Transfer Guideline

Emergency medical service personnel, with the guidance of medical direction and in collaboration with their local hospitals, should establish a process to request aero medical transport to meet them at the emergency department. Close working relationships with local EMS providers will contribute to the development of an efficient transfer process.

Transfer agreements must be established and maintained with trauma hospitals capable of caring for patients with major trauma, severe burns and acute spinal cord injuries. Designated trauma hospitals must have at least two agreements with burn hospitals and at least one with a pediatric trauma hospital. If a trauma hospital is verified as both a burn center and a pediatric trauma hospital, they can fulfill both requirements within one agreement. Receiving trauma hospitals often provide the transfer agreement template for the referring hospital.

Resources: Transfer Agreement Example

Performance Improvement

Every trauma hospital is expected to measure, evaluate and improve their performance, ensuring that trauma care is provided in accordance with industry standards and hospital policies. An effective performance improvement (PI) process identifies opportunities to improve practices and provide optimal care.

The PI process is a structured framework to affect change through policies and guidelines that are adapted to changes in industry standards and best practices. The process is designed to continuously identify issues that have the potential to adversely affect a patient's outcome. It takes advantage of the collective knowledge and experiences possessed by the TMD, TPM/C, and clinical staff to identify and confront issues that could increase patients' risk.

Outcomes are improved when variations in care are reduced by implementing standards and educating clinical staff to be more comfortable taking care of trauma patients.

The scope of PI review begins at the time of injury and continues through discharge from the acute care hospital or to a swing bed. This includes review of care and processes provided by pre-hospital providers, and in the emergency department, and in-patient units.

Every designated trauma hospital is required to have a PI process. Level 3 Trauma Hospitals must codify this process in policy.

Performance improvement can be thought of as a continuous loop of activity around a given issue with three distinct phases: 1) issue recognition, 2) corrective action, and 3) evaluation of the effectiveness of the corrective action. The loop is repeated until the desired result is achieved. Level 3 Trauma Hospitals must execute the entire loop, continuing until the desired result is achieved. Level 4 Trauma Hospitals are required to execute phases one and two only.

Structures

Leadership

The structure of PI is left to the discretion of the facility and will depend on the facility size and available resources. Regardless of the PI structure, trauma hospitals must be able to demonstrate its effectiveness by identifying and correcting issues.

The TMD and TPM/C are typically the gatekeepers. All information and reports pertaining to trauma PI are funneled through this team. The co-medical directors/advisors and registrar may also be part of the team.

Filters (Level 3)

In addition to case review, Level 3s select PI filters to monitor and measure compliance with specific performance standards. Filters reflect a standard of care that the trauma hospital would like to monitor, either to measure how it is performing to that standard or because case review has revealed that the hospital is not performing to the standard.

Filters are an effective tool to identify cases that fall short of an established standard. When they fall out, the reviewer must determine why the standard wasn't met. The reviewer may conclude that a deviation from the standard was justified, thus acceptable, and no further action is need. On the other hand, the reviewer may identify an opportunity for improvement that results in a PI initiative.

Resources: Sample Performance Standards

- Filters come and go. As issues are resolved, filters will be retired and new ones will take their place. Some filters may be watched for months while others may be monitored for years before enough cases have occurred to effectively assess performance. Level 3 Trauma Hospitals must track certain filters perpetually, which are defined in the designation criteria.General surgeon non-compliance with response time and communication requirements
- Emergency department provider non-compliance with on-call response times
- Trauma patient admitted to a non-surgeon without surgeon consult
- Trauma care provided by physicians who do not meet minimal educational requirements
- Trauma team activation and length of stay before transfer >60 minutes

- Met trauma transfer criteria and admitted locally

Performance Metrics (Level 4)

Level 4 Trauma Hospitals measure their performance to specific standards listed in the designation criteria. When a metric falls below the established threshold, corrective action is needed. The required Level 4 performance metrics and thresholds are:

- Time from patient arrival to emergency department provider arrival at hospital ≤30 minutes when the emergency department provider is off-site: 80%
- Trauma team activated when criteria met: 80%
- Time from patient arrival until transportation ordered <30 minutes when a physiological TTA criterion is met and patient transferred for trauma care; or time from when a physiological TTA criterion is discovered until transportation ordered <30 minutes when patient transferred for trauma care: 80%
- Airway successfully secured when GCS ≤8: 90%
- General surgeon arrival at bedside within 18 hours as required in Section 10.2: 80% (If the hospital admits trauma patients described in Section 10.2 of the Level 4 Trauma Hospital Designation Criteria)

Resources: Level 4 Performance Metrics Surveillance Spreadsheet

Committees

Some cases are referred to a committee for review. Committees are an effective tool for leveraging the knowledge and experience of clinical staff to identify issues and set a course for improvement.

Level 3 Trauma Hospitals must establish a provider case review committee and a multidisciplinary case review committee. Level 4s must establish a tertiary case review committee. See a description of the various committees in the *Process* section.

Process

Case Definition

The process of reviewing cases begins by defining what constitutes a “trauma case,” which are typically high-acuity or high-risk cases. At a minimum, cases that meet the trauma registry inclusion criteria must be reviewed. Typically, these are patients that meet TTA criteria, admissions, transfers, and deaths.

Case Finding

There are several strategies for finding trauma cases that meet the case definition. Ideally, cases are identified and reviewed as quickly as possible while the details of the case are still fresh in everyone’s mind. Information is lost as more time that passes and PI becomes less

effective. Minimum case finding frequency is addressed in the Level 3 and 4 Trauma Hospital Designation Criteria.

Most cases can be found by regularly reviewing the emergency department and in-patient logs. This is the timeliest way to identify cases. A query of the electronic health record or the trauma registry can be used to find cases not found in the logs, though they tend to identify the cases much later.

Case Review

Cases should be reviewed for PI filters (Level 3) or performance metrics (Level 4). Findings should be recorded.

Resources: Level 3 Filter Tracking Worksheet, Level 4 Case Review and Metric Tracking Worksheet, Level 4 PI Tracking Spreadsheet

In addition to the hospital record, other sources of information might include the EMS patient care report, feedback from the receiving hospital (if the patient was transferred), autopsy reports, or a concern reported by a staff member.

Review and analyze the clinical care and the care processes against industry standards, such as those taught in Advanced Trauma Life Support (ATLS), Comprehensive Advanced Life Support, Trauma Nurse Core Course, Rural Trauma Team Development Course, and Trauma Care After the Resuscitation courses.

Levels of Review

Primary Review

Typically, the first review is completed by the TPM/C, though the TPM/C should not review their own cases. Every case that satisfies the case definition receives a primary review.

- Review the documentation for time-sequenced charting and filters or performance metrics that fall out.
- Evaluate the clinical care and care process. Ask staff involved in the case to fill-in any missing information.
- Research current standards as necessary.
- If transferred, consider reaching out to the receiving hospital for feedback about the care provided before transfer.
- Document issues that were identified along with the disposition of this case.
- Decide the disposition of the case.
    - Close the case if no further action is needed.
    - Implement an action plan for improvement opportunities specific to nursing or those that do not affect the medical staff.

- Refer the case for secondary review by the TMD. Cases should be referred for secondary review based on the judgement of the primary reviewer. Typically, these are cases with concerns about clinical decision making, TTAs, admits, direct to the OR, and deaths.

Secondary/Medical Director Review

The secondary review is typically completed by the TMD and/or co-medical directors. The TMD reviews cases selected by the primary reviewer but should not review their own cases.

- Review the clinical care and care process. Ask staff involved in the case to fill-in any missing information.
- Document findings and observations including any interactions the TMD has with a provider.
- Decide the disposition of the case in collaboration with the TPM/C:
  - Close the case if no further action is needed.
  - Implement an action plan for improvement opportunities that do not require committee review.
  - Referred to a committee for review. Cases should be referred for committee review when the TPM/C and TMD identify learning opportunities, or clinical care or care process issues that would benefit clinical providers. Commonly, these are:
    - Cases that involved challenging clinical decision making
    - Cases inconsistent with industry standards
    - Cases with multi-system injuries
    - Cases with unusual clinical presentation
    - Complicated/unusual cases
    - Difficult airway cases
    - Unexpected injuries
    - Recurring issues
    - High energy mechanisms
    - Guideline failure
    - Guideline deviation
    - Unexpected outcomes
    - Complications
    - Deaths

Committee Review

Committee review is useful when the varied perspectives and experiences of several people is desired to assist in the identification and discernment of issues, or when a potential opportunity for improvement is identified during the primary or secondary review that may require a change in how care is provided. A case may also be referred for committee review when the TMD and TPM/C determine that the clinical providers can benefit from learning opportunity illustrated by a case.

Committees seek opportunities to improve the care and the processes used to provide that care. They should ultimately recommend a course of action that will impact future practice or procedures.

Committee meetings should be held at least quarterly, though hospitals with higher case volumes should meet more frequently. Minutes of the meetings should capture the case identifier, the reason the case is being reviewed, a brief summary of the case, a summary of the major discussion points, issues identified, and action plans to resolve those issues. Minutes from Level 3 committee meetings might also include the desired goal that, when reached, is considered loop closure.

Resources: Level 4 Meeting Minutes Guide, Level 4 Case Review Guide

When a review committee establishes a practice standard, that standard must be communicated to the clinical providers. The minutes or summary of the learning points should be distributed to those not in attendance, or the medical director might connect with the other clinicians individually. Document the dissemination of this information.

Resources: Meeting Attendance Tracking Template

Provider Case Review Committee (Level 3)

Level 3 Trauma Hospitals must establish a Provider Case Review Committee made up of all emergency department physicians and advance practice providers, and all general surgeons and the advance practice providers. This committee of peers should focus on reviewing care and medical decision making. Members must attend 50 percent of the meetings.

Whenever emergency department and surgery clinicians cannot jointly meet, separate meetings of the two groups will suffice. In such cases, each group should send a liaison to the other group's meeting to represent their perspective and to bring issues and educational points back to their own group. Minutes are taken at both meetings.

Multidisciplinary Case Review Committee (Level 3)

Level 3 Trauma Hospitals must also establish a multidisciplinary case review committee that should focus on reviewing the care processes in cases referred by the TMD and TPM/C. The membership of the multidisciplinary review committee is made up of department leaders from emergency medicine, general surgery, orthopaedic surgery, neurosurgery, radiology, laboratory, blood bank and critical care. Representatives from other surgical subspecialties, anesthesia, administration, nursing, emergency medical services, and ancillary service personnel might also attend. The members are both clinical and non-clinical representatives from all disciplines involved in the care of the trauma patient.

Tertiary Case Review Committee (Level 4)

Level 4 Trauma Hospitals must establish a tertiary case review committee to review clinical care and care processes. Level 4s with higher volumes may prefer to adopt the Level 3 two-committee model—provider case review committee for reviewing clinical care with the providers and a multidisciplinary committee for reviewing care processes and policies.

The general surgeons must attend at least 50 percent of the tertiary case review meetings if the hospital admits trauma patients as described in Section 10.2 of the designation criteria. Otherwise, the membership of the tertiary case review committee is at the discretion of the hospital. Since the purpose of the committee is to identify opportunities to improve clinical

care, the members should be experienced clinical practitioners who are familiar with industry standards for trauma care.

Quaternary Case Review Committee

Quaternary review committees are not required for either Level 3 or Level 4 Trauma Hospitals. Quaternary review is provided by people or committees outside of the hospital such as a receiving hospital, a health system committee, or even a regional trauma advisory council. It might be used to obtain feedback from a receiving hospital, to align health system processes, or to obtain input or share practices on a regional level.

Document quaternary review by logging the outcome of the review in PI records or retaining the minutes.

Investigation and Issue Identification

Identifying issues that did or could have resulted in sub-optimal care requires the reviewer to think critically about the care provided and the processes used to provide that care.

When discerning cases, consider:

- Was standard of care followed (i.e., ATLS, CALS, TNCC, RTTDC)?
- Were practice management guidelines followed?
- Were policies followed?
- What extenuating circumstances existed at the time? (e.g., multiple patients, demands on staff)
- Were there system failures?
- What were the pre-existing conditions?

Was the care consistent with:

- Industry standards?
- Acceptable practice?
- Regional/state standards?
- Local/hospital treatment guidelines?

Since the value of case review is in identifying potential risks to future patients, concern is less about the outcome of a case. Instead, look for opportunities to ensure good outcomes going forward.

The trauma registry might also be used to identify issues. For example, the hospital has established an expectation for patients to be transferred within two hours. A registry report can show the length of stay in minutes for every trauma patient transferred. Patients who stayed longer than two hours can be reviewed to determine the reason for the long stay.

The reviewer must judge whether the long stay represents an opportunity for improvement or if it is acceptable because the case was managed as well as it could have been given the specific circumstances surrounding it. For example:

- The reviewer finds that the patient was transferred to a hospital closer to their hometown several days after admission after having been stabilized. In this case, no further action is necessary.
- The reviewer finds that the transfer was delayed to obtain CT scans despite the obvious presence of a condition that cannot be treated at the hospital. In this case, there is an opportunity to improve decision making around when to obtain vs. defer CT scans.

Document issues identified and the disposition of the case.

Action Planning

Once an opportunity for improvement is identified, the reviewers should determine an action plan designed to resolve the issue. In-house and out-of-hospital resources can be consulted as needed to develop an effective action plan. An action plan might include:

- Education
- Resource enhancement (e.g., supplies, equipment, forms)
- Protocol or policy revision/practice management guideline
- Remediation/counseling of an individual clinician

Document actions that are undertaken along with the dates.

Resources: Level 3 PI Tracking Form, Level 4 PI Tracking Form

Evaluation of the Result (Level 3)

Once an action plan is in place, Level 3 Trauma Hospitals determine if the action had the intended effect. Collect the data needed to assist in the determination. Measure the effectiveness of actions by comparing performance with the goal that was set. If the goal was not reached, consider implementing additional activities. Continue measuring until the issue is resolved. If the data indicates that the issue is resolved, the PI initiative can be closed.

Confidentiality and Security

All discussions and paperwork associated with PI is sensitive and confidential information. It should only be used for the purposes of improving performance. All PI materials must be stored securely. All documents generated for the purpose of PI should be noted with a disclaimer such as, “Confidential Pursuant to MN Statute 145.64; DO NOT COPY OR DISTRIBUTE/FOR AUTHORIZED USE ONLY.” Other tips for maintaining security include:

- Do not share PI information through unencrypted email or by fax.
- Do not reference PI activities in medical record.
- Regularly review confidentiality procedures with staff.

- Ensure that attendees at PI meetings have a legitimate purpose for being there and have them sign in.
- If PI materials are distributed at a meeting, inventory and collect them at the conclusion of the meeting.
- De-identify documents whenever possible.
- Consult with the hospital's risk management staff to ensure compliance with hospital policies.

Trauma Diversion (Level 3)

On rare occasions, critical resources needed to care for seriously injured patients become unavailable at one hospital due to an unusual demand for those resources, a mechanical or plant failure preventing the use of those resources, or other event that renders resources unavailable or inaccessible. Level 3 Trauma Hospitals must have a trauma diversion policy to address the circumstances that may require trauma patients to be diverted and the procedures for internal and external notifications.

Hospitals located in isolated areas that are a significant distance from neighboring hospitals may establish a higher bar for diverting trauma patients than hospitals located near other trauma hospitals. For example, an unavailable CT scanner might prompt a metro area hospital to divert a patient with a head injury, while an isolated hospital may choose to stabilize the patient before transferring to a distant hospital with an available CT scanner.

The decision to divert trauma patients should be considered carefully. It should only occur if it would be in the patient's best interest to be transported to a different facility rather than attempting to accomplish the resuscitation in an environment lacking critical resources.

Diversion events should be reviewed through the trauma PI process to determine if any opportunities for improvement exist.

Resources: Sample Level 3 Diversion Guideline

Trauma Registry

Using data to assess and improve trauma care is of paramount importance to a successful trauma care system. The trauma registry is established to:

- Facilitate simple and accurate trauma data collection.
- Provide hospitals with a no-cost method for reporting and using their data.
- Collect the state required traumatic brain injury and spinal cord injury data, eliminating the need to duplicate data submission to MDH.

The trauma system provides access to an online trauma registry for every Minnesota hospital at no cost. Video tutorials with instruction for configuring the registry, reporting cases, and extracting data are available from the trauma system website. Third-party trauma registries may be used instead, but the data must be transferred to MDH in an acceptable format.

Trauma hospitals must report cases that satisfy the trauma registry inclusion criteria.

Trauma program managers/coordinators should collaborate with their trauma registrars to ensure that the hospital's registry data is accurate and up to date. The video tutorials can help registrars learn to report valuable information from the registry to trauma program leaders.
Resources: Trauma Registry Inclusion Criteria, MNTrauma Video Tutorials

Injury Prevention (Level 3)

While most of a hospital's trauma resources are committed to managing the injured patient, Level 3 Trauma Hospitals must also participate in injury prevention activities. A hospital's injury prevention activities may be incorporated into existing outreach activities.

Ideally, prevention activities will be driven by the needs of the community. Trauma registry data may be used to guide injury prevention topics based on the cause frequency, demographics, or location.

Steps to Implementing an Injury Prevention Activity

Recognize opportunities

Seek out existing public venues for your prevention activities such as school or church fairs and community events such as National Night Out.

Identify a desired outcome

The goal of the prevention activity may be to reduce the occurrence of a particular injury, raise awareness of a threat or hazard, increase knowledge of a subject, or alter behaviors or attitudes.

Identify the target audience

Begin by determining what message to communicate and the target audience. This may be driven by injury data such as frequency, severity, or location of a particular traumatic event within the community, or by a venue such as a community fair, where the target audience is diverse.

Develop objectives

Describe the actions necessary to achieve the desired outcomes of the prevention activity. Consider staff and material resources needed, as well as program evaluation tools.

Develop strategies for reaching the targeted audience

Adults, adolescents, and children have different learning styles. By defining the target audience, the curriculum can be customized. For example, characters (e.g., Smokey the Bear) appeal to children from ages three to seven. Children older than seven relate well to video and slide presentations. Teenagers are most engaged when the forum allows them to voice their own viewpoints and opinions.

Examples of prevention activities include:

- Bicycle helmet campaigns
- Bicycle rodeos
- Blood pressure screening
- Car seat clinics
- Domestic violence awareness
- Fall prevention
- Firearm safety
- Health fairs
- Intoxicated driving campaigns
- Posters/pamphlet publication
- Red light running campaigns
- Stop the Bleed

Identify staff and obtain funding for the activity

Do not limit this effort to just hospital staff. Often, the goals of other community organizations coordinate well with injury prevention goals of the hospital. Consider the age and cultural dynamics of both the audience and the presenters. Sometimes coordinating the two can improve the effectiveness of the message. Trauma survivors and their family members can be powerful spokespeople. Funding may come from within the facility or from foundations, businesses, civic groups, and government agencies.

Evaluate the effectiveness of the activity

It is easy to gauge the success of an injury prevention initiative from the number of people reached or by surveying program participants. But ideally, effectiveness should be *measured* by evaluating whether the activity accomplished the desired outcome. Outcome evaluation should measure progress toward the goal of decreasing injury occurrence or changing the knowledge, attitude, or behaviors of the target audience. Techniques may include data collection, surveying, and direct observation.

Required Equipment

Trauma hospitals must have certain equipment for all ages and sizes of trauma patients.

Resources: Required Equipment Checklist & Attestation

The Emergency Medical Services for Children Resource Center of Minnesota (MN-EMSC) publishes a list of recommended pediatric equipment. This is recommended by MN-EMSC and is not required for Level 3 or Level 4 Trauma Hospitals.

Resources: Recommended Pediatric Equipment

Consultation

MDH trauma program staff are always available to answer questions about trauma hospital designation and its requirements. MDH trauma system staff are eager to help hospitals build and maintain a successful trauma hospital designation. Contact staff for:

- Application guidance

- Assistance establishing or developing a PI or injury prevention program
- Documentation consultation
- Examples of program policies, forms, tools
- Guidance regarding the existence or establishment of required criteria
- One-on-one guidance
- Pre-site visit consultation
- General technical advice
- Trauma registry
- Questions about out of compliance reporting

Contact MDH trauma system staff with feedback and recommendations for additional resources that can be provided in this manual or elsewhere.

Resources: health.trauma@state.mn.us, 651-201-4147, e-Trauma Update

Online Resources

Minnesota Statewide Trauma System

American College of Surgeons, Trauma Program

American Academy of Orthopedic Surgeons

American Association for the Surgery of Trauma

American College of Emergency Physicians

Brain Injury Association of America

Eastern Association for the Surgery of Trauma

Minnesota CALS Program

Emergency Nurses Association

National Highway Traffic Safety Administration

Society of Critical Care Medicine

Society of Trauma Nurses

Toward Zero Deaths

Western Trauma Association

Publications/Resources

American Academy of Experts in Traumatic Stress

American Trauma Society

Eastern Association for the Surgery of Trauma, Practice Management Guidelines

National Trauma Data Bank

Society of Critical Care Medicine Guidelines

Western Trauma Association, Algorithms

Pediatrics

American Academy of Pediatrics

Children's Safety Network

Minnesota Emergency Medical Services for Children

National Emergency Medical Services for Children

National Child Traumatic Stress Network

Prevention

Helmets R Us

I Keep Safe

CDC National Center for Injury Prevention and Control

Safety Belt Safe U.S.A.

To obtain this information in a different format, or if you plan to attend the meeting and need accommodations for a disability, contact the Statewide Trauma System, (651) 201-4147 or health.trauma@state.mn.us.