Created: July 2005

Reviewed: August 2023

Revised: August 2023

Deaconess REGIONAL TRAUMA CENTER

Performance Improvement and Patient Safety Plan

Purpose: Deaconess Midtown Hospital's Trauma Performance Improvement (PI) plan is designed to measure, evaluate, and improve the process and effectiveness of care rendered to the injured patient, including medical oversight of pre-hospital providers, resuscitation, inpatient care, and inter-hospital transfer. This includes a multidisciplinary effort to monitor, assess, and improve both the processes and outcomes of care to the injured.

Goals: To decrease death and disability by reducing inappropriate variation in care through progressive cycles of performance review.

To establish and manage a healthcare delivery system that provides optimal care for injured patients in our region. This system encompasses injury prevention, emergency medical services and transportation, acute care, transitional care, and the return of the individual to a productive life.

Deaconess Trauma Services will strive to lead Deaconess Midtown Hospital and our community in improving its performance through following the Deaconess mission, including values and goals already established, development of a regional trauma system, creating and providing an effective learning environment and ongoing educational opportunities, encouraging discovery and fulfillment of group and individual potential, modeling effective behavior and practices and providing high-quality care in a fiscally responsible fashion.

Guidelines:

A. Authority and Scope
   a. The Trauma Performance Improvement and Patient Safety Plan (PIPS) reviews all patients with traumatic injury through the continuum of care
      i. This includes pre-hospital, resuscitation, operative intervention, critical care, stabilization, and general care, through transition to rehabilitation
      ii. Each trauma admission is screened for compliance to trauma guidelines and variation in care
   b. The Trauma Medical Director (TMD) in conjunction with the Trauma Program Manager (TPM) has the ultimate responsibility and authority for the administration of the Trauma Services Performance Improvement Program as granted and empowered by the Hospital governing body
      i. This authority does transcend service lines

B. Credentialing
    a. All clinicians who participate in the care of the injured patient will be credentialed according to the Medical Staff Bylaws
        i. In addition, surgeons and surgical specialists taking trauma call will meet additional credentialing criteria as set forth by the American College of Surgeons relating to specific trauma verification level
        ii. Refer to the Trauma Team Credentials guideline
    b. TMD has the authority to determine provider's ability to participate in trauma call and remove providers from trauma call if deemed necessary
        i. TMD will complete annual Ongoing Professional Practice Evaluation (OPPE) on trauma surgeons, trauma APPs, orthopedic liaison, and neurosurgical liaison
            1. The Surgical ICU Medical Director will complete OPPE on TMD
        ii. TMD may complete a Focused Professional Practice Evaluation if there is a specific issue with a physician/APP

C. Organizational Structure
    a. Performance improvement consists of internal and external monitoring and evaluation of care provided by EMS, medical, nursing, and ancillary personnel, as well as hospital departments, services, and programs
    b. Monitoring is ongoing and systematic
        i. Opportunities to reduce inappropriate variation in care are sought, and strategies to improve care are documented in the registry
        ii. The effectiveness of corrective action is evaluated through continuous reassessment and monitoring utilizing ongoing performance improvement processes
    c. Trauma Services collaborates with Deaconess Hospital's Quality Improvement Liaison in screening mortalities, variances in care, and at risk cases
        i. A representative from the Quality Improvement Department attends the monthly Trauma Mortality and Morbidity Committee ("Trauma Peer") meetings and reports to the Medical Staff Quality Council if necessary
    d. Communication between departments stimulates ideas and processes to ensure quality patient care

D. Roles in the Trauma Performance Improvement Program
    a. See Appendix A

E. Trauma Patient Population Criteria: See Quality Plan Guideline

F. Data Collection: See Quality Plan Guideline
    a. Primary data collection is accomplished through the trauma program's registry and is the responsibility of the entire Trauma Services department
    b. Data collection includes all of the National Trauma Data Base (NTDB) data elements

c. Quality indicators for continuous or periodic evaluation of care are determined by the American College of Surgeons specific audit filters and those determined by the trauma PI program
d. Each trauma patient who meets criteria for review is screened for variations in care, morbidity, mortality, system variances, and clinical outcomes
e. See Appendix B for audit filters, event or report review

G. Data Analysis
   a. The trauma program analyzes data through the peer review process and through monitoring of key metrics as required by the ACS and specific indicators identified by the trauma program
   b. Once information has been abstracted, it is analyzed and the identified issues are reviewed in the context of opportunities for improvement
   c. Data is collected and organized for review under the direction of the TMD and TPM
      i. The primary source of trauma data is the trauma registry
         1. Information is entered into the trauma registry by the Trauma Services department
   d. PI Indicators
      i. Deaconess Trauma Services measures the outcome of trauma care including morbidity, mortality, hospital length of stay, intensive care unit stay, and patient satisfaction
         1. Complications and injury-related deaths are identified and evaluated for preventability and appropriateness of care
            a. Complications in nonsurgical admissions unrelated to trauma will not be entered into the registry.
         2. Outcome measures are reported at Trauma Mortality and Morbidity Committee and Trauma Operational Committee
         3. Outcome measures that are specific to physician groups are reported at their specific departmental meetings and in physician report cards, which are reviewed by the TMD
         4. Outcome measures are reviewed and discussed during annual evaluations completed by the TMD for trauma panel members
      ii. Process indicators are used to measure, evaluate, and improve system performance (i.e. OR start times, PACU staff arrival time, etc.)
         1. Process expectations are developed from committee consensus, Hospital policies, practice guidelines or protocols, and by requirements of the Resources for Optimal Care of the Injured Patient (2022) and Illinois rules and regulations
         2. The trauma program is focused on all aspects of patient care.

H. Event Identification
   a. Events will be identified through a variety of mechanisms including but not limited to multidisciplinary rounds, trauma registry data and reports, Trauma Mortality and Morbidity Committee meetings, Trauma Operational Committee meetings, EMR, autopsy findings, referring facilities, incident reporting, audit

filters, and referrals from staff and departments involved in the care of the patient
        i. Issue identification can be concurrent or retrospective
    b. In order to identify performance improvement issues and/or complications, the TPM will review all deaths and transfers

I. Non-surgical Admissions
    a. Trauma Services will review all non-surgical admissions
    b. The Nelson Criteria Tool will be used to determine appropriateness
    c. Trauma Services will review all noon-surgical admissions and report findings periodically at the Trauma Mortality and Morbidity Committee and the Trauma Operational Committee meetings
    d. PI and complications will be entered on those patients who are admitted for treatment of their traumatic injury
    e. If there is no identified opportunity for improvement, the following non-surgical admission may be closed during the primary review
        i. Admissions that have had a surgical or trauma consultation; or
        ii. ISS < 9
    f. A secondary review performed by the Trauma Medical Director is required for non-surgical admissions that meet any of the following criteria
        i. No trauma or surgical consultation
        ii. ISS > 9
        iii. Cases with an opportunity for improvement identified during primary review

J. Levels of Review
    a. Trauma Services utilizes a three-tiered system for trauma patient review
    b. Each chart is screened to ensure patient care was delivered appropriately and timely using a standard form/database
    c. Level 1 review
        i. Initial screening completed by Trauma Registrars, Trauma PI RN, and/or the TPM
        ii. Completed on all trauma patients entered into the trauma registry
        iii. All events that are identified and resolved in the Level 1 review will be tracked for periodic review and analysis until event resolution occurs
        iv. Events that require further investigation will be submitted for Level 2 review
    d. Level 2 review
        i. Performed by the TPM or Trauma PI RN and the TMD to determine if variances or complications could have been prevented or had a negative impact on the patient. If the TMD is closely involved in the case with variances or complication that could have been prevented or had a negative impact on the patient, the Trauma Performance Improvement Director or the Surgical ICU Medical Director will review the case.
        ii. A Level 2 review includes variations in care not resolved in a Level 1 review. Review may be closed when event resolution occurs

iii. All events that are able to be resolved in the Level 2 review will be tracked for periodic review and analysis until event resolution occurs
iv. If the TMD deems the case as controversial or there was an opportunity for improvement that cannot be resolved with a Level 2 review, a timeline of the event will be established and the case will be submitted for a Level 3 review
v. The TMD may also elect to present a case for educational purposes
vi. The TMD will complete a Level 2 review will on the below patient populations
    1. All mortalities
    2. All transfers
    3. Pediatric patients with an ISS ≥ 16
    4. Transfer/discharge with hospice services
    5. Cases identified with an opportunity for improvement as identified in the Level 1 review
    6. All transfers to hospice
    7. Nonsurgical Admissions as noted above

e. Level 3 review
    i. All Level 3 reviews will be presented at Trauma Mortality and Morbidity Committee meeting for discussion with the peer group and an action plan will be developed as appropriate
    ii. All mortalities and transfers are reviewed at Trauma Mortality and Morbidity Committee meeting
        1. If the TMD is unable to determine the classification of a mortality or appropriateness of a transfer, then peer review members discuss and will decide the classification
            a. If peer review discussion is inconclusive, the case will be referred to Medical Staff Quality Committee process for event resolution
f. All deaths receive a Level 2 review completed by the Trauma Medical Director and are presented at the Trauma Mortality and Morbidity Committee meeting for a Level 3 review
    i. In the event the TMD is the admitting provider or heavily involved in the care of the patient, such review shall be completed by the Intensive Care Unit Medical Director

K. Trauma Committees
a. Trauma Mortality and Morbidity Committee (“Trauma Peer Review”)
    i. The purpose of this Committee is to improve trauma care by having physicians critically review cases in a multidisciplinary setting
    ii. The focus of the Committee is to review provider-related morbidity and mortality, significant complications, adverse events, problem trends, unusual or uncommon cases, and process variances associated with unanticipated outcomes and determine opportunities for improvement
    iii. Peer physician representation includes but is not limited to Trauma Surgeons, Trauma Advanced Practice Providers, Vascular Surgeons, Pediatric Intensivist (ad hoc), Emergency Medicine, Pulmonary Critical

Care Medicine, Anesthesia, Radiology, Neurosurgery, and Orthopedic Surgery, and Geriatric Liaison

iv. The Trauma Program Manager and Trauma PI Nurses also attend the Peer meeting.
v. Peer discussion determines preventability and judgment
vi. The meeting is physician led, confidential, and peer protected
vii. Meetings are held monthly
    1. Meetings may be cancelled at the discretion of the TMD
viii. Internal continuing medical education (CME) is available for physicians who attend and complete an evaluation form related to educational content, case review, and evidence-based practice review
ix. Attendance requirements
    1. Trauma Medical Director must maintain a 60% participation rate in any rolling 12-month period
    2. Trauma surgeons participating in the trauma call panel must maintain a 50% participation rate in any rolling 12-month period
    3. Liaison for Anesthesiology, Critical Care Medicine, Emergency Medicine, Neurosurgery, Orthopedic Surgery, Radiology and Geriatric must maintain a 50% participation rate in any rolling 12-month period
        a. Each liaison is allowed one pre-determined alternate whose attendance counts toward the required 50% participation rate
    4. Attendance requirements may be waived for military deployment, medical leave, and missionary work
x. Case review requests are generally brought by the TMD, TPM or PI RN
    1. Any member of the trauma team involved in the care of the patient may request a case review
    2. Cases may consist of unexpected outcomes, system issues, sentinel events, trauma guideline non-compliance, audit filter fall outs, deaths, transfers, and/or selected complications
    3. Case review categorizes errors in technique, judgment, treatment, etc. and is used to determine preventability
xi. Morbidity and mortalities are evaluated as to whether their occurrence is disease, provider, or system related
    1. A disease related morbidity or mortality is an anticipated sequela of a disease, medical illness, or injury
    2. A provider associated complication results from delays and errors in treatment provided by pre-hospital providers, nurses, physicians, and/or other hospital personnel
    3. Mortalities are classified by the TMD using language as set forth by the American College of Surgeons (2022)
        a. Mortality with opportunity for improvement if the below criteria are met
            i. Anatomic injury or combination of severe injuries but may have been survivable under optimal conditions

ii. Standard protocols were not followed, possibly resulting in unfavorable consequence
iii. Provider care was suboptimal
b. Mortality without opportunity for improvement
4. Cases that require further follow-up or action are referred to the Deaconess Medical Staff Executive Committee or other department sections as necessary

b. Trauma Operational Committee
i. The purpose of this Committee is to optimize trauma performance through monitoring of trauma-related hospital operations
ii. This meeting is chaired by the TMD and co-chaired by the TPM
iii. Meetings are held monthly
1. Meetings may be cancelled at the discretion of the TMD
iv. The Committee consists of a multidisciplinary team representing all phases of care provided to the injured patient, including but not limited to
1. Pre-hospital/EMS, ICU, Medical Surgical, Orthopedic and Neurological Floors, Administration, ED, Trauma Surgeon/TMD, Operating Room staff, Blood Bank, and members of Trauma Services
v. The Committee will discuss issues, analyze performance, and propose corrective action plans
1. This process must identify problems and demonstrate event resolution
vi. All trauma diversion will be reviewed for opportunities for improvement

L. Corrective Action
a. The TMD and TPM oversee corrective action planning and event resolution
b. The Trauma Operational Committee and/or the Trauma Mortality and Morbidity Committee determine an action plan to reduce variation in care, improve care, and/or correct identified problems
c. Corrective strategies may be carried out using any or all of the following mechanisms
i. Modification of Hospital policies, trauma guidelines, protocols, professional education for staff, counseling of involved personnel, credentialing, delineation of privileges, and periodic review until event resolution occurs
ii. Periodic review will occur for a timeframe until data trends show improvement
1. Once event resolution has occurred, period review is completed
d. Periodic review provides a method for assuring the effectiveness of corrective action

M. Documentation
a. The comprehensive PI program includes accurate and confidential documentation of ongoing monitoring, corrective action, progress, and re-evaluation
b. Information is handled in a strictly confidential manner

c. Trauma Services abides by Hospital policy in regards to confidentiality agreements and breaches of confidentiality
    i. This is addressed in Hospital orientation for all Hospital personnel
d. Identified issues and resolutions are recorded in Trauma Peer and Trauma Operational minutes, which are peer protected and are not distributed to maintain patient confidentiality
    i. These may be found in the PIPS section of the trauma registry if an isolated variation in care occurs
e. Identified events are delegated to the appropriate medical service or Hospital representation for management of the issues and to promote positive change
f. Confidentiality is maintained via a confidential letter or e-mail, or direct communication with the providers involved
g. Adherence to the Hospital confidentiality agreement is maintained while summaries are distributed to department chiefs and/or nursing directors for further resolution
h. The essential aspects of control to protect patient information include
    i. Use of a locked file for all relevant information
    ii. Shredding of all copies of PI documentation
i. Computer generated PI documentation (i.e. medical minutes and case reviews) may only be accessed via user ID and are password protected
j. Peer review documentation is collected and shredded after each meeting

N. Monitoring
a. The PIPS plan is designed to provide an ongoing, comprehensive and systematic structure for monitoring the quality and appropriateness of the care of the injured patient
b. This process includes concurrent issue identification, validation, and documentation
c. Monitoring includes but is not limited to standards of quality of care, death review, audit filters/complications
d. Corrective action, follow up and evaluation of event resolution should be reflected in the Trauma Operational Committee and Trauma Mortality and Morbidity Committee minutes

O. Benchmarking
a. Deaconess Regional Trauma Center submits data to the Trauma Quality Improvement Program (TQIP) on a quarterly basis
    i. Reports are reviewed by the TPM and TMD
    ii. TQIP reports may be used to
        1. Identify trends and focus on outliers within our facility
        2. Create processes and implement practice changes
        3. Evaluate results of any corrective action plans

P. Annual Process for Identification of Priority Areas for PI
a. Trauma Services will run reports on audit filter elements to identify those metrics that do not meet the trauma goal

i. Once identified, metrics will be presented to the appropriate Committee(s) for evaluation

b. Review TQIP reports to identify priority areas
c. Create audit filters/reports on new guideline metrics
d. Reports on top two mechanisms of injury to guide injury prevention efforts

References:

- Resource for Optimal Care of the Injured Patient: 2022
- Trauma guideline: Trauma Team Attending Credentials
- Trauma guideline: Trauma Team Resuscitation Role Assignments
- Hospital Quality Improvement Plan and Organizational Charts
- Trauma guideline: Trauma Registry
- Trauma Outcomes and Performance Improvements Course, 2015 edition
- Society of Trauma Nurses, Optimal Course, 2015 edition

Appendix A

Roles in the Trauma Performance Improvement Program

The Trauma Medical Director, Trauma Program Manager, Trauma Outreach Medical Director, Trauma Performance Improvement Medical Director, Director of Patient Care Services, Trauma Data Quality Coding Coordinator(s) (Trauma Registrars), Trauma Performance Improvement Nurses (PI RN), and EMS Coordinator(s) address performance issues, which involve multiple services and departments.

Trauma Medical Director:

1. Oversee the structure and process of the trauma PIPs program (ACS)
    a. Overall institutional responsibility and authority for trauma PI.
    b. Oversight and authority of the trauma center's care, credentialing of trauma surgeons and participating liaisons.
    c. Authority and oversight for the trauma center through all phases of trauma care and all components of the trauma center
2. Develop and enforce policies, procedures, guidelines relevant to the care of the trauma patient. (ACS)
3. Ensure that all providers meet requirements and adhere to institutional standards of practice (ACS)
4. Work across departments and/or other administrative units to address deficiencies in care (ACS)
5. Determine with the assistance of the liaisons provider participation in trauma care. This may be guided by the findings from the PIPS process or an Ongoing Professional Practice Evaluation (ACS)
6. Develops, coordinates and provides input in the development and maintenance of practice guidelines, policies, and methodologies for the care of the trauma patient

Trauma Program Manager: In conjunction with the TMD and Administration

1. Oversight of the trauma program (ACS)
2. Assist with the budgetary process for the trauma program (ACS)
3. Develop and implement clinical protocols and practice management guidelines in conjunction with the TMD. (ACS)
4. Provide educational opportunities for staff development. (ACS)
5. Monitor performance improvement activities in conjunction with Trauma PI RN. (ACS)
6. Serve as a liaison to administration and represent the trauma program on hospital and regional committees to enhance trauma care. (ACS)
7. Have oversight of the trauma registry. (ACS)
8. Responsible for the management, review, validation, and documentation of events that are processed through the levels of review.
9. Coordinate action planning and documentation between the trauma program and the hospital-wide PI program.

Trauma Performance Improvement RN:

1. Work in collaboration with the TMD and TPM to improve quality of trauma care from pre-hospital setting through hospitalization to discharge and recovery.
2. Perform comprehensive, concurrent chart review to identify adverse events, variances in clinical management, outcomes, complaints, and system or process issues that

negatively affect the care of the trauma patient from time of injury (EMS Care) through rehabilitation.
3. Report issues to the TMD, TPM, and Trauma Service Team for concurrent follow up needs.
4. Screen trauma cases for physician review in collaboration with the TPM.
5. Enter all performance improvement issues into registry and assure that all issues are addressed and event resolution within a timely fashion.
6. Prepare cases for Trauma Peer Review Committee.

Trauma Data Quality Coding Coordinator(s) (Trauma Registrar)

1. Perform accurate and timely data entry into the trauma program registry software as outlined by the American College of Surgeons Committee on Trauma, the states of Indiana and Illinois, and the Trauma Quality Improvement Program (TQIP).
2. Create and maintain data in the trauma registry, State of Illinois registry, and State of Indiana registry.
3. Create and maintain clinical and statistical data, AIS coding, ICD-10-CM codes/ICD-10-PCS, and abstract various data elements required by ACS, the State of Illinois, the State of Indiana, and national registry for TQIP.
4. Enter and validate E-codes for all injured patients who meet inclusion criteria.
5. Assure that 80% of all patient data is finalized in the trauma registry software within 60 days of patient's discharge.
6. Assure that 100% of all trauma entries in the trauma registry software are validated by comparing the data in the registry with patient charts in the EMR, EMS run reports, and referring hospital record.
7. Screen charts at discharge for complications or performance improvement issues.
8. Create reports utilizing the trauma registry as the core source of information.
9. Accountable for the collection, completion, and verification of the accuracy of all patient data collected from Deaconess Midtown Hospital and the trauma registry data collection system.

Trauma Injury Prevention Coordinator:

1. Responsible for overall planning, development, and oversight for the Injury Prevention Program.
2. Responsible for developing and implementing educational offerings on injury prevention and trauma projects involving pediatric, adolescent, adult, and geriatrics based on mechanism of injuries identified in the trauma registry and from needs identified in the community.
3. Networking with Injury Prevention at the local, state, and national level.
4. Establish and implement strategies for continuous improvement for injury prevention.

Trauma Outreach Medical Director:

1. Pursue the development and enhancement of relationships with pre-hospital, referring hospital and in-hospital providers to ensure high quality trauma care is being provided.
2. Provide feedback regarding clinical care in the trauma region.
3. Provide Education and Outreach presentations/events (i.e. Trauma Conference, Audit and Review, in-hospital education, grand rounds, etc.).
4. Make follow up telephone calls and/or visits to referring providers for performance improvement purposes.
5. Participate and assist with development and enhancement of the trauma program through outreach and educational efforts in the Region.

Trauma Performance Improvement Medical Director:

1. Pursue the full development of the trauma center in terms of quality of care, volume, scope of services and cost-effectiveness.
2. Provide physician input, expertise, advice and consultation with respect to medical matters concerning trauma or arising from operation of the Trauma Center.
3. Assist in monitoring the quality of care provided at the Trauma Center and ensuring consistent, efficient, and cost-effective quality trauma medical/surgical care at all times, including chart abstracting for trauma performance improvement (PI).
4. Assist with development, coordinates, and provides input on the development and maintenance of practice guidelines, policies, and methodologies for trauma medical/surgical patient care.

Trauma Neurosurgical Medical Director:

1. Provide medical supervision of neurosurgical trauma services, as Medical Director, including directing the development and review of proposed policies and procedures relating to the provision of Neurosurgical Trauma Services.

Orthopedic Medical Director

1. Provide medical supervision of orthopedic trauma services, as Medical Director, including directing the development and review of proposed policies and procedures relating to the provision of Orthopedic Trauma Services.

EMS Coordinator:

1. Participate in trauma case review.
2. Work with the TPM and TMD to assist in development and implementation of educational offerings on trauma related projects.
3. Promote trauma standards of care as it pertains to pre-hospital providers according to nationally accepted American College of Surgeons guidelines
4. Complete monthly category 1 run report audits as well as those requested by the trauma team
5. Send opportunities for improvement documentation to the trauma program.

Trauma Liaison:

1. Representative from subspecialty services such as emergency medicine, orthopedics, neurosurgery, anesthesia, critical care, radiology, and geriatrics who actively participate in the Trauma PIPS program.
2. Must attend 50% of the committee's meetings in any 12-month rolling calendar year.

Other PI Committee Members:

1. Representatives from nursing, emergency medicine, ICU, Medical/Surgical Unit, Blood Bank, EMS, Anesthesia, Radiology, Surgery, Spiritual Care, Trauma Registrars, will be invited to participate as determined by TMD and TPM.

Audit Filters, Event, or Report Reviews

Pre-Hospital
- Compliance with pre-hospital triage criteria as dictated by regional protocols
- Delays or adverse events associated with pre-hospital trauma care

Emergency Department
- Surgeon arrival time for the highest level of activation
- Accuracy of trauma team activation protocols
- Compliance of trauma team activation, as dictated by program guideline

Blood Bank
- Massive Transfusion Protocol (MTP) activations
- Inadequate or delayed blood product availability

Operating Room
- Unanticipated return to the OR
- Compliance with policies related to timely access to the OR for urgent surgical intervention

Radiology
- Interpretation errors or discrepancies between preliminary and final report

ICU
- Unanticipated transfer to the ICU or Intermediate Care (“Stepdown”) Unit
- Delay in response to the ICU for patients with critical needs

Admissions
- All nonsurgical admissions excluding isolated hip fractures
- Pediatric admission to non-pediatric trauma center

Timeliness
- Delay in response for urgent assessment by the neurosurgeon and/or orthopedic specialist
- Delay in recognition of injury, or missed injury
- Delay in access to time-sensitive diagnostic or therapeutic interventions
- Delay in providing rehab services

Patient Population
- Transfer out of facility
- Discharge to hospice
- All deaths
- Those with significant complications and/or adverse events
- Referrals to Indiana Donor Network (IDN) and organ procurement rates

Equipment

- Lack of availability of essential equipment for resuscitation or monitoring

Screening

- Screening of eligible patients for psychological sequelae
- Screening of eligible patients for alcohol misuse

Diversion

- Review of Trauma and Neuro diversion

Reports

- Benchmarking Reports