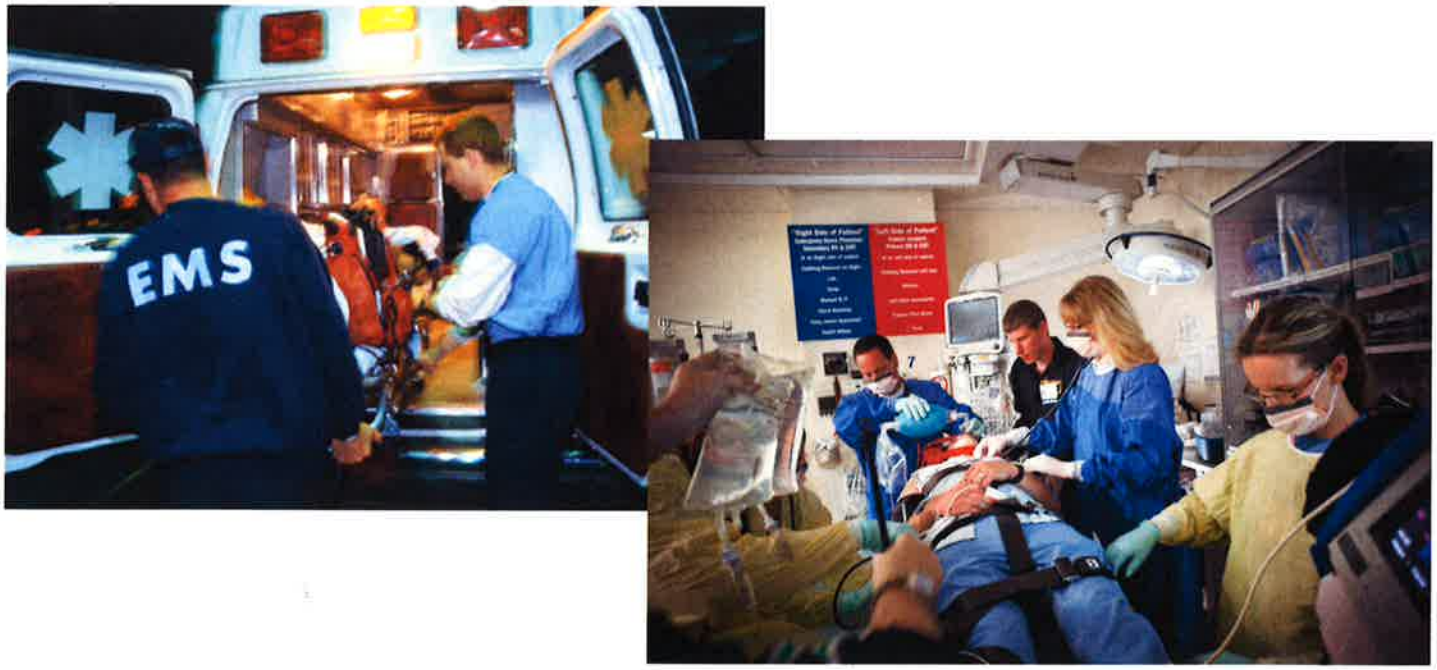
NORTH DAKOTA
DEPARTMENT *of* HEALTH
Division of EMS and Trauma

North Dakota Trauma System Manual



Revision 2014

INDEX

SUMMARY

SUMMARY

The Trauma System in North Dakota started in 1993 with legislative rules supporting the trauma system enacted in 1995. North Dakota has an integrated comprehensive state trauma system designed to be inclusive of all health-care providers within the state. The trauma system is intended to provide a state of readiness or a preplanned response for care of the injured person. This response requires the use of coordinated communications, accurate identification of the level of care and rehabilitation services.

North Dakota Century Code 23-01, Chapter 23-01.2 describes the establishment of a trauma system and trauma center designation. North Dakota Administrative Rules, Chapter 33-38 defines the trauma system regulations and requirements. (See the NDCC and Administrative Rule tab)

NDCC

&

ADMINISTRATIVE

RULES

TRAUMA RULES

North Dakota Century Code (NDCC) regulations define the expectations for a trauma system within North Dakota as well as trauma center designation.

23-01.2-01 – 23-01.2-03

North Dakota Administrative Rule offers specifics about how to assure that the intent of the NDCC is met. Addressed within the rules are the trauma system, trauma code activation, emergency medical services, transport plans, trauma center designation, state trauma registry, the quality improvement process, state trauma committee, trauma regions and standards necessary to achieve designation for Level IV and V trauma centers.

Article 33-38-01-01 – 33-38-01-14

The most current version of the trauma rules can be found on our website:

http://www.ndhealth.gov/trauma/resource/default.asp?ID=314

CHAPTER 23-01.2
TRAUMA AND EMERGENCY MEDICAL SYSTEM

23-01.2-01. Trauma system established - Duties of health council. The health council, in conjunction with the state department of health, may establish and maintain a comprehensive trauma system for the state. The trauma system may include standards for the following components:

1. A system plan.

2. Prehospital emergency medical services.

3. Hospitals, for which the standards must include:

   a. Standards for designation, redesignation, and dedesignation of trauma centers.

   b. Standards for evaluation and quality improvement programs for designated trauma centers. The standards must require each trauma center to collect quality improvement data and to provide specified portions to the department for use in state and regional trauma quality improvement programs.

   c. Qualifications for trauma center personnel.

4. A trauma registry. Data in the trauma registry is not subject to subpoena or discovery or introduction into evidence in any civil action. Designated trauma centers must participate in the trauma registry. A hospital not designated as a trauma center must provide to the registry a minimum set of data elements for all trauma patients as determined by the health council.

5. A trauma quality improvement program to monitor the performance of the trauma system. The proceedings and records of the program are not subject to subpoena or discovery or introduction into evidence in any civil action arising out of any matter that is the subject of consideration by the program.

23-01.2-02. Physician immunity for voluntary medical direction. A physician is immune from liability while providing voluntary medical direction.

23-01.2-03. Trauma center designation.

1. Effective January 1, 2011, a hospital that offers emergency services to the public shall meet trauma center designation standards and participate in the trauma system.

2. The state health council shall adopt rules that allow provisional trauma designation status for a hospital that is partially compliant with trauma designation standards. When issuing a provisional trauma designation, the state health council shall allow a reasonable amount of time, determined by the department, for a hospital to fully meet all trauma designation standards.

ARTICLE 33-38

STATE TRAUMA SYSTEM

CHAPTER 33-38-01
TRAUMA SYSTEM REGULATION

33-38-01-01. Definitions. Words defined in North Dakota Century Code chapter 23-01.2 have the same meaning in this chapter. As used in this chapter:

1. "Advanced trauma life support" means the most current edition of the course as developed by the American college of surgeons - committee on trauma, or its equivalent, as determined by the department.

2. "Department" means the state department of health.

3. "Emergency medical services" means the system of personnel who provide medical care from the time of injury to hospital admission.

4. "Local emergency medical services transport plans" means plans developed by emergency medical services, medical directors, and hospital officials which establish the most efficient method to transport trauma patients.

5. "Major trauma patient" means any patient that meets the criteria in step one or two of the field triage decision scheme provided by the American college of surgeons, committee on trauma, as published by the most current edition of the Resources for Optimal Care of the Injured Patient.

6. "Online medical control" consists of directions given over the telephone or by radio directly from the medical director or designated physician.

7. "Provisional designation" means a state process of designating a facility as a trauma center based on American college of surgeons or department standards for a period determined by the department and the state trauma committee or until an American college of surgeons verification visit or state designation visit is completed.

8. "Trauma" means tissue damage caused by the transfer of thermal, mechanical, electrical, or chemical energy, or by the absence of heat or oxygen.

9. "Trauma center" means a facility that has made a commitment to serve the trauma patient, has met the standards of the trauma system, and has obtained designation as a trauma center.

10. "Trauma code" includes the activation and assembly of the trauma team to provide care to the major trauma patient.

11. "Trauma quality improvement program" means a system of evaluating the prehospital, trauma center, and rehabilitative care of trauma patients.

12. "Trauma registry" includes the collection and analysis of trauma data from the trauma system.

13. "Trauma team" includes a group of health care professionals organized to provide care to the trauma patient.

History: Effective July 1, 1997; amended effective June 1, 2001; July 1, 2010.
General Authority: NDCC 23-01.2-01
Law Implemented: NDCC 23-01.2-01

33-38-01-02. Trauma system. A statewide trauma system shall be adopted by the state health council. The trauma system shall consist of the following:

1. Standardized definition of major trauma patient.

2. Trauma code activation protocols.

3. Local emergency medical services transport plans.

4. Trauma center designation process.

5. Revocation of trauma center designation process.

6. Statewide trauma registry.

7. Quality improvement process.

8. State trauma committee.

9. Four regional trauma committees.

10. Injury prevention.

History: Effective July 1, 1997; amended effective July 1, 2010.
General Authority: NDCC 23-01.2-01
Law Implemented: NDCC 23-01.2-01

33-38-01-03. Activation of trauma codes for trauma patients. Emergency medical services and trauma centers shall assess patients and activate a trauma code.

1. Emergency medical services must activate a trauma code if the trauma patient meets one or more of the criteria in step one, two, or three of the field triage decision scheme, provided by the current edition of the American college of surgeons Resources for Optimal Care of the Injured Patient. Step four of the field triage scheme may be used as discretionary criteria for activating trauma code. The field triage scheme is used as a minimal standard and additional activation criteria may be added.

2. A level I, level II, or level III trauma center must follow the minimum criteria for highest level of activation set by the American college of surgeons committee on trauma.

3. A level IV and level V trauma center must activate a trauma code if the trauma patient meets one or more of the criteria in step one, two, or three of the field triage decision scheme, provided by the current edition of the American college of surgeons Resources for Optimal Care of the Injured Patient. Step four of the field triage scheme may be used as discretionary criteria for activating trauma code. The field triage scheme is used as a minimal standard and additional activation criteria may be added.

History: Effective July 1, 1997; amended effective July 1, 2010.
General Authority: NDCC 23-01.2-01
Law Implemented: NDCC 23-01.2-01

33-38-01-04. Emergency medical services. All emergency medical services licensed or certified by the department shall establish each of the following:

1. Trauma code activation protocols.

2. Trauma patient care protocols that have been reviewed and approved by a medical director.

3. Local emergency medical services transport plans.

History: Effective July 1, 1997.
General Authority: NDCC 23-01.2-01
Law Implemented: NDCC 23-01.2-01

33-38-01-05. Local emergency medical services transport plans. Emergency medical services shall develop local emergency medical services transport plans for the transport of trauma patients meeting the criteria in step one, two, three, or four of the field triage decision scheme, provided by the current edition of the American college of surgeons Resources for Optimal Care of the Injured Patient by appropriate means to the nearest designated trauma center.

1. Emergency medical services may bypass the nearest designated trauma center for a higher level trauma center provided that it does not result in an additional thirty minutes or more of transport time. If the additional transport time would be greater than thirty minutes, the transporting emergency medical services personnel must contact online medical direction for permission to bypass or as defined in the transport protocol.

2. If there are multiple trauma centers in the community, the major trauma patient meeting one or more of the criteria in step one or two of the field triage decision scheme provided by the current edition of the American college of surgeons Resources for Optimal Care of the Injured Patient should be taken to a trauma center per local emergency medical trauma transport plans approved by the department and state trauma committee.

History: Effective July 1, 1997; amended effective June 1, 2001; July 1, 2010.
General Authority: NDCC 23-01.2-01
Law Implemented: NDCC 23-01.2-01

33-38-01-06. Trauma center designation.

1. Five levels of hospital designation must be established.

2. Hospitals applying for level I, level II, or level III designation shall present evidence of having current trauma center verification from the American college of surgeons. The department shall issue designation with an expiration date consistent with the American college of surgeons verification expiration date.

3. Hospitals applying for level IV and level V trauma center designation must submit an application to the department. Once the application is approved by the department, an onsite verification visit shall be

conducted by the department or its designee. The verification team shall compile a report. The application and report will be reviewed by the state trauma committee. If approved, the department shall issue the designation for up to three years to the facility.

4. Hospitals without trauma center designation or currently designated as a level IV or level V trauma center planning to apply for a level I, level II, or level III trauma center designation may apply for a provisional designation by submitting an application to the department. Once the application is approved by the department, an onsite visit shall be conducted by a team designated by the state trauma committee. The team shall compile a report. The application and report will be reviewed by the state trauma committee. If approved, the department shall issue a provisional designation for a maximum of twenty-four months. During these twenty-four months, the facility must complete an American college of surgeons verification visit.

5. Provisional trauma center designations for level I, level II, or level III trauma centers may be issued by the department to hospitals with deficiencies identified by the American college of surgeons and that are partially compliant with the trauma center standards. Hospitals must submit a plan of correction within one month after notification for deficiencies that are identified by the verification team. The plan of correction will be reviewed by the state trauma committee. If approved, the department may issue a provisional designation to the hospital for up to eighteen months or until another American college of surgeons verification visit is completed.

6. Provisional trauma center designations for level IV and level V trauma centers may be issued by the department to hospitals with deficiencies identified by the site survey team and reviewed by the state trauma committee and are partially compliant with the trauma center standards. Hospitals must submit a plan of correction within one month after notification for deficiencies that are identified by the site survey team. The plan of correction will be reviewed by the state trauma committee. If approved, the department may issue a provisional designation for up to twelve months to the hospital or until another state designation visit is completed.

7. The health council, in establishing a comprehensive trauma system, may designate an out-of-state hospital as a trauma center within fifty miles of any border of North Dakota.

History: Effective July 1, 1997; amended effective June 1, 2001; July 1, 2010.
General Authority: NDCC 23-01.2-01
Law Implemented: NDCC 23-01.2-01

33-38-01-07. Trauma center revocation of designation. The department may revoke designation of a trauma center if evidence exists that the facility does

not meet the required trauma center standards. The department or its designee may inspect any trauma center or applicant for trauma center designation at any time for compliance with the standards. Designation must be revoked if a facility denies or refuses inspection.

Failure to follow an approved plan of correction or maintain trauma center designation standards will result in:

1. Revocation of the trauma center's designation.

2. Notification to the division of health facilities regarding the failure to comply with state law.

3. Placement of a public notice in the newspapers in the area which the hospital is located to notify the public of the enforcement action to be imposed and the effective dates. The department shall notify the hospital in writing of the impending notice fifteen days prior to the publication of the notice.

History: Effective July 1, 1997; amended effective July 1, 2010.
General Authority: NDCC 23-01.2-01
Law Implemented: NDCC 23-01.2-01

33-38-01-08. State trauma registry. The department shall establish a trauma registry including the minimum data elements. All hospitals must report the minimum data elements to the department.

Reporting shall occur by a method approved by the department. Information may not be released from the state trauma registry except as permitted by North Dakota Century Code sections 23-01-15 and 23-01-02.1.

History: Effective July 1, 1997; amended effective June 1, 2001; July 1, 2010.
General Authority: NDCC 23-01.2-01
Law Implemented: NDCC 23-01.2-01

33-38-01-09. Quality improvement process. A quality improvement process shall be established by the state trauma committee. The process must include evaluation criteria that will provide guidelines for acceptable standards of care, address system issues, and monitor patient outcomes.

The regional committees shall evaluate the trauma system within their regions based upon the evaluation criteria. The regional trauma committee shall make recommendations to emergency medical services and trauma centers in the development of plans to improve the system.

History: Effective July 1, 1997; amended effective July 1, 2010.
General Authority: NDCC 23-01.2-01
Law Implemented: NDCC 23-01.2-01

33-38-01-10. State trauma committee membership. The state trauma committee membership must include the following:

1. One member from the North Dakota committee on trauma - American college of surgeons, appointed by the committee.
2. One member from the American college of emergency physicians - North Dakota chapter, appointed by the chapter.
3. One member from the North Dakota health care association, appointed by the association.
4. One member from the North Dakota medical association, appointed by the association.
5. One member from the North Dakota EMS association - basic life support, appointed by the association.
6. One member from the North Dakota EMS association - advanced life support, appointed by the association.
7. One member from the North Dakota nurses association, appointed by the association.
8. One member on the faculty of the university of North Dakota school of medicine and health sciences, appointed by the dean of the medical school.
9. One member from the North Dakota emergency nurses association, appointed by the association.
10. One member from Indian health service, appointed by the Aberdeen area director of the service.
11. One member from accredited trauma rehabilitation facilities, appointed by the state health council.
12. One member who is a hospital trauma coordinator, appointed by the trauma coordinators committee.
13. The medical director of the division of emergency medical services and trauma of the department.
14. The regional trauma committee chair from each region, if not representing an association.
15. One member representing injury prevention, appointed by the health council.

16. One member representing the public appointed by the health council.

17. One member representing the legislative assembly selected by the health council.

18. One member representing emergency preparedness and response appointed by the department.

19. One member representing pediatric physicians appointed by the North Dakota American academy of pediatrics.

20. Four additional ad hoc members, appointed by the health council.

History: Effective July 1, 1997; amended effective June 1, 2001; July 1, 2010.
General Authority: NDCC 23-01.2-01
Law Implemented: NDCC 23-01.2-01

33-38-01-11. Trauma regions - Regional trauma committee. The state trauma committee shall establish four trauma regions. The regions must be designated northwest, northeast, southeast, and southwest. An emergency medical service or trauma center that is located within fifteen miles [24.14 kilometers] of a regional boundary may request to function within another region. This request shall be reviewed and is subject to approval by the state trauma committee.

The state trauma committee shall appoint a regional trauma committee to serve each trauma region. The regional committees may consist of members representing the following:

1. North Dakota committee on trauma - American college of surgeons.

2. North Dakota chapter of American college of emergency physicians.

3. Physician of a level IV and level V trauma center.

4. Level IV or level V hospital representative.

5. All hospital trauma coordinators within the region.

6. Accredited rehabilitation facility representative.

7. Indian health service or tribal government representative.

8. North Dakota EMS association.

9. Other members, chosen by the state trauma committee.

History: Effective July 1, 1997; amended effective June 1, 2001; July 1, 2010.
General Authority: NDCC 23-01.2-01
Law Implemented: NDCC 23-01.2-01

33-38-01-12. Trauma center name restriction. No health care facility in North Dakota may use the title "trauma center" or otherwise hold itself out as a trauma center unless the facility is designated by the department as a trauma center.

History: Effective July 1, 1997.
General Authority: NDCC 23-01.2-01
Law Implemented: NDCC 23-01.2-01

33-38-01-13. Level IV trauma center designation standards. The following standards must be met to achieve level IV designation:

1. Trauma team activation plan.

2. Trauma team leader must be a physician currently certified in advanced trauma life support who is on call and available within twenty minutes. If the trauma team leader is not current in advanced trauma life support, the facility must provide a backup physician that is current in advanced trauma life support to assess and evaluate the trauma patients meeting step one, two, or three of the field triage decision scheme, provided by the current edition of the American college of surgeons Resources for Optimal Care of the Injured Patient when the noncertified physician is on call. If backup cannot be provided, the facility must go on diversion and notify the surrounding emergency medical services and the department.

3. The facility must have transfer agreements with facilities capable of caring for major trauma patients, burn care, pediatric trauma management, acute spinal cord and traumatic brain injury management, and rehabilitation services for long-term care.

4. Equipment for resuscitation and life support as determined by the department and state trauma committee.

5. Quality improvement programs, to include:

   a. Focused audit of selected criteria.

   b. Trauma registry in accordance with section 33-38-01-08.

   c. Focused audit for all trauma deaths.

   d. Morbidity and mortality review.

e. Medical nursing audit, utilization review, and issue review.

6. Trauma transfer protocol to identify trauma patients whose condition may require care which exceeds current resources available.

History: Effective June 1, 2001; amended effective July 1, 2010.
General Authority: NDCC 23-01.2-01
Law Implemented: NDCC 23-01.2-01

33-38-01-14. Level V trauma designation standards. The following standards must be met to achieve level V designation:

1. Trauma team activation plan.

2. Trauma team leader must be on call and available within twenty minutes. The trauma team leader must be one of the following:

   a. A physician who is current in advanced trauma life support.

   b. A physician assistant, whose supervising physician has delegated to the physician assistant the authority to provide care to trauma patients and is current in advanced trauma life support.

   c. A nurse practitioner whose scope of practice entails the care of trauma patients, is current in advanced trauma life support, and whose scope of practice is approved by the state board of nursing.

   d. If the trauma team leader is not current in advanced trauma life support, the facility must provide a backup team leader that is current in advanced trauma life support to assess and evaluate the trauma patients meeting step one, two, or three of the field triage decision scheme, provided by the current edition of the American college of surgeons Resources for Optimal Care of the Injured Patient when the noncertified provider is on call. If backup cannot be provided, the facility must go on diversion and notify the surrounding emergency medical services and the department.

3. The facility must have transfer agreements with facilities capable of caring for major trauma patients, burn care, pediatric trauma management, acute spinal cord and traumatic brain injury management, and rehabilitation services for long-term care.

4. Equipment for resuscitation and life support as determined by the department.

5. Quality improvement programs to include:

   a. Focused audit of selected criteria.

b. Trauma registry in accordance with section 33-38-01-08.

c. Focused audit for all trauma deaths.

d. Morbidity and mortality review.

e. Medical nursing audit, utilization review, and issue review.

f. Current advanced trauma life support certified physician review of all trauma codes managed by a physician assistant or nurse practitioner within seventy-two hours. This may be either the consulting or transfer receiving physician.

6. Trauma transfer protocols to identify trauma patients whose condition may require care which exceeds current resources available.

History: Effective June 1, 2001; amended effective July 1, 2010.
General Authority: NDCC 23-01.2-01
Law Implemented: NDCC 23-01.2-01

DEFINITION OF TRAUMA PATENT

DEFINITION OF A TRAUMA PATIENT

The decision making process for defining a trauma patient is best represented in the algorithm from the Field Triage of Injured Patients. This algorithm was put out by the Center for Disease Control (CDC) and the National Center for Injury Prevention and Control. The Field Triage of Injured Patients algorithm is also the standard supported by the American College of Surgeons Committee on Trauma. By using this decision making process the trauma patient is determined by the priorities of triage. It utilizes the assessment of vital signs, level of consciousness, anatomy of the injury, mechanism of injury and co-morbidities or special considerations when determining inclusion.

Using this definition a trauma patient is any person involved in a traumatic incident that has symptoms or injuries included within Field Triage of Injured Patients algorithm. This definition is the foundation that facilities use to determine if a trauma code should be activated at their facility.

Step 1 of the Field Triage of Injured Patients identifies changes in vital signs and/or level of consciousness, that when paired with a traumatic event, are signs of a potentially major trauma injury. Any patients who have sustained a traumatic injury who also meets any of the criteria set forth in step 1 of the algorithm are considered major trauma patients and should be transported as such to a trauma designated facility.

Step 2 of the Field Triage of Injured Patients identifies changes specific to the injured person's anatomy. It identifies very specific injuries or findings. Any patients who have sustained a traumatic injury with injuries meeting the criteria set forth in step 2 of the algorithm are considered major trauma patients and should be transported as such to a trauma designated facility.

Step 3 of the Field Triage of Injured Patients identifies mechanisms of injury or high impact which have been shown to result in significant traumatic injury to the patients involved. Any patients who have sustained a traumatic injury with a mechanism of injury meeting the criteria set forth in step 3 of the algorithm are considered trauma patients and should be transported to a trauma designated facility.

Step 4 of the Field Triage of Injured Patients identifies co-morbidities and special considerations which can impact whether or not the injured patient should be considered a trauma patient. Children, pregnant women and the elderly are more likely to have significant injuries related to their injury and require special consideration. The provider is always able to make the determination that the patient should be a trauma patient. All of these patients should be transported to a trauma designated facility.

2011 Guidelines for Field Triage of Injured Patients

1

Measure vital signs and level of consciousness

Glasgow Coma Scale	≤13
Systolic Blood Pressure (mmHg)	<90 mmHg
Respiratory Rate	<10 or >29 breaths per minute, or need for ventilatory support (<20 in infant aged <1 year)

NO

Assess anatomy of injury

2

- All penetrating injuries to head, neck, torso, and extremities proximal to elbow or knee
- Chest wall instability or deformity (e.g. flail chest)
- Two or more proximal long-bone fractures
- Crushed, degloved, mangled, or pulseless extremity
- Amputation proximal to wrist or ankle
- Pelvic fractures
- Open or depressed skull fracture
- Paralysis

YES → **Transport to a trauma center.** Steps 1 and 2 attempt to identify the most seriously injured patients. These patients should be transported preferentially to the highest level of care within the defined trauma system.

NO

Assess mechanism of injury and evidence of high-energy impact

3

- **Falls**
  - — Adults: >20 feet (one story is equal to 10 feet)
  - — Children: >10 feet or two or three times the height of the child
- **High-risk auto crash**
  - — Intrusion, including roof: >12 inches occupant site; >18 inches any site
  - — Ejection (partial or complete) from automobile
  - — Death in same passenger compartment
  - — Vehicle telemetry data consistent with a high risk of injury
- **Auto vs. pedestrian/bicyclist thrown, run over, or with significant (>20 mph) impact**
- **Motorcycle crash >20 mph**

YES → **Transport to a trauma center,** which, depending upon the defined trauma system, need not be the highest level trauma center.

NO

Assess special patient or system considerations

4

- **Older Adults**
  - — Risk of injury/death increases after age 55 years
  - — SBP <110 may represent shock after age 65
  - — Low impact mechanisms (e.g. ground level falls) may result in severe injury
- **Children**
  - — Should be triaged preferentially to pediatric capable trauma centers
- **Anticoagulants and bleeding disorders**
  - — Patients with head injury are at high risk for rapid deterioration
- **Burns**
  - — Without other trauma mechanism: triage to burn facility
  - — With trauma mechanism: triage to trauma center
- **Pregnancy >20 weeks**
- **EMS provider judgment**

YES → **Transport to a trauma center** or hospital capable of timely and thorough evaluation and initial management of potentially serious injuries. Consider consultation with medical control.

NO

Transport according to protocol

When in doubt, transport to a trauma center.

Find the plan to save lives, at www.cdc.gov/Fieldtriage

National Center for Injury Prevention and Control
Division of Injury Response

CDC

EMS PROTOCOLS AND TRANSPORT PLANS

EMS PROTOCOLS AND TRANSPORT PLANS

EMS PROTOCOLS

- Emergency medical services (EMS) usually provide the first response to an injured patient. This response requires the use of coordinated communication mechanisms, accurate identification of the level of care needed for the injured patient and rapid transport to an appropriate trauma designated facility.

- EMS is directed to create pre-hospital protocols, approved by the medical director, to assist ambulance services in identifying and treating all patients.

- Copies of pre-hospital treatment protocols which can be edited to meet your service's and facility's needs are available through the North Dakota Department of Health, Division of EMS and Trauma. These treatment protocols are free of charge and available by contacting 701-328-1026.

TRANSPORT PLANS

- Transport plans must be pre-established by local EMS to expedite transfer to the appropriate facility prepared to meet the patient's needs.

- These transport plans will define the service area and coverage.

- The ambulance medical director, the trauma centers receiving the patient and the Regional Trauma Committee approve these pans in order to assure seamless coverage throughout the state.

ND Department of Health
Division of Emergency Medical Services
Trauma Transport Plan

Name of Service_____

Type of Service ALS BLS

Location of Service (City)_____

Name of Squad Leader/Manger_____
Adress_____ **City**_____
County_____ **Zip Code**_____
Phone _____ **Email**_____

Name of Medical Director_____
Adress_____ **City**_____
County_____ **Zip Code**_____
Phone _____ **Email**_____

ADDITIONAL AVAILABLE RESOURCES

A. Ground Ambulance Service

Location	Service Type	Contact Information

B. Quick Response Units

Location	Contact Information

C. Rescue/Extrication Units

Location	Contact Information

D. Air Medical Services

Location Contact Information

_____

_____

_____

E. Biohazard Decontamination

Location Contact Information

_____

_____

_____

HOSPITAL RESOURCES

A. Designated Urban Trauma Centers

Level II _____

_____

_____

Level III _____

B. Designated Rural Trauma Centers

Level IV_____

_____

_____

_____

_____

Level V _____

_____

_____

_____

_____

Trauma Transport Plan
Service Area Map

MAP

Zone 1 =
Zone 2 =

Zone 3 =
Zone 4 =

Trauma Transport Plan
Transport Zones

Zone	Trauma Transport Protocol

Ambulance Services must include a copy of the criteria utilized to activate/call a trauma code.

Return Completed Transport Plan to:
North Dakota Department of Health
Division of Emergency Medical Services
600 East Boulevard Ave – Dept 301
Bismarck ND 58505-0200

For Any Questions Please Contact
Ruth Hursman – State Trauma Coordinator at:
701-328-1026 or rhursman@nd.gov

Approved by Regional Trauma Committee

Not Approved by Regional Trauma Committee with recommendations attached.

Trauma Regional Chair Signature_____

TRAUMA CODE ACTIVATION

TRAUMA CODE ACTIVATION

- Both ambulance services and hospital facilities are required to have protocols in place defining what prompts a Trauma Code activation as well as who is actually required to respond when the Trauma Code is activated.

- Most ambulance services and hospitals chose to use the Field Triage of Injured Patients algorithm put out by the Center for Disease Control for determining trauma code activation. Some hospitals will have their own activation criteria in addition to the Field Triage of Injured Patients algorithm.

- Whenever possible trauma codes should be activated from the field by the EMS system in order to provide timely and adequate care to the trauma patient. Early activation of a trauma code allows the mobilization of the hospital trauma team so that personnel and resources are present in the emergency department at the time of the patient's arrival.

- Some facilities may opt to have a protocol utilizing a two tiered Trauma Code activation system. (ex. Injury Alert / Trauma Code; Minor Activation / Major Activation etc.) The only time that a two tiered protocol for Trauma Code activation is encouraged for Level IV and V trauma centers is if there are different personnel which are called in or utilized with the different levels of activation. Most Level IV and V trauma centers will only have a single Trauma Code activation for those trauma patients meeting the defined activation criteria.

- All trauma level designated facilities must have a trauma team activation protocol. This protocol will define who will respond to a major trauma patient. The trauma team may include lab, x-ray, additional nurses, anesthesia, respiratory care, EMS, pastoral care etc. The trauma team must include a trauma team leader who (depending upon the trauma level designation) will be a provider who has successfully completed and is current in ATLS.

TRAUMA REGISTRY

TRAUMA REGISTRY

Establishment of the trauma registry within North Dakota began in 1995. All hospitals within North Dakota were required to submit data to the trauma registry meeting specific inclusion criteria.

The state has adopted a uniform data set of elements to collect. The data set is specific criteria or data which is entered into the trauma registry for all trauma patients who meet registry inclusion criteria. The data set follows a nationally recognized model.

The Data Dictionary is a manual created which explains the various data elements and the definitions for each element being entered.

The data entered into the registry is used to conduct system quality improvement activities and to profile trauma within North Dakota. The trauma registry creates aggregated data reports for county analysis, protective devices analysis, field time analysis, E code analysis, injury severity analysis, injury diagnoses analysis, transfer case listing and mortality case listings, as well as ad hoc reports.

Each facility should have one person appointed to be the trauma registrar for your facility. The Trauma Registrar is the person responsible for tracking the trauma patients seen at your facility and assuring data is entered into the trauma registry based upon the inclusion criteria. (See next page)

Currently the software vendor used within North Dakota to collect trauma registry data for Level IV and V trauma centers is eTraumaLite by Clinical Data management (CDM). In the event that the person who has been appointed as Trauma Registrar at your facility changes, the Department of Health will need to be contacted so that access can be granted to the new Trauma Registrar.

For issues or concerns with about access to the registry or data submission, please contact:

Division of Emergency Services and Trauma.
Lindsey Narloch 701-328-1062
lindseybnarloch@nd.gov

Clinical Data Management (CDM) support
303-670-3331 ext. 2
support@c-d-m.com

ICD-9 codes of 800 – 959.9 and 991.0 – 3 (frostbite) and one of the following:

Trauma deaths that are registered to the hospital
Inter-facility transfers by ambulance that are admitted at the receiving hospital
Trauma patients transferred out by ambulance
Trauma patients admitted to the hospital for >48 hours
Patients admitted from ED to ICU

The following patients can be excluded from the trauma registry

Same level falls with isolated hip fractures in patients 60 years of age or older (ICD9 code: 820 - 821)
Inhalation of food / object (ICD9 code: 933 – 938)
Late effects / complications from previous trauma (ICD9: 905 – 909)

These patients are not included in the trauma registry, unless they are a Trauma Code / Alert or they have an additional injury code

Poisoning (960 – 989.9)
Hanging (994.7)
Adult and child maltreatment (995.5 – 995.8)
Drowning (994.1)

North Dakota Trauma
INCLUSION/EXCLUSION CRITERIA –ICD-10
Patients to Be Downloaded to the State

INCLUDED

- All Trauma Codes/Alerts or any level of trauma team activation (regardless of ICD-10)

- International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM):
  - **S00-S99 with 7th character modifier of A, B or C ONLY** (Injuries to specific body parts – initial encounter):
  - **T07** (Unspecified multiple injuries);
  - **T14** (Injury of unspecified body region);
  - **T20-T28 with 7th character modifier of A ONLY** (Burns by specified body parts – initial encounter);
  - **T30-T34** (Burn by TBSA percentage);
  - **T79.A1-T79.A9 with 7th character modifier of A ONLY** (Traumatic compartment syndrome – initial encounter)

And one or more of the following

- Deaths that are registered to the hospital
- Inter-facility transfers by ambulance that are admitted to the receiving hospital
- Transfers out by ambulance
- Patients admitted for > 48 hours
- Patients admitted from the ED to ICU

EXCLUDED
These are excluded from the trauma registry unless they are a trauma code/alert or they have an additional injury code.

- ❖ Same level falls with isolated hip fractures in patients 70 years of age or older
  - **72.00-S72.26**, fracture of head/neck of femur *ONLY IF age >70 AND it resulted from slipping, tripping, stumbling or a same level fall* ***(W01.0, W18.30, W18.31, W18.39)****;*
- ❖ Superficial Injuries
  - **S00, S10, S20, S30, S40, S50, S60, S70, S80, S90** (Patients with a superficial injury that were transferred in/out for treatment of injuries or died because of injuries would be included in the registry)
- ❖ Late effects
  - **7th character modifiers of D through S** (Late effects)

- **Page 6 – Level V facilities – Midlevel review**
  Describe the process showing that in all trauma codes activations, for which the team leader was a midlevel provider, nurse practitioner or physician's assistant, were reviewed by a physician who has successfully completed and who is current in ATLS. This review must occur within 72 hours.

- **Page 7 – Trauma Team Activation Plan**
  Facilities must have a trauma team activation protocol that defines who will respond to the major trauma patient. The trauma team may include lab, x-ray, additional nurses, anesthesia, respiratory care, EMS, pastoral care etc. The team must include a trauma team leader who (depending upon the trauma level designation) will be a provider who has successfully completed and is current in ATLS.

- **Page 7 – Transfer Agreements**
  Having a transfer agreement with at least one regional trauma center is an essential requirement (Level I/II/III) and it should be updated at least every five years. It is also highly recommended to have a transfer agreement with a least one burn center.

- **Page 7 – Prevention / Public Education**
  Include any activities your facility participates in
  Suggestions can be found at:
  Prevention / Public Education
  http://www.ndhealth.gov/trauma/resource/default.asp?ID=311

CLINICAL DATA MANAGEMENT

CDM North Dakota TraumaLite Trauma Registry Trauma Data Collection Form (updated 06/10)

Comments: NA = Not Applicable, NOT = Not Documented
(s) = Select all that apply

Tracking Number. (computer assigned)	Institute No. (computer assigned)	Patient Initials:

PATIENTS DEMOGRAPHICS

Date of Birth	MM/DD/YYYY	
Age		
Age Units	Years Months Weeks Days Hours NA NOT UNK	
Sex	Male Female	
Race	White Black American Indian Asian Pac Islander/Hawaiian Other NA NOT UNK	
Other Race	White Black American Indian Asian Pac Islander/Hawaiian Other NA NOT UNK	
Ethnicity	Hispanic or Latino Not Hispanic or Latino NA NOT UNK	
County		
City		
State	ND	
Zip Code		
Country	United States	
Alt. Home Status	NA Homeless Undocumented	Migrant Foreign Visitor NOT UNK

INJURY EVENT

Injury Time		
Injury Date		
Injury Zip Code		
Injury County		
Injury State		
Nearest Town		
Injury Country		
Location Code		
Work Related	Not Work Related---Work Related	
Occupation		
Industry Type		
Protective Device(s)	None 3 Point Restraint Airbag Present Child Restraint Eye Protection Helmet Lapbelt	Flotation Device Non-Clothing Protective Cloth Shoulder Belt Other UNK NA NOT

Airbag Type(s)	NA Not Deployed Front Side	Other Deployed Other Unspe. Deployed NOT

TRIAGE CODES

NONE	MajorAuto Deform >20 in
>2 Proximal Long-Bone FX	MC Crash >20 mph/seper
Amput. Prox to Wrist/Ankle	Open/Depressed Skull Fx
Auto-Ped/Auto-Bike >5 mph	Oth Triage not listed
Death –Same Compartment	Paralysis
Ejection for Automobile	Ped Thrown or Run Over
Extrication >20 Minutes	Pelvic Fractures
Fall >20 Feet	Pen Injury Head .....
Flail Chest	Resp Rate <10, <29
Glascow <14	Rollover
Initial Speed >40 mph	Sys BP <90
Intrusion comp >12 in.	

CAUSE INFORMATION

Cause Code		
Trauma Type	Blunt: diffuse force Pen: point force	Burn: thermal Other
Cause E Code(s)		

CO-MORBID(S)

NONE	Esophageal varices
Alcoholism	Func. Depend. health stat
Ascites within 30 days	HX of angina 1 month
Bleeding disorder	HX MI in 6 months
Chemo for cancer within 30d	HX revasc/amp for PVD
Congenital anomalies	HTN requiring medication
Congestive heart failure	Impaired sensorium
Current smoker	Obesity
Current requiring/on dialysis	Pregnancy
CVA/residual neuro deficit	Prematurity
Diabetes mellitus	Respiratory Dx-not COPD
Disseminated cancer	Severe COPD
DNR status	Steroid use
	Substance Abuse
	NA NOT UNK

TRANSPORT TO YOUR FACILITY

Agency		
Origin	NA Scene REF	NA Scene REF
Trip Sheet	Yes No Inc	Yes No Inc
Record Number		
Not/Dispatch Time		
Not/Dispatch Date		
Arrival Time		
Arrival Date		
Scene Depart Time		
Scene Depart Date		
Destination		

PREHOSPITAL		
Transfer From Hosp	No Yes	
Transport Mode to Your Hospital	NA ALS Amb Ground Amb BLS Amb Fixed Wing Helicopter	Police Private/Public Walk-in Other NOT UNK
Referring Hospital		
Referring Arr Time		
Referring Arr Date		
Referring DC Time		
Referring DC Date		

HOSPITAL		
Transport Mode to Your Hospital	NA ALS Amb Ground Amb BLS Amb Fixed Wing Helicopter	Police Private/Public Walk-in Other NOT UNK
Other Transport Modes	NA ALS Amb Ground Amb BLS Amb Fixed Wing Helicopter	Police Private/Public Walk-in Other NOT UNK
Hosp Arrival Time		
Hosp Arrival Date		
Trauma Team Notified	Yes NO Not Applicable	
Team Notified By:	NA Prior to arrival On arrival or 5 min Greater then 5 min Not done when appropriate	
ED Admit Time		
ED Admit Date		
ED Discharge Time		
ED Discharge Date		
ED Disposition Code		
ED Trans Dest Code		
Admit Service Code	Trauma Surg Medicine Neuro Surg Ophthalmplogy Hand/Ortho Surg Ped	Plastic Surg Psychiatry Burn General Surg Urology Other NA NOT UNK
Admit Type	Through ED Direct Adm ED → Trans out EMS	ED → Trans POV Died in ED/DOA
In-PT DC Time		
In-PT DC Date		
In-PT Disp. Code		
In-PT Trans Dest.		

DC Trans Mode			
	NA ALS AMB BLS	Fixed Wind Heli Police Private Vehicle	Walk in OTH UNK NOT
Outcome	Alive Dead		
Total ICU LOS			
Vent Days			

Charge Total		
Primary Payment	Medicaid Not Bill Self Pay Private/Commercial No Fault/Auto Medicare	Oth Government Worker Comp BC/BS IHS Other HMO NOT UNK NA

VITAL(s)			
Number	1 (FIRST SET)	2 (FIRST HOSP)	
Location	SCENE	ED	
Time			
Date			
Pulse			
Resp Rate			
Resp Assist	N Y NA NOT UN	N Y NA NOT UN	N Y NA NOT UN
Airway			
Intubated	Y N NA NOT UN	Y N NA NOT UN	Y N NA NOT UN
Systolic BP			
GCS Eye	4 3 2 1 NA NOT	4 3 2 1 NA NOT	4 3 2 1 NA NOT
GCS Verbal	5 4 3 2 1 NA NOT	5 4 3 2 1 NA NOT	5 4 3 2 1 NA NOT
GCS Motor	6 5 4 3 2 1 NA NOT	6 5 4 3 2 1 NA NOT	6 5 4 3 2 1 NA NOT
GCS Total			
GCS Qualifier	NA NOT EYE CHEM INTUB IN/SED	NA NOT EYE CHEM INTUB IN/SED	NA NOT EYE CHEM INTUB IN/SED
O2 Sat			
SuppO2	Y N NA NOT UN	Y N NA NOT UN	Y N NA NOT UN
Temp in Cel			

CLINICAL		
ETOH Tested	No (not suspected) No (test) Yes (test – trace) Yes (test - beyond legal)	NA NOT UNK
TOX Tested	No (not suspected) No (test) Yes (test – prescription) Yes (test – illegal drug)	NA NOT UNK
Toxicology(s)	NOT NA NEG Amphetamines Barbiturates Benzodiazepines Codeine Ethanol Alcohol	LSD Marijuana Derivatives Methamphetamine Opiates PCP Tricyclic Antidepressants Other UNK
Organs Donated(s)	Not Applicable Not Requested Bone Cornea Ear Heart Heart Valves Kidney Live	Lung Marrow Other Pancreas Refused Skin Unsuitable Unknown Not Done

DIAGNOSES			
	1st	2nd	3rd
ICD9			
Describe			
AIS Code			
Region			
AIS	1 2 3 4 5 6 9	1 2 3 4 5 6 9	1 2 3 4 5 6 9

OPERATIVE PROCEDURES

Code	Place	Episode	ICD9	Start Time	Start Date

COMPLICATION(s)

No Med Comp Occurred	Drug/ETOH withdrawal syn
No NTDS complications	DVT or thrombophlebitis
Abd fascia left open	Deep surg site infection
Abd compartment syndrome	Ext compartment syndrome
Acute RDS	Graft/prosthesis or flap failure
Acute renal failure	Intracranial pressure
Base Deficit	Unplanned intubation
Bleeding	Missed Diagnoses
Coagulpathy	Myocardial infarction
Coma	Organ/space surg site infect
Cardiac arrest with CPR	Pulmonary embolism
Stroke or CVA	Pneumonia
Delayed Diagnoses	Systemic sepsis
Decubitus ulcer	Superficial surgical site infect
	Wound Disruption

LEVEL IV & V DESIGNATED TRAUMA CENTERS

DESIGNATION PROCESS
LEVEL IV AND V

PRIOR TO THE SITE VISIT

- 4-5 months prior to the facility's trauma designation expiration date, the State Trauma Coordinator will e-mail the Trauma Coordinator at the expiring facility reminding them that the facility's trauma level designation is due to expire. The following attachments will be sent.

    - **Designation Application**
    - **Criteria List (essential and desired)**
    - **What to expect at the Site Visit**

- The Trauma Coordinator should complete the designation application. The application and requested attachments should be mailed to the State Trauma Coordinator, within 1-2 months to allow time for processing and scheduling of the site visit.

- Applications submitted will be reviewed by the State Trauma Coordinator for accuracy and compliance prior to scheduling the Review Team for a site visit. If the application is not approved or there are questions or concerns related to the application, the State Trauma Coordinator will notify the facility so these issues can be addressed as soon as possible.

- Once the application is approved as complete, the site visit Review Team will be notified of the impending site visit and attempt to coordinate a date in which to conduct the site visit. The actual site visit will be conducted as soon as possible after receiving the completed application.

- The Review Team will consist of a Trauma Surgeon and Trauma Program Manager typically from a Level II facility within the same region as the expiring facility along with the State Trauma Coordinator.

- 2-4 weeks prior to the scheduled site visit, a letter will be mailed to the Administrator at the expiring facility (with a copy included for the Trauma Coordinator and DON) explaining the date of the site visit and which patient records to have ready for review.

NORTH DAKOTA TRAUMA CENTER APPLICATION

ND DEPARTMENT OF HEALTH
DIVISION OF EMERGENCY MEDICAL SERVICES AND TRAUMA
(10/2015)

INSTRUCTIONS: This form may be completed and submitted in two different methods.
1. You may print this form. Complete in handwriting and submit it to the address listed above
2. You may fill this form out electronically. Save the file on your computer and submit it to the e-mail address listed below.
PLEASE NOTE: In order to do this you will need to have Adobe Acrobat Reader 7.0 or higher installed on your computer.

NOTE: All essential criteria must be met before submitting application.
(E) Essential (D) Desirable

Questions and comments can be directed to:

Nicole Brunelle, RN BSN
State Trauma Coordinator
701.328.1026
nbrunelle@nd.gov
www.ndhealth.gov/trauma/

Date of Application		
Specify Level Applied For:	☐ Level IV	☐ Level V

Name of Facility		
Address		
City	State	Zip Code
Hospital Administrator	Email	
Trauma Coordinator (E)	Phone Number	
Email Address		
Trauma Registrar	Email	
Trauma Medical Director (D)		
PI Personnel evaluating the trauma program (E) (can be Trauma Coor / Registrar or PI Personnel		

Hospital Statistics/Organization/Personnel

Do you have an emergency department: (E)	☐ Yes	☐ No

# of acute beds in facility		# of ED beds		# of ED beds setup for trauma	

List all Physicians taking ED call and their specialty: (E - Level IV)

NOTE: Submit copy of current ATLS certification cards for each provider taking ED call (E)

1. _____ 4. _____
2. _____ 5. _____
3. _____ 6. _____

Continuing Education required for Physicians (D)	☐ Yes	☐ No	Please list required education below (ATLS, PALS etc)

1. _____ 3. _____
2. _____ 4. _____

List all Midlevel Providers (Nurse Practitioners and Physician Assistants) taking ED call and their specialty: (E - Level V)

NOTE: Submit copy of current ATLS certification cards for each provider taking ED call (E)

1. _____ 4. _____
2. _____ 5. _____
3. _____ 6. _____

Continuing Education required for Midlevel Providers (D)	☐ Yes	☐ No	Please list required education below (ATLS, PALS etc)

1. _____ 3. _____
2. _____ 4. _____

NOTE: Submit call schedule for past three months listing all providers covering ED trauma call: (E)

Where is the provider call schedule posted? (E)

Total number of nurses staffing the ED:

Number of ED nursing staff who are TNCC/ATCN verified: (D)

Continuing Education required for Nurses (D)	☐ Yes	☐ No	Please list required education below (TNCC, PALS etc)

1. _____ 3. _____

2. _____ 4. _____

EMS services transporting patients to the ED:

1. _____

2. _____

3. _____

Continuing education required for EMS or other allied health personnel (D)	☐ Yes	☐ No	Please list required education below

1. _____ 3. _____

2. _____ 4. _____

Lab Department: (E)	☐ Yes	☐ No	24 hour coverage	☐ Yes	☐ No
Hours staffed in house					
Coverage when not in house					
Response time					

Standard analysis of blood, urine and other body fluids: (D)	☐ Yes	☐ No
Blood typing and cross matching: (D)	☐ Yes	☐ No

Blood Products - # of units available:

A+ ☐ A- ☐ B+ ☐ B- ☐ AB+ ☐ AB- ☐ O+ ☐ O- ☐ FFP ☐

Comprehensive blood bank or access to blood bank: (D)	☐ Yes	☐ No	
Coagulation studies (PT/PTT): (D)	☐ Yes	☐ No	
Blood gases and pH determinations: (D)	☐ Yes	☐ No	
Microbiology: (D)	☐ Yes	☐ No	
Drug and alcohol screening: (D)	☐ Yes	☐ No	

Radiology Department: (D)	☐ Yes	☐ No	24 hour coverage	☐ Yes	☐ No
Hours staffed in house					
Coverage when not in house					
Response time					

Portable x-ray equipment	☐ Yes	☐ No	CT scanner	☐ Yes	Slices _____ ☐ No

Surgical Department:	☐ Yes	☐ No	
Operating Room available for emergencies: (D)	☐ Yes	☐ No	If yes, explain staffing:

Anesthesia Coverage for on-call for trauma cases: (D)	☐ Yes	☐ No	If yes, explain coverage:

Submission of data to the State Trauma Registry: (E)	☐ Yes	☐ No	Current with data submission:	☐ Yes	☐ No
If no, explain:					

Specify the 12 months utilized for this review: (answer questions below based upon this time period)	From	To:

Number of ED visits due to **injury** during period noted above (includes pts DC to home): **(includes trauma as well as minor injuries)**
Number of **trauma** patients admitted to your facility during period noted above: **(based upon your facility definition of trauma patient)**
Number of **trauma** patients transferred to a Level I/II/III trauma center during period noted above: **(based upon your facility definition of trauma patient)**
Number of **trauma deaths** at your facility, including DOA's, in the last **three years:**
Number of patients meeting trauma code activation criteria in the last year: **(See boxes 1, 2, & 3 of the Trauma Triage Activation Scheme)**
Number of "Trauma Codes/Alerts" activated in the last year: **(All Trauma Codes/Alerts activated using boxes 1-4 of the Trauma Triage Activation Scheme)**
Number of trauma patients meeting the definition for registry inclusion criteria **(Registry inclusion criteria noted below)**

All Trauma Codes/Alerts or any level of trauma team activation (regardless of ICD9 code)

ICD - 9 codes of 800 - 959.9 and 991.0 - 3 (frostbite) and one of the following:

- Trauma deaths that are registered to the hospital
- Inter-facility transfers by ambulance that are admitted to the receiving hospital
- Trauma patients transferred out by ambulance
- Trauma patients admitted from ED to ICU
- Trauma patients admitted to the hospital for > 48 hours

The following are excluded from the criteria:

- Same level falls with isolated hip fractures in patients 60 years of age or older (ICD9 code: 820 - 821)
- Inhalation of food/object (ICD9 code: 933 - 938)
- Late effects/complications from previous trauma (ICD9 code: 905 - 909)

These are not included in the trauma registry, unless they are a trauma code/alert or they have additional an injury code:

- Poisoning (960 - 989.9)
- Hanging (994.7)
- Adult and child maltreatment (995.5 - 995.8)
- Drowning (994.1)

Performance Improvement Program (E)

Submit a list of trauma audit filters currently used for the PI programs (forms) (E)

Describe the process for review of hospital trauma patient care: (E)
(which charts are audited, by whom and what happens to the data obtained etc)

Describe the process for review of pre-hospital trauma patient care: (E)
(which charts are audited, by whom and what happens to the data obtained etc)

Describe the process for morbidity and mortality review of trauma care for all trauma deaths: (E)
(who reviews the cases, what happens with the information obtained, are the deaths graded, etc)

Describe the multidisciplinary trauma committee and their review of trauma patients: (E)
(who are the committee members, how often do they meet and which cases are discussed etc)

Describe the process for assuring and documenting occurrence resolution (loop closure): (E)
(what happens with issues identified and how is this documented as completed etc)

Level V: Describe the process for assuring that an ATLS physician reviews all trauma codes managed by a Nurse Practitioner or Physicians Assistant within 72 hours: (E)

How do you monitor Trauma Team Leader on-site within 20 minutes 24/hours per day: (E)
(and how are issues or concerns addressed)

Trauma Code Activation Protocol (E) (when to activate and who responds)	☐ Yes	☐ No

Submit a copy of Trauma Team Activation Protocol

Trauma Transfer Protocol: (E)	☐ Yes	☐ No

Submit a copy of the Trauma Transfer Protocol

Mass Casualty/Disaster Protocols: (D)	☐ Yes	☐ No

Transfer agreement with a Regional Trauma Center (Level I or II): (E)			☐ Yes	☐ No	
Transfer agreement with the following specialties: (D)					
Burn care	☐ Yes	☐ No	Head/spinal care	☐ Yes	☐ No

Submit a copy of all of the current Transfer Agreements on file

Immediate phone contact with a Level II Trauma Center (E) (Which facility, any issues or concerns)	

EMS communication (two-way communication with EMS): (E)	☐ Yes	☐ No	Explain types, location and concerns

Helicopter landing site available: (D)	☐ Yes	☐ No	Explain Location

Prevention / Public Education

Public education relating to trauma: (D) (Programs, outreach activities (facility-wide and community), collaboration with other institutions, participation in community prevention activities, public education offered related to trauma, effectiveness of prevention programs if monitored etc)

Equipment (E)

Indicate whether ED has the following appropriate equipment for patients of all ages:

Airway control and ventilation equipment: including laryngoscopes, ET tubes, bag-valve-mask, pocket masks and oxygen (in all sizes)	☐ Yes	☐ No
Pulse Oximetry	☐ Yes	☐ No
End-Tidal CO2 determination	☐ Yes	☐ No
Suction Devices	☐ Yes	☐ No
Monitor-Defibrillator	☐ Yes	☐ No
IV fluids and administration devices, including large-bore IV catheters	☐ Yes	☐ No
Gastric Decompression	☐ Yes	☐ No

Drugs necessary for emergency care	☐ Yes	☐ No
Surgical Airway Control: Cricothyrotomy / Trach kit	☐ Yes	☐ No
Surgical Vascular Access Central line / Cut-down kits	☐ Yes	☐ No
Surgical chest decompression, including an insertion tray, chest tubes (up to size 36 Fr.) and drainage system	☐ Yes	☐ No
Spinal immobilization	☐ Yes	☐ No
Current pediatric weight/length based system for drug dosage and equipment	☐ Yes	☐ No

Thermal control equipment for patient	☐ Yes	☐ No	Explain

Thermal control equipment for blood and fluids	☐ Yes	☐ No	Explain

Please list weaknesses and recommendations given at your last trauma designation site visit and indicate how they have been addressed within your trauma program. (A copy of your last survey can be sent to you upon your request).

Items that must be submitted with this application

- ☐ Current ATLS Certifications for ALL providers covering the ED
- ☐ Call Schedule for Physicians/Midlevels from the last 3 months
- ☐ Trauma Audit Filters (forms) for PI process
- ☐ Trauma Team Activation Protocol
- ☐ Trauma Transfer Protocol
- ☐ Transfer Agreements

This application was prepared by: _____ Phone Number _____

I have read and understand the requirements for trauma level designation. All of the information contained in this application is truthful and accurate to the best of my knowledge.

Signed _____

Completed and signed application should be returned to:

North Dakota Department of Health
Division of Emergency Medical Services and Trauma
1720 Burlington Drive
Bismarck, ND 58504
ATTN: Trauma Coordinator

APPLICATION FORM

- The application for designation as a Level IV or V trauma center can be obtained from:

  State Trauma Coordinator at **701-328-1026 or nbrunelle@nd.gov**

  Electronically at the Department of Health DEMST website
  Trauma Designation Application
  https://www.health.nd.gov/epr/emergency-medical-systems/trauma-system/hospital-trauma-designation/

- Hospitals applying or reapplying for Level IV or V trauma center designation shall submit the completed application to the State Trauma Coordinator approximately **three months** prior to the trauma center's expiration date.

- Throughout the application, things will be noted as essential (E) items or desired (D) items. All essential elements must be met in order to obtain trauma level designation. A list of essential and desired criteria is available on the DEMST website:

  Criteria List (essential and desired)
  http://www.ndhealth.gov/trauma/resource/default.asp?ID=311

  All **essential** criteria noted on this list **must be met** prior to sending the application to the State Trauma Coordinator. Items listed as **desired** are felt to improve a facility's ability to provide excellent care to trauma patients but is not essential or practical for every facility.

Application Guidance:

- **Page 2 – Physicians and Mid-level Providers**
  List all providers who have been on-call for trauma code activations or as team leaders for trauma patients during the past 3 month period. This should match with the call schedule that is attached. A copy of a current ATLS card must be submitted for each of these providers. If additional space is needed attach a separate page.

- **Page 2 – Continuing Education**
  ATLS, ACLS, PALS, TNCC, ATCN, PHTLS
  Any trauma related in-services or trauma conferences

- **Page 2 – Nurses Staffing the ED**
  List the number of nurses trained to care for trauma patients in the emergency room followed by the number who are current in either TNCC or ATCN. This is **NOT** how many are on each shift

- **Page 3 – Continuing Education**
  ATLS, ACLS, PALS, TNCC, ATCN, PHTLS
  Any trauma related in-services or trauma conferences
  Trauma or disaster drills
  Skills fairs

- **Page 3 – Lab Department**

If certain tests are only available through "send out", note this as a comment

- **Page 4 – Specify the 12 months utilized for this review**
  Hospitals shall use the most recent 12-month period for determining the number of trauma patients. The dates chosen should coincide with charts that have gone through the PI/QA process at your facility.
  (probably a 12-month period starting three months prior to the application date)

- **Page 4 – Number of ED visits due to injury during the period noted above**
  Injury patients will include all patients who came into the emergency room with some type of injury (minor and major). This includes those patients who are entered into the trauma registry and those who are not. It includes patients meeting trauma code activation and those who do not. This is regardless of discharge disposition.

- **Page 4 – Number of trauma patients admitted to your facility during the period noted above**
  Trauma patients will include those patients who meet your facility's definition of a trauma patient. This definition will often include patients that meet trauma registry inclusion criteria or those who were trauma code activations. This number will include only trauma patients who were admitted to your facility in either an inpatient or observation status.

- **Page 4 – Number of trauma patients transferred to a Level I/II/III trauma center during the period noted above**
  Trauma patients will include those patients who meet your facility's definition of a trauma patient. This definition will often include patients that meet trauma registry inclusion criteria or those who were trauma code activations. This number will include only trauma patients who were transferred from your facility to a Level I/II/III trauma center.

- **Page 4 – Number of trauma deaths at your facility, including DOAs in the last three years**
  This number should include all trauma deaths that arrive in the emergency room and for whom some type of documentation is created at your facility during the past **three year period.**

- **Page 4 – Number of patients meeting trauma code activation criteria during the time period noted above**
  This number should include only those trauma patients meeting the activation criteria noted in boxes 1, 2 and 3 of the **Field Triage of Injured Patients**

Field Triage Decision Guide
https://www.health.nd.gov/epr/emergency-medical-systems/trauma-system/hospital-trauma-designation/

Box 1

Glasgow Coma Scale	≤13
Systolic BP	<90 mmHg
Respiratory Rate	<10 or >29 breaths per minute or need for ventilator support (<20 in infant aged <1 year)

Box 2

All penetrating injuries to head, neck, torso and extremities proximal to elbow or knee
Chest wall instability or deformity (ex. flail chest)
Two or more proximal long-bone fractures
Crushed, degloved, mangled or pulseless extremity
Amputation proximal to wrist or ankle

Box 3

Falls
- Adults > 20 feet (one story is equal to 10 feet)
- Children >10 feet or 2-3x the height of the child

High-risk auto crash
- Intrusion of any side or roof of >12" on occupant site or 18" any site
- Ejection (partial or complete) from automobile
- Death in same passenger compartment
- Vehicle telemetry data consistent with a high risk of injury

Auto vs pedestrian/bicyclist thrown, run over or with significant (>20 mph) impact

Motorcycle crash >20 mph

- **Page 4 – Number of "Trauma Codes / Alerts" <u>activated</u> in the last year**
  This number should include all trauma patients meeting trauma code activation criteria as noted in boxes 1, 2 and 3 of the **Field Triage of Injured Patients** as noted above but also box 4 of the **Field Triage of Injured Patients** as noted below

Box 4

Older Adults
- Risk of injury/death increases after age 55 years
- SBP <110 may represent shock after age 65
- Low impact mechanisms (ex. ground level falls) may result in severe Injury

Children
- Should be triaged preferentially to pediatric capable trauma centers

Anticoagulants and bleeding disorders
- Patients with head injury are at high risk for rapid deterioration

Burns
- Without other trauma mechanism: triage to a burn center
- With trauma mechanism: triage to a trauma center

Pregnancy >20 weeks

EMS provider judgment

- **Page 4 – Trauma patients meeting the definition for trauma registry inclusion**

  All Trauma Code Activations or Alerts (regardless of ICD9) code)

Trauma Center Designation Criteria (23-01.2-03)
Levels IV and V

E = Essential D = Desirable

TRAUMA PROGRAM / SYSTEM (33-38-01-02)

- ☐ Trauma program (ACS 1.1) E
- ☐ Trauma team (33-38-01-13) E
- ☐ Surgical Department (ACS 2.1) D
- ☐ Anesthesia Services (ACS 11.1) D
- ☐ Helicopter landing sites (ACS 3.4) D
- ☐ EMS communication (two-way communication with EMS) (ACS 3.1) E

HOSPITAL PERSONNEL

- ☐ Trauma coordinator (ACS 5.8) E
- ☐ Performance Improvement personnel (ACS 5.10) E
- ☐ Designated Trauma Medical Director (ACS 5.3) E
- ☐ Trauma team leader (Physician, Nurse Practitioner or Physician Assistant as noted below) on-call and on-site within 20 minutes 24 hours per day (33-38-01-13) E

TRAUMA POLICY / GUIDELINES

- ☐ Trauma code activation protocols (33-38-01-04) E
- ☐ Trauma team response (activation plan) (33-38-01-13) E
- ☐ Phone contact with a higher level trauma center (ACS 4.1) E
- ☐ Posted on call schedule for trauma team leader (ACS 2.5) E
- ☐ Local emergency medical services transport plans (33-38-01-04) E
- ☐ Disaster and Mass casualty protocols (ACS 20.1) D

CONTINUING EDUCATION

- ☐ ***Level IV*** – Physicians who have successfully completed and are current in ATLS (33-38-01-13) E
- ☐ ***Level V*** – Physician or Nurse Practitioner/Physician Assistant who have successfully completed and are current in ATLS (33-38-01-14) E
- ☐ Nursing personnel with trauma specific education who provide continual monitoring of the trauma patient (TNCC or ATCN) (ACS ch17) D
- ☐ Pre-hospital personnel and allied health personnel have trauma specific education (ACS ch17) D

LABORATORY SERVICES

- ☐ Available 24 hours per day (ACS 11.9) E
- ☐ Standard analysis of blood, urine, and other body fluids (ACS 11.9) D
- ☐ Blood typing (ACS 11.9) D
- ☐ Comprehensive blood bank or access to blood bank (ACS 11.9) D
- ☐ Coagulation studies (PT/PTT) (ACS 11.9) D
- ☐ Blood gases and pH determinations (ACS 11.9) D
- ☐ Microbiology (ACS 11.9) D
- ☐ Drug and alcohol screening (ACS ch 9) D
- ☐ TXA (Tranexamic Acid) D

DIAGNOSTIC IMAGING

- ☐ X-ray availability, 24 hours per day (ACS 11.3) E

EQUPMENT FOR RESUSCITATION OF PATIENTS OF ALL AGES SHALL INCLUDE BUT IS NOT LIMITED TO: (33-38-01-13 and 33-38-01-14)

- ☐ Airway control and ventilation equipment, including laryngoscopes, endotracheal tubes, bag-valve-mask, pocket masks and oxygen — E
- ☐ Pulse oximetry — E
- ☐ End-title CO_2 — E
- ☐ Suction devices — E
- ☐ Monitor-defibrillator — E
- ☐ Standard intravenous fluids and administration devices, including large-bore intravenous catheters and IO (intraosseous vascular access system) — E
- ☐ Gastric decompression — E
- ☐ Drugs necessary for emergency care — E
- ☐ Surgical sets for airway control, cricothyrotomy, chest decompression including 32 Fr chest tubes, drainage setup, and insertion tray — E
- ☐ Spinal immobilization — E
- ☐ Pediatric weight/length based drug dosage and equipment system — E
- ☐ Thermal control equipment for patients — E
- ☐ Thermal control equipment for blood/fluids — D
- ☐ Video Guidance – Glidescope, Rescue Scopes and / or King Vision — D

PERFORMANCE IMPROVEMENT PROGRAM

- ☐ Trauma registry submission to state trauma program (33-38-01-08) — E
- ☐ Performance improvement program (23-01.2-01) — E
- ☐ Trauma Medical Director or Designated provider present at 50% of regional Performance Improvement Meetings (ACS 7.3) — E
- ☐ Focused audit of selected criteria and patient care of trauma cases (33-38-01-08) — E
- ☐ Review of hospital and pre-hospital trauma care (ACS 3.1) — E
- ☐ Morbidity and mortality review (33-38-01-08) — E
- ☐ Multidisciplinary committee to review trauma patients (ACS 5.2) — E
- ☐ The process demonstrates occurrence resolution (loop closure) (ACS 16.18) — E
- ☐ ***Level V-*** ATLS physician review of all trauma codes managed by a Nurse Practitioner or Physician Assistant within 72 hours (33-38-01-14) — E
- ☐ Participation in research projects — D
- ☐ Critical Skills verification (ACS 5.2) — D

PREVENTION / PUBLIC EDUCATION

- ☐ Collaboration with other institutions (ACS ch 18) — D
- ☐ Monitor progress/effectiveness of prevention programs (ACS ch18) — D
- ☐ Outreach activities (ACS ch17) — D
- ☐ Participation in community prevention activities (ACS 18.1) — D
- ☐ Provide public education regarding trauma (ACS 17.1) — D

TRANSFER AGREEMENTS

- ☐ Transfer agreement with regional trauma center (Level I or II) (33-38-01-13) — E
- ☐ Transfer agreement with the following specialties: (33-38-01-13)
  - ☐ Burn care — D
  - ☐ Rehabilitation — D
  - ☐ Pediatric care — D
  - ☐ Head/spinal care — D

Checklist derived from the:
2014 Resources for Optimal Care of the Injured Patient; ACS and North Dakota Trauma System Plan Administrative Rules Chapter 33-38

SITE VISIT

- The designation site visit is not intended to be threatening. The Review Team is there to help you provide optimal care for trauma patients

- The designation site visit will typically take 3-4 hours

- Please take the opportunity to ask questions throughout the entire site visit

- When the Review Team arrives, they should be directed to a meeting room where they can work

- The Review Team will spend a few minutes introducing ourselves and explaining what we are going to do and why. This is an informal meeting but is often the time that we meet the Trauma Coordinator, Administrator, DON, and other members of your team. Your facility can use its own discretion as to who should attend.

- Generally, the Review Team will begin with a tour the Emergency Room. During the tour, the reviewers will be looking at the equipment and supplies available. A list of essential and desired equipment can be found under Level IV and V Designation Criteria on our website at: https://www.health.nd.gov/epr/emergency-medical-systems/trauma-system/hospital-trauma-designation/

- The Review Team will talk specifically to the managers of the Radiology and Lab departments. Questions asked will include response times and testing capabilities specific to their departments as well as quality assurance activities they are involved in.

- The majority of the time that the Review Team is at your facility will be spent reviewing actual trauma cases.

- About 1 week prior to the site visit, the Trauma Coordinator will be sent a list describing the patient records that we would like available for our review. If reviewing paper charts, these should be separated into piles such as deaths, transfers and admissions.

- If the trauma charts will be reviewed electronically, a list of the cases should be made for each of the review team members separated into deaths, transfers and admissions. It is important that staff be available to assist the Review Team with locating necessary information and documents electronically. And there should be computers available for each of the Review Team members.

- The patient records will be reviewed to assure quality care standards are met for all trauma patients.

- The Review Team will ask a number of questions related to the performance improvement/ quality assurance (PI/QA) process. Attempts will be made to match the patient records with the PI/QA process that occurs at your facility. It is important that

staff involved in this process be available to assist the Review Team and answer questions related to your PI/QA process.

- When the Review Team has reviewed the patient records and has asked all of our questions, the Review Team will meet spend a few minutes together. They will compare notes and discuss findings or formulate additional questions. This process takes about 15 minutes. During this time, your facility can gather the staff it would like present for the Exit Interview.

- An Exit Interview is held at the end of the site visit. This meeting is typically attended by the Trauma Coordinator, Administrator, DON and Medical Providers, if available. EMS personnel and/or other members of the trauma team may be invited as deemed appropriate by the facility. During the Exit Interview the findings of the Review Team are shared and explained. Your facility's strengths and weaknesses within the trauma program are identified as well as recommendations for improvement.

AFTER THE SITE VISIT

- After the site visit, the Review Team will prepare a site visit report identifying strengths, weakness and recommendations for improvement.

- The application will be blinded and sent out to the voting members of the State Trauma Committee along with a copy of the application at least one week prior to the next scheduled meeting.

- The voting members of the State Trauma Committee will review the blinded application and the site visit report. Based upon this information, the designation will be approved, approved for limited period or denied.

- **DESIGNATION APPROVED**:

    - The designation will be for a period of up to three years
    - A certificate of designation, signed by the State Health Officer will be sent to the facility as soon as possible following the determination
    - The certificate will note the designation period
    - The facility will also receive a copy of the site visit report.

- **DESIGNATION APPROVED FOR LIMITED PERIOD**

    - If the State Trauma Committee feels that there are weaknesses or concerns noted in the report which prevent a full three year designation period from being granted, the committee may grant a period of less than three years for the designation.
    - The limited designation period may vary from 3-12 months in length
    - A focused review will be conducted with the facility during the designation period
    - If possible, the same Review Team will conduct the focused review
    - The Review Team will look specifically at the weakness and recommendations identified during the previous visit
    - The facility will receive a trauma center designation certificate with an expiration date that corresponds with the end of the limited period designation as soon as possible following the determination
    - The focused review may be conducted on-site or via BTWAN depending on the area of concern to be addressed
    - The report generated from the focused review will be handled in the same manner as the initial site visit report and will be reviewed by the State Trauma Committee who will make the designation determination.

- **DESIGNATION DENIED**

    - If the State Trauma Committee feels that the areas of weakness or concern are significant enough the designation may be denied
    - The facility will receive a written notice identifying which criteria were not met

- The State Trauma Coordinator can be utilized as a resource person for the facility to work towards meeting the criteria
- The Department of Health, Division of Health Facilities will be notified of the denial of designation as maintaining trauma center designation is a requirement
- In order for a facility to obtain trauma level designation following a denial, the facility would need to resubmit a designation application and start the process over when the areas of concern have been addressed.

CHANGING DESIGNATION LEVEL

- A Level IV trauma center wanting to change their designation to a Level V trauma center must submit a written request from the facility Administrator to the State Trauma Coordinator.

- The State Trauma Coordinator can approve the change from a Level IV to a Level V trauma center without a State Trauma Committee vote if all the necessary requirements have been met.

- The State Trauma Coordinator will inform the State Trauma Committee of the change at the next schedule committee meeting.

- The Level V trauma center designation will be issued for the remainder of the designation period. The trauma center designation cannot be extended beyond the original expiration date.

- An official letter accepting the change of designation will be sent to the Administrator of the facility.

- A new certificate of designation, signed by the State Health Officer will be sent to the facility.

- The certificate will note the same expiration date as the prior designation period.

FACILITY PERFORMANCE IMPROVEMENT

FACILITY PI PROCESS

The mission of the performance improvement (PI) process is to continuously improve trauma care outcomes. Each facility can perform PI in a manner that best fits with the structure and resources at their facility. The system must be designed to monitor and review trauma patient care and system issues and assist with providing feedback and education to the trauma team members.

PI within the trauma system assures that the right patient gets the right care in the right amount of time through the use of evidenced based practices and appropriate transfers whatever the injury may be.

PI is about knowing how good your trauma center is and exactly why and how you can make the claim that your care is optimal. It involves three key components, identification (indicators), measurement and dissemination. Identification is the process of identifying what is important. It relies upon predefined indicators or goals to review trauma care. Measurement is the actual measuring that occurs, the audits, the comparison to prior time periods, benchmarks or facilities. Dissemination is the actual informing or educating of others about the results. The dissemination is what brings about change and improvement.

INDICATORS

- An indicator helps you to identify areas of concern
- An indicator is something that you can measure
- An indicator is the goal you are working towards

Indicators should be specific to the facility and the situation.
Indicator lists should not include every possible goal but focus on 5-10 well-defined goals for both hospital and pre-hospital aspects of trauma patient care.
A list of possible PI indicators can be found on the DoH trauma website. This list is not intended to be used in its entirety but gives some ideas of both pre-hospital and hospital indicators which can be used or edited to fit a facility's needs.

AUDITS

Once the performance indicators are selected for your facility, there are many tools that can be utilized to perform the actual chart audits.

Keep the audit tool simple and incorporate yes/no questions.
Ideally all of the questions should be worded to achieve either all "yes" or all "no" responses. This is preferable to a form that allows some questions to elicit a yes response for the first question and a no response for the second question. The form should allow a determination to be made quickly as to which indicators are not met.
The number of charts audited is facility specific. **Due to the limited number of trauma cases that present to most of the Level IV and V designated trauma centers most facilities audit every trauma code activation or case that meets registry inclusion criteria.**

If the facility has a large number of trauma code activations annually or large numbers of cases

that meet registry inclusion criteria, then a percentage of the trauma code activation cases should be reviewed. For facilities that audit a percentage of their trauma cases, any cases that have a critique that falls out as not being met (see trauma registry for list of current critiques) should be audited through the facilities PI process if not already done so.

See Trauma Resources for examples of audit tools:
https://www.health.nd.gov/epr/emergency-medical-systems/trauma-system/hospital-trauma-designation/

The audit should give you information on how well you are doing.
The audit should create concrete numbers so you know what you need to improve.

FOLLOW-THROUGH
Any trauma cases that are audited and are noted to have indicators that are not met need to be followed up on. The follow-up needs to occur in a timely manner to prevent further compromise in patient care.

There are many ways in which to assure appropriate follow-up has occurred and is documented and will often be dependent upon the indicator that fell out.

Investigate the issue

- Regardless of the indicator that falls out - it is imperative to learn the facts
- This involves talking to those involved with the situation or patient care
- Investigating does not blame or point fingers
- Investigating seeks to truly understand the issue – why was the standard not met?
- Investigation can be formal or informal
    - **Formal investigation** involves using tools such as cause and effect or fishbone diagrams
    - **Informal investigation** involves talking to those involved and documenting the findings

Identify issues

- Investigation should identify the issues that may be impacting performance
- There may be more than one issue or cause identified

Take action

- It is imperative that issues identified are followed-up on
- This can be formal or informal
- Formal action can involve using a "Plan, Do, Study Act" format
- Informal action can involve simply talking and educating the individuals involved in the issue
- It is essential to have documentation to show that action actually occurred

Occurrence resolution

- Occurrence resolution involves closing the loop
- It involves going back and auditing or measuring performance again to assure

that the action that was taken has resolved the issue
- It is a way to track improvement and trend for patterns
- Documentation continues to be critical
- If performance is not improved, once again investigate, identify other possible issues or causes and take appropriate action

PI is a continuous process that involves identifying the indicators that are important to the quality care your facility provides, measuring those indicators and reporting on them. The documentation of this process is an important component regardless of how insignificant the issue appears, it shows commitment to improvement and change.

MULTIDISCIPLINARY COMMITTEE

The PI process should not be done by one individual auditing charts and following through on issues identified. The PI process for trauma patients requires the use of a team approach to thoroughly assess and review of the care and system issues involved.

Members
The Multidisciplinary Trauma Committee should be a committee comprised of the various trauma team members. The team members can by facility specific but should be multidisciplinary to allow an open and objective review of the care received by the trauma patient. Typically this includes the Physicians, Midlevel Providers, Nursing Administration and the Trauma Coordinator. Some facilities include EMS, Radiology, Lab personnel and Administration.

Confidentiality
Confidentiality forms should be obtained from all team members and stored by the facility.

Meeting Frequency
The frequency of the Trauma Committee meetings will be facility dependent. Facilities with a large number of trauma cases may want to meet on a monthly basis. Most facilities will have numbers that are more conducive to meeting on a quarterly basis. A schedule for this committee to meet should be created and followed.

Some facilities will opt to conduct the Trauma Committee meetings in conjunction with their Medical Staff meetings or with Peer Review meetings to increase provider participation.

Meeting Minutes
Trauma Committee meeting minutes need to reflect the cases reviewed, any audit issues or care concerns identified as well as the action plan for occurrence resolution.

MORTALITY REVIEW

All deaths related to trauma need to be reviewed by a provider as well as reviewed within the Trauma Committee. Facilities are encouraged to grade their mortalities using the definitions and mortality determination categories put out by the American College of Surgeons.

MIDLEVEL PROVIDER

Level V designated trauma centers may utilize Nurse Practitioners or Physician's Assistants who have successfully completed and who are current in ATLS, as trauma team leaders within their emergency room for trauma patients. Any case in which the trauma team leader is a Nurse Practitioner or Physician's Assistant (Midlevel Provider) needs to be reviewed by a physician who is current in and who has successfully completed ATLS within 72 hours.

INDICATORS – a list of possible Performance Improvement Indicators (Any "NO" responses would need to be addressed)

Pre-Hospital:

- Pre-hospital record (EMS trip ticket or run report) was available at time of review (within 2 hours)
- Pre-hospital record is legible and appropriate
- All pre-hospital care was appropriate and in compliance with facility protocols and guidelines
- EMS scene time was <20 minutes
- Trauma code was activated when trauma code criteria met
- All trauma patients arriving by EMS had their airway appropriately maintained in route
- All trauma patients had appropriate spine immobilization upon arrival (c-collar / backboard)
- All trauma patients with active bleeding had the bleeding addressed and bleeding control attempted
- All trauma patients with potential for hypothermia had warming techniques initiated
- All trauma patients had IV access attempted by EMS when appropriate

Hospital:

- Trauma Team leader response time to trauma code activations was <20 minutes
- All trauma team member response times to trauma code activations was documented
- All trauma team member response times to trauma code activations was <20 minutes
- All patient leaving the ED with GCS <8 had a definitive airway established (ETT)
- Trauma code was activated when trauma code criteria met
- Length of stay in ED was <2 hours prior to transfer to a tertiary trauma center (Level I or II)
- Radiology preliminary read was consistent with the radiology final read

- Nursing documentation was filled out accurately and completely with no missing documentation
- Vascular access was obtained within in 5 minutes of admission to the ED for Trauma Code activations
- Intraosseous access was performed if IV access not obtained within 5 minutes (or after 2 attempts) for Major Trauma Code activations
- Two large bore IV's were placed in all trauma code activations
- Vital Signs (BP, T, HR, RR and GCS) was documented every 20 minutes (or documented least twice)
- Patient temperature was taken with initial vital signs
- Burn patients with inhalation injury had a definite airway established (ETT)
- If CT scans were performed, they were performed within 30 minutes of arrival in the ED
- If CT scans were performed, they did not delay patient transport to appropriate level of care
- If CT scans were performed, they were necessary to determine appropriate patient treatment/ transfer
- Endotracheal tube placement was obtained without delay (within 30 seconds of attempt)
- Endotracheal tube placement was confirmed
- Initial ABC assessment was performed / documented on all trauma patients
- Lab draws were performed within 15 minutes of patient arrival in the ED
- Warming measures were initiated on patients with trauma code activations (room/blankets/fluids)
- Back board removal was considered within 20 minutes for all immobilized patients
- Trauma patients discharged from the ED to home did not return to the hospital/ED within 72 hours related to the traumatic event
- Injuries or additional diagnosis were not discovered >24 hours after the ED stay (no missed or delayed diagnosis)
- When a Physician's Assistant or Nurse Practitioner is the team leader for a trauma code activation, there is documentation that the care was reviewed by a physician within 72 hours

MORTALITY DEFINITIONS

MORTALITY WITHOUT OPPORTUNITY FOR IMPROVMENT (NON-PREVENTABLE)

An event or complication that is a sequela of a procedure, a disease, an illness, or an injury for which reasonable and appropriate preventable steps had been taken

> *Example:* A gunshot wound to the head with a GCS of 3 on arrival and subsequent death, posttraumatic pancreatitis, pneumonia, DVT and so on in patients who had appropriate preventative steps taken. Most deaths and morbidities fall into this category.

ANTICIPATED MORTALITY WITH OPPORTUNITY FOR IMPROVEMENT (PREVENTABLE)

An event or complication that is an expected or unexpected sequela of a procedure, a disease, an illness, or an injury that is likely to have been prevented or substantially ameliorated, had appropriate steps been taken.

> *Example:* A patient admitted with abdominal distention and shock that dies from a ruptured spleen two hours later while waiting for a surgeon. Death as a result of a missed epidural hematoma or esophageal intubation may be preventable. A missed fracture resulting from failure to examine the patient may be a preventable mortality. Preventable mortalities should be very unusual in a mature trauma system.

UNANTICIPATED MORTALITY WITH OPPORTUNITY FOR IMPROVEMENT (POTENTIALLY (POSSIBLY) PREVENTABLE)

An event or complication that is a sequela of a procedure, a disease, an illness or an injury that has the potential to be prevented or substantially ameliorated

> *Example:* A potentially preventable mortality may be an elderly trauma patient with a severe head injury who develops a fatal arrhythmia from an electrolyte abnormality. The arrhythmia may not have been preventable, but it is unlikely that the death was; therefore, the death is deemed "potentially preventable". A patient suffering a preventable morbidity that subsequently expires after being declared DNR by family or advanced directive may be determined to be a potentially preventable mortality. There is no precision in these determinations; these are clinical judgments based upon the best available evidence.

Mortality Determination Categories – from the American College of Surgeons (ACS)

Old ACS Terminology	New ACS Terminology	Definition
Non-preventable	Mortality **without** opportunity for improvement	Result of procedure, disease, illness, injury; appropriate preventable steps were taken
Preventable	Unanticipated mortality **with** opportunity for improvement	Unexpected result that could have been prevented or ameliorated
Possibly (Potentially) Preventable	Anticipated mortality **with** opportunity for improvement	Result of procedure, disease, illness, injury; potential to be prevented or ameliorated

Opportunity for Improvement:

A realization that conditions exist in structures and/or processes of care where modification could reduce the incidence of real or potential adverse events or ideally, improve outcome.

Contributing Factors related to Morbidity and Mortality:	
Errors	Diagnosis
	Determination
	Interpretation
	Technique
	Communication
Delays	Diagnosis
	System inadequacy
	Protocol inadequacy
	Care inappropriate

TRAUMA REGIONS

NORTH DAKOTA
DEPARTMENT *of* HEALTH
Division of EMS and Trauma

What is ATLS and why is it required?

ATLS or Advanced Trauma Life Saving is a training program for physicians, physician's assistants and nurse practitioners in the management of acute trauma patients. The course was developed by the American College of Surgeons and teaches a simplified and standardized approach to trauma patient care. ATLS is widely accepted as the standard of care for initial assessment and treatment in all levels of trauma centers. It advocates that life-threatening injuries need to be treated immediately, with the most time-critical interventions performed as early as possible. The course also reinforces skills that are rarely used in rural facilities, but which are critical in a trauma situation, such as intubation and chest tube placement.

What does trauma level mean?

Level V – (30 facilities)

Level V facilities are designated by the Department of Health with assistance of staff from the Level II facilities. A Level V facility must provide evaluation, stabilization and appropriate diagnostics for each trauma patient presenting to their emergency room. When appropriate, these patients must be transferred to a higher level of care. The facility must meet specific equipment requirements. Data from each of their trauma patients must be entered into the trauma registry for statistical analysis. The patient records are audited and reviewed to assure that quality patient care is given to every trauma patient. An ATLS certified physician, physician's assistant or nurse practitioner must be available 24 hours a day to care for injured patients.

Level IV – (8 facilities)

Level IV facilities are held to the same standards as Level V, and additionally are required to have a physician rather than a physician's assistant or nurse practitioner available 24 hours a day to care for the injured patient.

Level III – (0 facilities)

Level III trauma centers are verified by the American College of Surgeons. Level III facilities do not have the full availability of physician specialists available at a Level I or II facility, but do have resources for emergency resuscitation, surgery and intensive care of most trauma patients. The same care, equipment, data entry and performance improvement requirements remain as in Level IV and V.

Level II – (6 facilities)

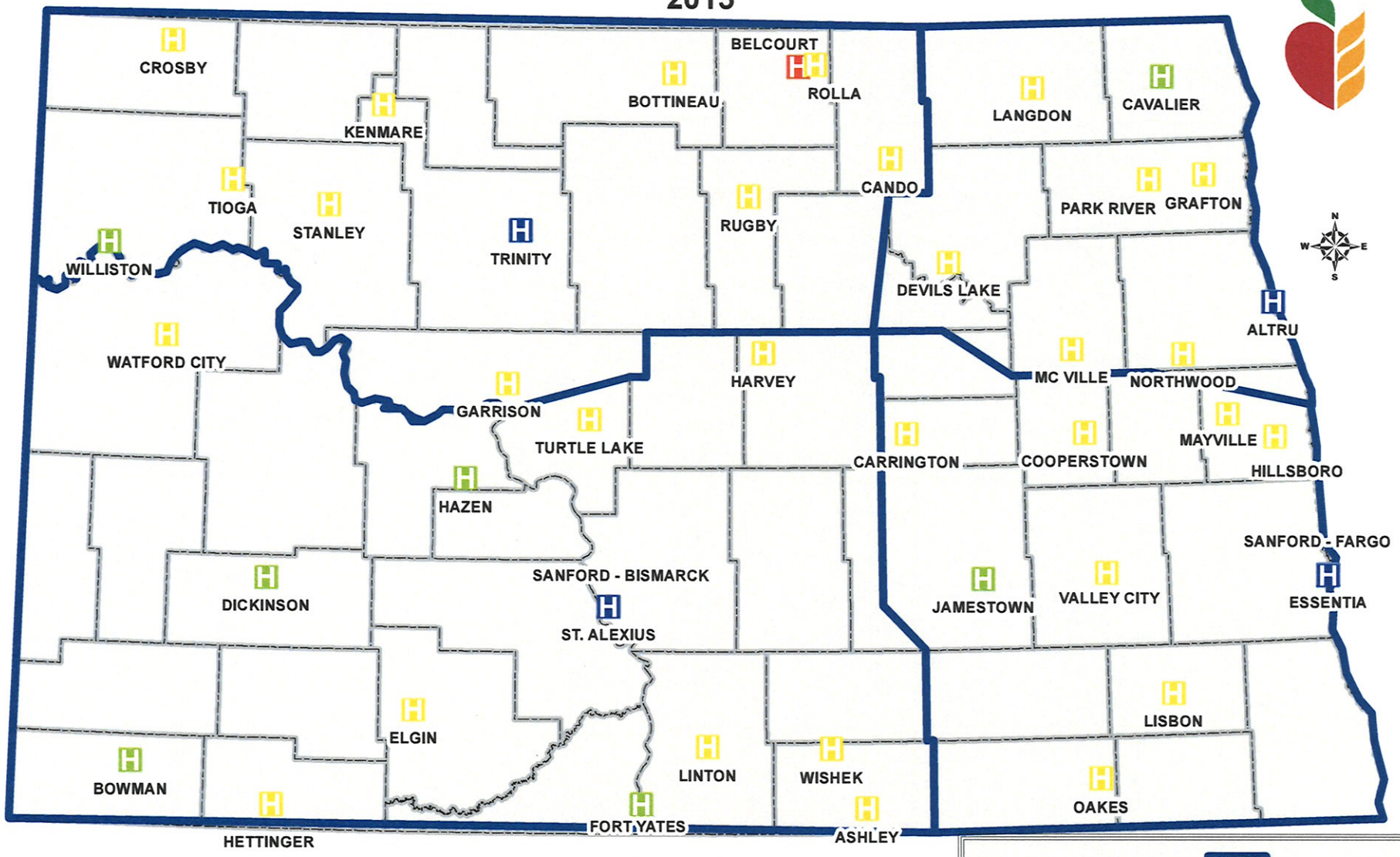
Level II trauma centers are verified by the American College of Surgeons. The Level II facilities in our state function at nearly the same level as a Level I facility. They attempt to assure 24 hours a day coverage of the various surgical specialists. They perform rigorous performance improvement, community education and injury prevention services. Level II Trauma Medical Directors and Coordinators within North Dakota help in the designation process for the Level IV and V facilities in the state, and providing follow-up on patient care outcomes.

Level I – (0 facilities)

Level I trauma centers are verified by the American College of Surgeons. A Level I Trauma Center provides the highest level of surgical care to trauma patients with requirements for various surgical specialists to be available 24 hours a day. There are requirements for minimum annual volumes of severely injured patients. Additionally, a Level I center has research requirements related to trauma and is a leader in trauma education, injury prevention, and is a referral resource for communities in nearby regions.

8-2015

North Dakota Trauma System
2015



North Dakota Department of Health
Division of EMS and Trauma
LBN
8/26/2015

0 15 30 60 Miles

Trauma Levels

- H Not Designated
- H II
- H IV
- H V

Trauma Regions
Counties

REGIONAL TRAUMA COMMITTEES

REGIONAL TRAUMA COMMITTEES

The state of North Dakota is divided into four regions. These regions are determined by the facilities primary transfer and referral patterns. There are 1-2 Level II designated trauma centers within each region. The NE and SE regions have combine their meetings to increase participation and discussion.

The regional trauma committee membership is encourage for those individuals who are directly involved with trauma care within each of the regions. At a minimum this should be the trauma coordinator at the trauma designated facility. It is strongly encouraged to have physician and midlevel provider participation as well as DON and ED management but this is determined by individual facilities.

The regional trauma committees meet quarterly via BTWAN or teleconference
(January – April – July – October)
All meetings are held at noon central time. (CST)

SW Region – 2nd Wednesday
NW Region – 2nd Thursday
NE/SE Region – 3rd Tuesday

The State Trauma Coordinator coordinates each of the regional trauma committee meetings and assists the committee in carrying out its functions. A meeting agenda will be sent out shortly before each of the scheduled meetings to the Trauma Coordinators to disperse as appropriate within their facility. The meeting will consist of news and updates pertinent to trauma services.

The Regional Trauma Committee meeting will be followed by a Regional Performance Improvement meeting. Only those committee members who have a signed a confidentiality statement on file with the Department of Health are allowed to participate in the performance improvement portion of the meeting. To obtain a confidentiality form to complete, contact the State Trauma Coordinator.

Each region shall appoint a Regional Chairman. The Regional Chairman will be responsible to lead the performance improvement portion of the meeting. They shall lead the discussion and assist with identification of educational opportunities related to the case.

Regional Trauma Committees Responsibilities:

1. Oversee the trauma care system operations in respective region.

2. Review and approve all local EMS transport plans.

3. Disseminate information from the State Trauma Committee and the North Dakota Department of Health.

4. Review regional trauma system data and quality improvement activities.

Listing of hospitals based on the trauma region:

SOUTHWEST
Ashley
Bismarck (St. Alexius)
Bismarck (Sanford)
Bowman
Dickinson
Elgin
Fort Yates
Harvey
Hazen
Hettinger
Linton
Mobridge SD
Turtle Lake
Watford City
Wishek

Chair:
Dr. Viney

NORTHWEST
Belcourt
Bottineau
Cando
Crosby
Garrison
Kenmare
Minot
Rolla
Rugby
Stanley
Tioga
Williston

Chair:
Dr. Sather

NORTHEAST
Cavalier
Devils Lake
Grafton
Grand Forks
Langdon
McVille
Northwood
Park River

Chair:
Dr. Szlabick

SOUTHEAST
Breckenridge MN
Carrington
Cooperstown
Fargo (Essentia)
Fargo (Sanford)
Hillsboro
Jamestown
Lisbon
Mayville
Oakes
Valley City

Chair:
Dr. Richardson

REGIONAL PERFORMANCE IMPROVEMENT

REGIONAL
PERFORMANCE IMPROVEMENT PROCESS

MISSION

The mission of the performance improvement process is to continuously improve trauma care outcomes through the development of Regional Performance Improvement (PI) committees. The regional committees will utilize data obtained from the State Trauma Registry and from regional Level II designated trauma centers to monitor trauma patient care and system issues and to assist with providing feedback and education.

OBJECTIVES

- The Department of Health and the State Trauma Committee in conjunction with the regional hospitals will organize the regional performance improvement process.

- The Regional PI committee will work to establish an atmosphere of trust in a confidential forum where participants in a region's trauma care system can meet to:
    - Continuously work to improve the quality of trauma care as well as to measure patient outcomes
    - Identify opportunities for system improvement
    - Network and build collaborations
    - Share insights and challenges

- The Regional PI committees are encourage to use performance improvement principles which will:
    - Focus on improving patient outcomes
    - Identify specific improvement projects
    - Identify opportunities for education and improvement

- The scope of the Regional PI committee includes:
    - Process and procedures for ongoing assessment of the trauma system which includes state statutes and administrative rules
    - Maintaining the confidentiality of patient care outcome, minutes, records and reports of these meetings
    - A plan for providing feedback to the providers, facilities and the State Trauma Committee
    - Process and procedures for ongoing assessment of trauma care according to the current ATLS guidelines

CONFIDENTIALITY

Confidentiality agreements will be signed by all participants attending the Regional PI committee meetings.

Regional Performance Improvement
Level IV and V

- The state is broken into four regions based upon referral/transfer patterns. Meetings are held on a quarterly basis (January, April, July, October) in each of the regions with performance improvement component to discuss cases from that region. (See regional trauma committee meetings)

- Trauma cases meeting specific performance improvement (PI) indicators are identified from data submitted to the trauma registry each quarter for possible discussion.

- If a trauma case has an indicator that falls out from one of the critiques, the facility will be contacted by the State Trauma Coordinator for additional information related to the case.

- The facility will be required to complete a PI abstract form with additional information related to the identified case prior to the quarterly PI meeting.

- The completed PI abstract form should be returned to the State Trauma Coordinator at least 1 week prior to the regional meeting.

- The State Trauma Coordinator will compile a summary of all of the cases for discussion and will forward this out to all of the regional participants prior to the meeting.

- The State Trauma Coordinator will contact the Level II facility, eEmergency and flight services if they are involved in the patient care and invite them to participate in the case discussion.

- Each facility will be responsible to identify a person to present the cases identified from their facility at the regional PI meeting. This person should be prepared to answer questions directly related to the case and the care provided.

- Following the regional PI meeting, the case summaries for each facility along with any discussion points or recommendations for that specific facility, will be compiled by the State Trauma Coordinator and sent out to the facility. The letters will be e-mailed to the Trauma Coordinator and a hard copy mailed to the facility's Trauma Medical Director. The reports should be reviewed by the Medical Director and the Trauma Coordinator at the Trauma Committee meetings or in a manner in which the information can be shared with others involved with the case.

- Statistical data and a compilation of recommendations or discussion points from all of the regions will be combined into regional and state reports which will be shared with the regional and the state trauma committee members.

NORTH DAKOTA
DEPARTMENT of HEALTH

EMERGENCY PREPAREDNESS
AND RESPONSE SECTION
Division of Emergency Medical Systems
1720 Burlington Drive
Bismarck, N.D. 58504
www.ndhealth.gov/ems

North Dakota Department of Health
Trauma Performance Improvement Meeting
Participant Confidentiality Statement

I acknowledge that privacy and security are of great importance to anyone who uses or has access to individually identifiable health information or other confidential information that is created or maintained for or during the Trauma Performance Improvement Meeting. I agree that every individual who uses or has access to confidential information must recognize his or her responsibility to preserve the privacy and security of that information.

I agree that it is my responsibility to be knowledgeable about and to comply with the privacy rules and the laws and rules relating to the disclosure of confidential information.

I agree that I will not use or disclose confidential information verbally, electronically or in a written format unless I am authorized by state or federal law.

I understand that if I disclose confidential information, I may be subject to civil or criminal penalties and/or disciplinary action.

I agree not to access confidential information for any reason other than the performance of my duties for Trauma Performance Improvement.

I understand that I am legally obligated to continue to maintain confidentiality after I am no longer involved in the Trauma Performance Improvement meetings.

By signing this, I acknowledge that I have read, understand and will comply with this statement.

_____
Employee's Name and Title (print or type)

_____
Employee's Signature

_____
Date

_____
Facility or Agency – Please be specific

Phone: 701.328.1026 Fax: 701.328.0357

Regional Performance Improvement Abstract Form

Hospital Name: _____ Locum Provider? ☐ Yes ☐ No

Patient Gender: _____ Patient Age: _____ Trauma Reg # _____

Mechanism of Injury (Please be specific)

_____

Mode of transport to your facility: ☐ BLS Ground ☐ ALS Ground ☐ Air ☐ POV ☐ Other

EMS pt care report available? ☐ Yes ☐ No ☐ NA

Which service: _____

Was a Trauma Code activated? ☐ Yes ☐ No ☐ NA

Total minutes EMS service was at the scene _____

Who activated the trauma code? ☐ EMS ☐ Hospital Staff ☐ Should have been activated but was not

Team Leader minutes to respond or present _____ Was eEmergency Consulted? ☐ Yes ☐ No ☐ NA

Prehospital Vital Signs	**Initial ED Vital Signs**	**Additional Vital Signs**	**Comments on Vital Signs**
Temp	Temp	Temp	
Pulse	Pulse	Pulse	
Resp	Resp	Resp	
BP	BP	BP	
GCS	GCS	GCS	
O2 Sat	O2 Sat	O2 Sat	

Trauma Assessment

Airway _____

Breathing _____

Circulation _____

Disability _____

Exposure _____

Diagnostics and pertinent results:

_____

If CT scans were performed - was IV contrast utilized? ☐ Yes ☐ No

Medications or other interventions:

Injuries identified:

Patient Death In ED

Did this patient die at your facility? ☐ Yes ☐ No

If this patient died at your facility please answer the next two questions. If this patient did not die at your facility go to Discharged Home From ED, Discharged To Another Facility, or Admitted To Your Facility.

Was an autopsy done? ☐ Yes ☐ No Did you receive a copy of the report? ☐ Yes ☐ No

Discharged Home From ED

If this patient was discharged home from the ED please answer the following question. If this patient was not discharged home go to Discharged To Another Facility, or Admitted To Your Facility.

Was this patient discharged home from the ED? ☐ Yes ☐ No

Discharge To Another Facility

Was this patient transferred to another facility? ☐ Yes ☐ No

If this patient was tranferred to another facility please answer the following questions.

Name of facility patient was transferred to:

Mode of Transport: ☐ ALS Ground ☐ BLS Ground ☐ Air ☐ POV ☐ Other

Which service used for transfer out of your facility:

Length of stay in your ED:

Admitted To Your Facility

Please list surgical or other procedures done while patient was admitted to your facility.

Length of stay at your facility:

Discharge Disposition:

Was this patient reveiwed through your internal performance improvement process? ☐ Yes ☐ No

Did your PI process indicate any indicators that fell out? ☐ Yes ☐ No

If this case did go through your PI process what actions were taken for indicators that fell out?

******After completion of the PI abstract form please e-mail to Nicole Brunelle by clicking the "Submit by E-mail" button on the bottom right hand corner of this page or fax to 701.328.0357.**

Submit by Email

STATE TRAUMA COMMITTEE

STATE TRAUMA COMMITTEE

The State Trauma Committee is composed of a maximum of 23 members representing various organizations as stated in North Dakota Century Code 23-01, Chapter 23-01.2 and North Dakota Administrative Code 33-38-01-10 under the auspices of the State Health Council. Members are appointed by their respective organizations and/or the North Dakota State Health Council.

The State Trauma Committee is responsible for activities of the state trauma system and works in conjunction with the director of the Division of Emergency Medical Services and the State Trauma Coordinator.

The State Trauma Committee meets on the third Wednesday of the odd months either through BTWAN or teleconference.
(January, March, May, July, September, November)
3rd Wednesday at NOON (CST)
A full day face-to-face meeting will typically be held each year for the July meeting.

A quorum is required in order to conduct business. A quorum of the State Trauma Committee is determined as the number of voting members present at any given meeting. Voting members can submit a proxy vote or alternate in their place for any given meeting, provided they submit the proxy or alternate to the State Trauma Coordinator in writing (e-mail, fax or written letter) prior to the meeting.

Any interested persons are welcome to attend the State Trauma Committee meetings but would not be able to vote or participate in the Performance Improvement process.

State Trauma Committee Responsibilities:

1. Monitors the standard of care of the trauma system as defined by requirements:
    a. Prehospital triage of the major trauma victim
    b. EMS transport plans
    c. Emergency department, hospital care and rehabilitation

2. Addresses systems issues, such as:
    a. Quality of care
    b. Patient outcomes
    c. Education needs
    d. Pre-hospital issues
    e. Trauma injury prevention

3. Provides a forum for:
    a. Establishing policy/guidelines
    b. Problem solving

c. Identification of issues

4. Reviews designation of trauma centers:
    a. Reviews applications and site visit reports for Level IV and V trauma centers
    b. Recommends approval or denial of trauma center designation based on trauma system criteria provided by North Dakota Administrative Code 33-38-01-13 and -14. Trauma center designation is provided by North Dakota Department of Health.
    c. Evaluates and conducts focused site re-visits for all levels of trauma centers requiring follow-up.
    d. Reviews any "plan of correction" submitted by a facility, to recommend an appropriate course of action.

5. Monitors the effectiveness of the trauma system through active participation in ongoing quality improvement and assessment of quality outcomes based on the data submitted to the state trauma registry.

6. Supports public education and trauma prevention programs and is involved in legislative activities affecting the trauma system.

7. Defines four trauma regions of the state and oversees the functions of the regional trauma committees.

State Trauma Committee Voting Members - 2015

1– member from the ND Committee on trauma—American College of Surgeons, appointed by the committee
Dr. Steven Briggs
1– member from American College of Emergency Physicians—ND chapter, appointed by the chapter
Dr. Jeffery Sather
1— member from the ND Health Care Association, appointed by the association
Mariann Doeling
1– member from ND Medical Association, appointed by the association
Dr. Josh Ranum
1— member from the ND EMS Association—basic life support, appointed by the association
Brian Tayer
1— member from the ND EMS Association—advanced life support, appointed by the association
Curt Halmrast
1— member from the ND Nurses Association, appointed by the association
Roberta Young
1— member on the faculty of UND school of medicine, appointed by the dean of the medical school
Dr. Randy Szlabick (x2)
1– member from the ND Emergency Nurses Association, appointed by the association
Howard Walth
1– member from Indian Health Service, appointed by the Aberdeen area director of the service
Ron Gallaway
1— member from accredited trauma rehabilitation facilities, appointed by the state health council
Dr. Shelley Killen
1— member who is a hospital trauma coordinator, appointed by the trauma coordinators committee
Shelly Arnold
1— The Medical Director of the Division of EMS and Trauma
Dr. Randy Szlabick
1—Regional Trauma Committee Chair from each region if not representing an association
SW – Dr. Jeanette Viney
NW – Dr. Jeffery Sather (x2)
NE – Cheryl Korsmo
SE –
1— member representing injury prevention, appointed by the health council
William Vasicek
1— member representing the public, appointed by the health council
Rhonda Bugbee
1— member representing the legislative assembly, appointed by the health council
Todd Porter
1— member representing Emergency Preparedness and Response, appointed by the department
Ken Krupich
1— member representing pediatric physicians, appointed by the ND American Academy of Pediatrics
Dr. Waldemar Storm
4 additional ad hoc members, appointed by the council.
Joe Eliason – Flight Services

STATE PERFORMANCE IMPROVEMENT

STATE
PERFORMANCE IMPROVEMENT PROCESS

MISSION

The mission of the performance improvement process is to continuously improve trauma care outcomes through the development of State Trauma Committee. The State Trauma Committee will utilize data obtained from the State Trauma Registry to monitor trauma patient care and system issues and to assist with providing feedback and education.

OBJECTIVES

- The Department of Health and the State Trauma Committee will organize the performance improvement process on both a regional and state level.

- The State Trauma Committee will work to establish an atmosphere of trust in a confidential forum where participants in the trauma care system can meet to:
    - Continuously work to improve the quality of trauma care as well as to measure patient outcomes
    - Identify opportunities for system improvement
    - Network and build collaborations
    - Share insights and challenges

- The State Trauma Committee is encouraged to use performance improvement principles which will:
    - Focus on improving patient outcomes
    - Identify specific improvement projects
    - Identify opportunities for education and improvement

- The scope of the State Trauma Committee includes:
    - Process and procedures for ongoing assessment of the trauma system which includes state statutes and administrative rules
    - Maintaining the confidentiality of patient care outcome, minutes, records and reports of these meetings
    - A plan for providing feedback to the providers, facilities and services involved
    - Process and procedures for ongoing assessment of trauma care according to the current ATLS guidelines

CONFIDENTIALITY

Confidentiality agreements will be signed by all participants attending the PI portion of the State Trauma Committee meetings.

LEVEL I, II and III PROCESS

- State Trauma Committee meetings are held every other month (odd) with the performance improvement (PI) portion of the meeting to following the business meeting on a quarterly basis.
  January, March, May, July, September, November
  (See State Trauma Committee meetings)

- On a quarterly basis, trauma cases meeting specific PI indicators are identified from data submitted to the trauma registry for possible discussion.

- If a trauma case has an indicator that falls out from one of the indicators the facility will be contacted by the State Trauma Coordinator for additional information related to the case.

- The facility will be required to submit a short case summary with information related to the identified case prior to the PI meeting.

- The State Trauma Coordinator will compile a summary of all of the cases for discussion and will forward this out to all of the State Trauma Committee members who participate in the PI process, prior to the meeting.

- Each facility will be responsible to identify a person to present the cases identified from their facility at the State Trauma Committee PI meeting. This person should be prepared to answer questions directly related to the case and the care provided.

- Statistical data from all of the Level I, II and III facilities will be combined into a report by the State Trauma Coordinator and shared with back with those facilities.

Level I, II and III – CASE SELECTION

Transfers with ISS ≥ 15

The State Trauma Coordinator will run a report of cases within the trauma registry for each respective region on a quarterly basis of all trauma patients with an ISS score ≥ 15 who have been transferred to a Level II trauma center. This data is generated based upon information entered into the system by the Level II trauma center receiving the patient transfer. From this group of patients, the following cases will be selected for possible discussion.

- **ISS >15 and transferred**
  Patients with an Injury Severity Score (ISS) of >15 who are transferred from the Level I, II or III designated trauma center to another facility for specialized care shall be reviewed for the appropriateness of the transfer.

- **Predicted to survive and died <85**
  Patients younger than 85 years of age who are predicted to survive based upon their ISS and TRISS score but who subsequently die from their traumatic injuries are discussed.

Statistical Data is compiled for each of the Level I, II and III designated centers on a quarterly basis. Data includes:

- **Total number of trauma patients seen**
- **Total number of trauma related deaths**
- **Average length of stay in the emergency room**
- **Average Injury Severity Score of the trauma patients**
- **Missed trauma code activations**
- **Number of trauma patients who are transferred IN from other facilities**
- **Percentage of trauma patients who are transferred in from other facilities**
- **Number of trauma patients who are transferred OUT to other facilities for specialized care**
- **Percentage of trauma patients who are transferred OUT to other facilities for specialized care**
- **Number of traumatic injuries by type (blunt, burn, penetrating) which results in transfer out for specialized care**
- **Number of transfers to each of the possible specialized care facilities**
- **Patients who are predicted to die based upon their ISS and TRISS score but who subsequently survive from their traumatic injuries**

North Dakota Trauma
INCLUSION/EXCLUSION CRITERIA –ICD-10
Patients to Be Downloaded to the State

INCLUDED

- All Trauma Codes/Alerts or any level of trauma team activation (regardless of ICD-10)

- International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM):
  - **S00-S99 with 7th character modifier of A, B or C ONLY** (Injuries to specific body parts – initial encounter):
  - **T07** (Unspecified multiple injuries);
  - **T14** (Injury of unspecified body region);
  - **T20-T28 with 7th character modifier of A ONLY** (Burns by specified body parts – initial encounter);
  - **T30-T34** (Burn by TBSA percentage);
  - **T79.A1-T79.A9 with 7th character modifier of A ONLY** (Traumatic compartment syndrome – initial encounter)

And one or more of the following

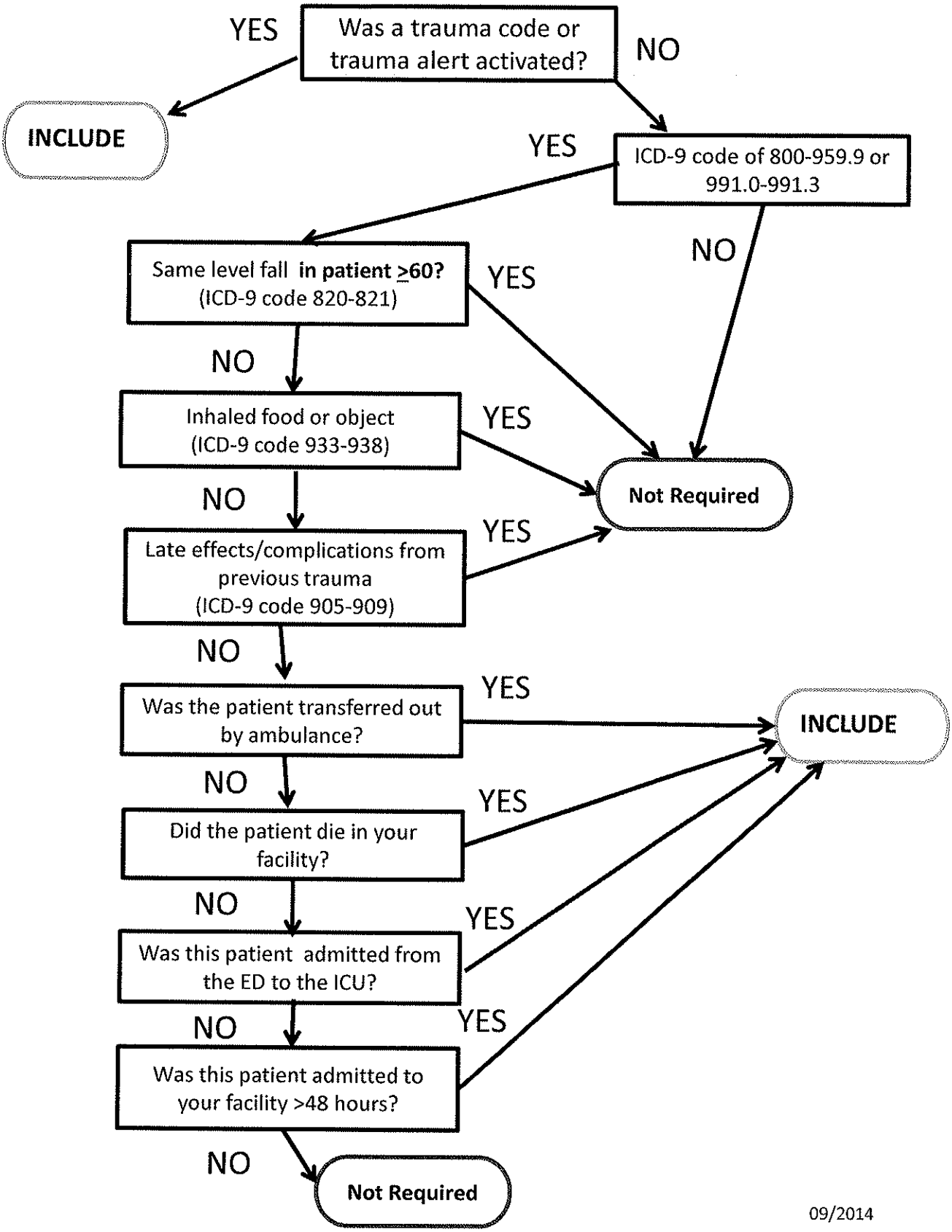
- Deaths that are registered to the hospital
- Inter-facility transfers by ambulance that are admitted to the receiving hospital
- Transfers out by ambulance
- Patients admitted for > 48 hours
- Patients admitted from the ED to ICU

EXCLUDED

These are excluded from the trauma registry unless they are a trauma code/alert or they have an additional injury code.

- Same level falls with isolated hip fractures in patients 70 years of age or older
  - **72.00-S72.26**, fracture of head/neck of femur *ONLY IF age >70 AND it resulted from slipping, tripping, stumbling or a same level fall (**W01.0, W18.30, W18.31, W18.39**);*
- Superficial Injuries
  - **S00, S10, S20, S30, S40, S50, S60, S70, S80, S90** (Patients with a superficial injury that were transferred in/out for treatment of injuries or died because of injuries would be included in the registry)
- Late effects
  - **7th character modifiers of D through S** (Late effects)

REGISTRY INCLUSION CRITERIA



09/2014

Level IV and V – CASE SELECTION

Transfers with ISS ≥ 15

The State Trauma Coordinator will run a report of cases within the trauma registry for each respective region on a quarterly basis of all trauma patients with an ISS score ≥ 15 who have been transferred to a Level II trauma center. This data is generated based upon information entered into the system by the Level II trauma center receiving the patient transfer. From this group of patients, the following cases will be selected for possible discussion.

- **Trauma Code NOT activated when appropriate**
  Cases in which a trauma code was not activated by either EMS or hospital staff, but according to the Field Triage of the Injured Patient algorithm or the facilities protocol, the patient met activation criteria.

- **Hemo/Pneumothorax identified and chest tube NOT placed**
  Any cases for which a hemothorax or pneumothorax is suspected or identified on diagnostic studies for whom no chest tube was inserted. Not all of these patients will require the insertion of the chest tube due to the size but may possibly be included in the discussion.

- **>3 liters of IV fluid given**
  Any cases in which greater than three liters are given IV before blood products are introduced. This would be total fluids delivered including pre-hospital fluids. This is regardless of if the hospital has the ability to administer blood products or not

- **GCS </= 8 and NOT intubated**
  At any point from the arrival of the patient at the hospital, did the Glasgow coma scale score equal 8 or less without the patient having a definitive airway established? This indicator does not look at the EMS GCS score.

- **Lead provider response time >20 minutes**
  With Trauma Code activation, did the team leader (lead provider) respond within 20 minutes? Response time should be less than 20 minutes.

- **EMS scene time >20 minutes**
  Any case in which the actual time on scene for EMS was greater than 20 minutes

- **Transfer time >2 hours**
  When a patient is transferred out of your facility to a different facility, the expectation is that the transfer will occur in less than 2 hours so as not to delay definitive care.

DEATHS

The State Trauma Coordinator will run a report of cases within the trauma registry for each respective region on a quarterly basis of all of the patients in the registry who have died from a trauma related event.

All deaths related trauma will be discussed and the care provided will be reviewed.

PEDIATRIC CT SCANS

The State Trauma Coordinator will run a report of cases within the trauma registry for each respective region on a quarterly basis of all of the patients in the registry who have are 16 years of age or less and who received a CT scan related to a traumatic event at a Level IV or Level V facility.

All cases involving a pediatric patient who received a CT scan will be discussed and reviewed for the appropriateness of the care provided and the rationale for the CT scan. Opportunities for decreasing radiation exposure to children 16 years of age or younger will be identified while attempting to maintain quality patient care.

TRANSFERS DIRECTLY OUT OF STATE

The State Trauma Coordinator will run a report of cases within the trauma registry for each respective region on a quarterly basis of all of the patients in the registry who were transferred directly from a Level IV or Level V trauma center to an out of state trauma center.

The distance involved in transporting patients directly out of state without first being assessed and stabilized can compromise patient care. At times surgical interventions may not be the definitive treatment but may prove to remedy life threatening situations to allow the patient to be transported out of state safely without further patient demise. An example would be a patient who is involved in burn explosions should have their trauma injuries assessed and treated prior to transportation to a burn center.

NO MIDLEVEL PROVIDER REVIEW WITHIN 72 HOURS

One of the components of the rules related to trauma require that all patient records in which the trauma team leader was a midlevel provider (nurse practitioner or physician's assistant) be reviewed by a physician who has successfully completed and is current in ATLS within 72 hours.

OTHER REASON TO INCLUDE FOR REGIONAL PI

Level IV and Level V facilities always have the opportunity to have any case reviewed at the Regional Trauma Committee meeting by contacting the State Trauma Coordinator. Any cases that would offer some good discussion or educational opportunities are encouraged.