Trauma Performance Improvement: Simple Steps to Improve Outcomes

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Objectives

1. Be able to define the components of an Optimal Trauma PI Plan and implement the plan in their trauma center to attain successful verification/accreditation.

2. Integrate the new taxonomy classification system as it related to PI Events in Iowa trauma centers

3. Develop targeted corrective action plans which will result in successful resolution Events or identified opportunities for improvement while enhancing patient outcomes.
Outline

1. Components of an Optimal PI Plan
2. Process of identifying Performance Improvement Events and developing corrective action plans.
3. Categorizing Performance Improvement Events in order to target improvements
4. Process to decrease complications and unplanned Events.
Top 25 Weaknesses

- Helipad
- Diversion By Pass
- Certification/Education/Credentialing
- Credentialing
- Registry
- Operating Rooms
- ICU/Step Down
- Volume Performance
- Dwell Time
- CPG-Clinical Practice Guidelines
- Documentation-EMS run sheet
- Research
- Non Surgical Admission
- ED Workup, Resuscitation Care
- Staffing Physicians
- Autopsy
- Staffing Trauma Program
- Staffing Nursing
- Massive Transfusion Protocol, Blood Bank
- Solid Organ Injury Grading
- Nursing Trauma CEU certification courses and education
- Trauma Flow Sheet
- Triage-TTA and Response
- Documentation
- PI
PI-Process
PI-Attendance at PI and System PI
PI-Loop Closure
PI-Documentation/Minutes
PI-Pre Hospital PI
PI-Recognition of issues/Problems
PI-State/System PI
PI-Radiology response time
PI-Bench Marking
PI-Dissemenation of PI information
PI-Frequency of Meetings
PI-Timeliness
PI-Categorization of Death
PI-Pediatric
PI-Structure
PI-Recogntion of issues/Problems
PI-Pre Hospital PI
PI-Documentation/Minutes
PI-Loop Closure
PI-Attendance at PI and System PI
PI-Process
Trauma Outcomes and Performance Improvement Course
Components of an Optimal PI Plan

OPTIMAL PERFORMANCE IMPROVEMENT PLAN
Components of Plan

1. Goals
2. Mission, Vision, Scope, Authority
3. Trauma Team Credentialing
4. PI Team Members
5. Identification of Trauma Patients
6. Data Collection
7. Sources
8. Data Analysis
9. Data Management
10. Data Validation
11. Interrater Reliability
12. Concurrent & Retrospective Review
Components of Plan

14. Levels of Review
15. Corrective Action Plan
16. Event Resolution/Loop Closure
17. Multidisciplinary Peer Review Comm
18. Trauma Systems/Operations Comm
19. Trauma M&M Committee
20. References
21. Glossary Terms
22. Appendix: NTDB Inclusion Criteria
23. Appendix: Trauma PI Event Review Form
25. Appendix: Information Flow and Integration into Hospital PI
Overview of Trauma PIPS Process

What:
- Events identification
  - Audit Filter/Audit Question
  - Complication/Occurrence
  - Practice Guideline Variances

Who: (Domain)
- Patient demographics
- Source of reported Event

Where: (Domain)
- Location/Setting
- Phase/Target

When:
- Date identified and/or Occurred
- Date of loop closure

Why: (Cause, Impact, Type)
- Factors
- Impact (Harm)
- Type

How (to fix it): (Mitigation/Prevention)
- Corrective Actions
- Levels of Review
- Mitigation/Prevention
- Loop Closure
Process of Identifying Trauma Performance Improvement and Patient Safety Events

Pre-Hospital referrals
Transfer Center
EMR
Hallway communication
Email referrals
Morning report
Daily rounds
Concurrent abstraction
Registry data trends

Incident reports
Hospital Quality Department
Autopsies/ME/Coroner
Patient/Family Feedback
Region/state forums
State or National Designating authority
TQIP reports
Effective **Concurrent** Trauma PIPS Process

*Impacts Patient Outcomes at the Point of Care*

21\textsuperscript{st} century

Concurrent Point of Care PI

Ideally a paperless system

Standard terminology

Store, review, request data at fingertips

Effective user interface and design

Laptop wireless entry decreases duplication of efforts
Process for Monitoring Compliance

**Complications**: NTDB defined complications which occur in the trauma patient, are recorded in the Trauma Registry. The Trauma PI Program will review complications for injury or treatment that significantly affect patient outcome. The Trauma PI Committee makes appropriate referrals and recommendations and will be monitored for trend analysis.

**Audit Filters/Systems Events**: All identified Events that are not provider related are reviewed in the Trauma Performance Improvement Committees.
“Event”

Any type of error, mistake, incident, accident, deviation, non compliance, regardless of whether or not it resulted in patient harm.

The goal of the PI process is to identify problems in the care delivery system that could potentially result in harm to a patient and resolve them before they actually result in harm to a patient.
Complications

Complications are patient specific
Defined across the continuum
• Deep Vein Thrombosis
• Myocardial Infarction
• Pulmonary Embolus
• Sepsis
• Ventilator Associated Event
• Wound infections
Audit Filters

- Tools that beg the question
  - Not in-and-of-itself evidence that care was sub-optimal
  - A **Red Flag** that requires you to answer the question “Why was the standard not met?” and “Is there an opportunity for improvement here?”
- Deviation is either acceptable or unacceptable

Filters should make sense for your facility. They should represent circumstances that are likely to be encountered at your hospital and they should represent Events you know or suspect exist and would like to improve.
Trauma System Events

- Absence of EMS record
- Inadequate pre-hospital airway
- No documentation of FAST exam
- Inaccurate FAST exam results
- Missing Trauma Flowsheet/H&P
- ED LOS >2 hours at referring hospital
- ED dwell time > 180 minutes
- Timely initiation of Massive Transfusion Protocol
- Clinical practice guideline variation (identify guideline)
- Tertiary Survey not documented
Trauma System Events

- Craniotomy >4 hours of ED arrival for acute/expanding EDH/SDH
- Administration of antibiotics for an open fracture greater than 1 hour after arrival
- * Positive head CT of patient on anti-coagulation, anti-platelets or aspirin without reversal within 2 hours of arrival
- Reintubation within 48 hours of extubation
  - (excludes planned return trips to the OR)
- Unplanned return to the OR
- Unplanned admission to ICU
- Delay in Diagnosis
- Missed Injury
- Complications

* hospital defined
RESOURCES
FOR OPTIMAL CARE
OF THE INJURED PATIENT
2014

COMMITTEE ON TRAUMA
AMERICAN COLLEGE OF SURGEONS

AMERICAN COLLEGE OF SURGEONS

100+ years
Trauma Center Events: Orange Book Core Measures

- Mortality Review (CD16-6)
- Trauma surgeon response to the emergency department (CD 2-9)
- Trauma team activation (TTA) criteria (CD 5-13)
- All TTAs must be categorized by the level of response and quantified by number or percentage (CD 5-14, 5-15)
- Response times, ideally from trauma registry data, for imaging and procedures, arrival of critical personnel must be monitored. Potential overtriage and undertriage cases should be identified and reviewed monthly (CD 16-7)
- Trauma patient admissions (NTDS definition) to nonsurgical service should be no higher than 10 percent and must be reviewed monthly (CD 5-18)
- Direct admission of trauma patients with no trauma consult.
- Acute transfers out
- Multidisciplinary trauma peer review committee attendance (CD16-15)
Trauma Center Events: Orange Book Core Measures

- Trauma center diversion-bypass hours must be routinely monitored, documented and reported, including the reason for initiating the diversion policy, and must not exceed 5 percent (CD3-6)
- **Availability of the anesthesia service** (CD 11-4, 11-7, 11-16, 11-18)
- Delay in operating room availability must be monitored (CD 11-16, 11-18)
- **Rate of change in interpretation of radiologic studies should be categorized by RADPEER or similar criteria (describe the process/scoring system used)** (CD 11-32, 11-37)
- Transfers to a higher level of care within the institution (CD 16-8)
- Solid organ donation rate (defined as number of organ donations divided by number of potential donors)(CD 16-9)
- Trauma registry- percentage of completed registry records within 2 months of discharge should be determined (the threshold is 80 percent).(CD15-6)
Clinical Practice Guidelines, Protocols, and Algorithms

Trauma programs should seek to reduce unnecessary variation in the care they provide. To achieve this goal, a trauma program must use clinical practice guidelines, protocols, and algorithms derived from evidenced-based validated resources (CD 16–4). In areas where there is an absence of such resources, consensus-based institutional guidelines should be established according to the most current available peer-reviewed literature and clinical experience and acumen. Once implemented, trauma programs should track compliance with their clinical practice guidelines, protocols, and/or algorithms and ultimately monitor them for effects on outcome. Examples of such activities include the following:

- The use of massive transfusion protocols in patients with exsanguinating hemorrhage.
- Assessment and clearance of the cervical spine.
- The management of severe traumatic brain injury.
- The reversal of oral anticoagulants, the timing of antibiotic administration, and time to the operating room for open fracture management.
- The use of venous thromboembolism prophylaxis.
- Deep vein thrombosis or pulmonary embolism events.

A current list of online resources can be found at www.facs.org/quality-programs/trauma/vrc/resources.
Trauma System Performance Improvement
Trauma System Performance Improvement

A System Performance Improvement Plan in an organized trauma care system consists of internal and external monitoring and evaluation of care provided through the phases of care and continuum of care.

The goal of monitoring is to identify opportunities to reduce inappropriate variations in care and to develop corrective action strategies. The effectiveness of the corrective action is monitored and measured through progressive review cycles.
Trauma System Performance Improvement: Opportunities for Improvement (OFI)

- Regional or State metrics
- Undertriage
- Time at facility prior to transfer
- Communication between referring and accepting facilities
- Need for intubation enroute or on arrival at receiving facility
- Need for chest tube at receiving facility
- Missed injuries at referring facility
- Inappropriate splinting or C-spine stabilization
- Communication back to referring facility

- Identify cases for closer review
- Meant to be helpful
- Not a judgment of care
Performance Improvement Audits
Levels of Review

Levels of review can be determined by degree of harm to the patient.

A few general definitions to be taken into consideration when choosing the highest level of review needed for an Event include:

**Missed injury** - An injury discovered after the patient is discharged or after death (includes those found on autopsy).

**Delayed diagnosis** - An injury found after completion of the first trauma tertiary survey, but before the patient leaves the hospital.
Impact (Degree of Harm) of Event

Harm is defined as *injury, suffering, disability or death*.

The patient safety incident can have an impact on the patient at various levels, from **Mild** right through to the **Death** of one or more patients.

Impact/Degree of Harm

**Temporary** - Condition resolves prior to discharge from the trauma admission or there is an expectation that it will resolve within 6 months of the Event.

**Permanent** - Condition is present at discharge and does not resolve within 6 months of the complication or Event, is not expected to resolve, and may or may not be lifelong.
Degree of Harm

**No Harm** – Standard of care provided with some deviations with no impact to the patient

**No Detectable Harm** – Event occurred but did not reach or impact patient; no treatment
Degree of Harm

**Minimal Harm** – Impact to patient, is **symptomatic**, symptoms are mild, loss of function is minimal or intermediate but short term, and **no or minimal intervention** (extra observation, investigation review, minor treatment) is required.
Degree of Harm

**Moderate Harm** – Patient outcome is **symptomatic**, requiring an intervention (e.g. operative intervention, therapeutic treatment), and increase in the length of stay, or **causing long term loss of function**; requires **high level of care**; expected to resolve prior to discharge
Degree of Harm

**Severe Harm** – Patient is symptomatic, requiring *life-saving intervention* or major *surgical/medical critical care intervention*, shortening life expectancy or causing major permanent or long term harm or loss of function; error in judgment, deviation from practice, system delays; impact quality of care; quality of life
Degree of Harm

**Death** – death was caused or brought forward by the Event
Trauma Performance Improvement

Primary Review

Secondary Review

Tertiary Review

Event Identification
- Referral Facility Care
- Transport Team
- ICU/Acute Care
- Rehab or post discharge

TMD, TPM, TPIC, TRN, TR

Pre-Hospital PI
- Quarterly

Trauma Peer Review
- Monthly

Trauma Systems Committee
- Monthly

Trauma M&M
- Weekly

Elevated to Hospital PIC
- Monthly

Actions
- Education Session
- Discussion/Counseling
- Trend for Future Reporting
- Guideline/Policy Development
- PI Team Project
Levels of Review

Primary Review

- Event identification
- Validation of Event
- Drill down on contributing factors
- System Event or patient Event
- Degree of harm
- Immediate resolution
- Feedback to those involved

- Management Process Written in PIPS Plan
  - System Events with No Harm to Patient-TPM Manages
  - Patient Impact with Harm–TMD Must Address
  - Physician Events–TMD Must Address
Levels of Review

Secondary Level of Review
• TMD Screening – Triage
• Review Impact, Level of Harm, Type of Event, Domain
• TMD confirms level of harm
• Triage Events for review
• Referrals
• PI Workgroup
• Request additional data
• Close

ALWAYS SCREENED BY TMD
Levels of Performance Review

Secondary Review

- Review by TPD or TPM/PI Coordinator concurrently
  - (weekly or biweekly)
- Triage Events to the next level:
  - Refer to Trauma Multidisciplinary Review
  - Refer to Trauma M & M (clinical non-death)
  - Refer to Trauma Mortality Review (death)
  - Refer to Hospital PI Committee(s)

Trauma PI can set the tone for PI in the entire health care facility
Levels of Review

Tertiary Level of Review

• Trauma Multidisciplinary Peer Review
• Trauma M & M
• Clinical Management Guidelines
  - Compliance tracking
  - Concurrent tracking in registry
  - Variance analysis reports
  - Provider specific
• Financial Outcome Review with Hospital Finance
Levels of Review

Tertiary Review

• Provider peer discussion
• Reason for event referral – Capture in minutes
• Capture essence of the discussion
• Discussion of how to prevent
• Contributing factors
• Corrective actions recommended
• Review with TMD
• Implement action plan
Levels of Review

Quaternary Review
• External Care
• Forums
  - External Peer Review
    ○ Region, State, Expert
  - Hospital Medical Staff Peer Review
  - Other Hospital Review
  - Affiliate Hospital Review
• Mock Site Surveys by subject matter experts
### Performance Improvement Audits

#### Performance Improvement Audits

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<thead>
<tr>
<th>Audit</th>
<th>Status</th>
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<th>Peer Review Date</th>
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#### Patient Safety Taxonomy

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#### Physical
- Inaccurate or incomplete information
- No Harm
- Potential for harm
- Minimal temporary harm
- Minimal permanent harm
- Moderate temporary harm
- Moderate permanent harm
- Severe temporary harm
- Severe permanent harm
- Death

#### Psychological
- No Harm
- Minimal temporary harm
- Minimal permanent harm
- Moderate temporary harm
- Moderate permanent harm
- Severe temporary harm
- Severe permanent harm
- Profound mental harm

#### Legal
- Legal department contacted
- Compliant registered w/ Patient Affairs
- Potential legal risk

#### Socioeconomic
- Delayed disposition
- Unnecessary hospital admission
- Unnecessary EMS/Air transport
- Unnecessary procedure
- Unnecessary treatment
- Behavioral issue
## Patient Safety Taxonomy: Impact/Degree of Harm

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<td>Profound mental harm</td>
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### Legal
- Legal department contacted
- Complaint registered w/ Patient Affairs
- Potential legal risk

### Socioeconomic
- Delayed disposition
- Unnecessary hospital admission
- Unnecessary EMS/Air transport
- Unnecessary procedure
- Unnecessary treatment
- Behavioral issue

### Additional Notes
- **Staff:** - Staff -
- **Source:** - Select -
- **Type:** - Select -
- **Note:**
Patient Safety Taxonomy: Type
# Patient Safety Taxonomy: Domain

## Setting
- Scene
- Transport
- Transferring facility
- Emergency Department
- Radiology
- Interventional Radiology
- Operating Room
- Post Anesthesia Care Unit
- Intensive Care Unit
- Step Down
- Floor
- Clinic

## Phase
- Evaluation
- Resuscitation
- Acute Care
- Post discharge

## Time
- Weekday
- Weekend/Holiday
- Day
- Night
- Shift Change
- Mass Casualty

## Staff Providers
- Trauma Surgeon
- Fellow
- Resident
- Physician Assistant / Nurse Practitioner
- Emergency Medicine physician
- Intensive Care Unit physician
- Anesthesia
- Neurosurgery
- Radiology
- Outside provider

## Additional Notes

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# Patient Safety Taxonomy: Cause/Contributing Factors

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<tr>
<th>Systems (Structure/Process)</th>
<th>Technical</th>
<th>Human Practitioner Factors</th>
<th>Patient Factors</th>
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<td>Organizational</td>
<td>Facilities</td>
<td>Practitioner Skill-based</td>
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<td>External</td>
<td>Practitioner Rule-based</td>
<td>Left against medical advice</td>
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<td>Practitioner Knowledge-based</td>
<td>Left without being seen</td>
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<td>Practitioner fatigue</td>
<td>Left before treatment completed</td>
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<td>Practitioner Unclassifiable</td>
<td>Family issue</td>
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<td>Intentional rule violations</td>
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<td>Protocols/Processes</td>
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<td>Multiple Casualty incident</td>
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<td>Inadequate/absent policy or practice management guideline</td>
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<td>Diversion</td>
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### Patient Safety Taxonomy: Prevention Strategy

#### Additional Notes

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#### Universal
- Improve the accuracy of patient identification (P)
- Improve the effectiveness of communication among caregivers (P)
- Improve the effectiveness of clinical alarm systems (P)
- Reduce the risk of health care-acquired infections (M)

#### Indicated
- Improve the safety of using high-alert medications (P)
- Improve the safety of using infusion pumps (P)
Performance Improvement Audits

### Performance Improvement Audits

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- **Audit Staff Involved:**
- **Occurrence Date:**
- **Location Of Occurrence:**

- **Peer Review Date:**
  - **Actions:**
  - **Determination:**
    - System_Related
    - Provider-Related
    - Not Known/Not Recorded
- **Further Explanation/Action:**
- **Preventability:**
- **Findings:**

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### Patient Safety Taxonomy

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- **Physical**
  - Inaccurate or incomplete information
  - No Harm
  - Potential for harm
  - Minimal temporary harm
  - Minimal permanent harm
  - Moderate temporary harm
  - Moderate permanent harm
  - Severe temporary harm
  - Severe permanent harm
  - Death

- **Psychological**
  - No Harm
  - Minimal temporary harm
  - Minimal permanent harm
  - Moderate temporary harm
  - Moderate permanent harm
  - Severe temporary harm
  - Severe permanent harm
  - Profound mental harm

- **Legal**
  - Legal department contacted
  - Compliant registered w/ Patient Affairs
  - Potential legal risk

- **Socioeconomic**
  - Delayed disposition
  - Unnecessary hospital admission
  - Unnecessary EMS/Air transport
  - Unnecessary procedure
  - Unnecessary treatment
  - Behavioral Issue
Developing Corrective Action Plans

• Provider-related Events actions:
  • Education
  • Counseling
  • Change in privileges

• System-related Events actions:
  • Guidelines & protocols
  • Education
  • Enhanced resources ($)
Mitigation Action VS Preventive Action

- Root cause → Problem → Quality Improvement
- Potential Cause → Potential Problem → Quality Improvement

Mitigation Action
Preventive Action
Corrective Action Mitigation
5 Step Process

IDENTIFY
- Identify the Opportunity for Improvement and enter into *PI tracking system
- Associate system related Event to a patient; link the Corrective Actions to future patients

ANALYZE
- Document and analyze the current state of the ‘Event’ using registry data, benchmarks
- Identify contributing factors: System, Provider, Patient

ACTION
- Appoint a PI Team (≤5) and SME to brainstorm corrective actions & mitigation strategies
- Document PI Team Charge (goals) and present recommendation on specific trouble areas

IMPLEMENT
- Design a roadmap to support implementation with timeline for improvement
- Manage the implementation across the continuum

EVALUATE
- Evaluate loop closure with metric driven criteria
- Monitor for set time (really depends on how often the Event occurs: 1x/day, month, year

DOCUMENT
- Enter ALL follow up actions in the Corrective Action area, with date of completion
- Attach all Emails, letters, draft or completed CPGs, copies of Evidence Base Practice
Failed Corrective Action

• Did the corrective action address only the symptoms of a problem and fail to address the root cause?
• Was a corrective action for a known deficiency not implemented or disregarded? (Inaction when addressing safety is not acceptable)
• Did management decide to implement lower cost or otherwise different corrective actions that didn’t adequately fix the previously discovered Event?
Opportunities for Improvement

- ED Nursing Documentation
- Integration of Trauma PI into Hospital PI
- Physician Attendance at Peer Review
- Undertriage
- Geriatric Trauma
- OB Trauma Activation
- Pediatric Trauma Activation (adult trauma center)
- Inter-rater Trauma Registry validation
- F.A.S.T. ultrasound validation process
- Simulated Trauma Activation Training
- PTSD training
- Decrease direct admits from referring facilities
# Corrective Action Mitigation
## 5 Step Process

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
</table>
| **IDENTIFY** | • Identify the Opportunity for Improvement and enter into *PI tracking system*  
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| **DOCUMENT** | • Enter ALL follow up actions in the Corrective Action area, with date of completion  
• Attach all Emails, letters, draft or completed CPGs, copies of Evidence Base Practice |
Nursing Documentation on Trauma Flowsheet

Goal Statement: Improved Trauma Flowsheet Documentation Compliance will be at 95% within 6 months

- Analyze each area of weakness
  - Vital Signs
  - Physical Assessment
  - Response to Interventions

Trauma Flowsheet Focus Group

- Redesign FS with **Key Area** shading
- Physical Assessment Checkboxes
- Response to Intervention Checkboxes
- Education/Train the Trainer/Training

JUL 2017

42%

75%

Audit tied to Staff Evaluations
>95% compliance with key metrics

MAR 2018

97%

Implement Real Time Audit (end of each shift)
Roadmap for Corrective Action

**Nov 2017**
Corrective Action Plan Developed

**Jan 20158**
Policy, Education Prevention

**Feb 2018**
Implement Policy after Training

**March 2018**
Tracking Metric to Measure Compliance

**April 2018**
Analyze Metric data and report to Committee

---

**Deficiency:** Trauma PI Process does not identify opportunities for improvement or integrate with the hospital quality department

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Receive Report of Deficiency Forward to Trauma Medical Director</td>
</tr>
<tr>
<td>2</td>
<td>Appoint Trauma Workgroup</td>
</tr>
<tr>
<td>3</td>
<td>Draft Goals and Objectives</td>
</tr>
<tr>
<td>4</td>
<td>Present Goals and Objectives to Department Managers</td>
</tr>
<tr>
<td>5</td>
<td>Provide feedback</td>
</tr>
<tr>
<td>6</td>
<td>Refine Goals and Objectives based on feedback</td>
</tr>
<tr>
<td>7</td>
<td>Approve Goals and Objectives Prioritize Objectives</td>
</tr>
<tr>
<td>8</td>
<td>Present Vision and Goals to all staff</td>
</tr>
<tr>
<td>9</td>
<td>Individually present Objectives to all staff</td>
</tr>
</tbody>
</table>

---

**Trauma Program Manager**

**Trauma Medical Director**

**Trauma Workgroup**

**Trauma System Committee**

**Hospital Quality Department**
Corrective Action: Physician Attendance <50%

**IDENTIFY**
- Physician attendance at Peer Review Committee or Systems Meeting was noted as deficiency/weakness at verification review
- Review the attendance logs; validate it is not a sign in issue; assess if alternate attended

**ANALYZE**
- Query liaisons for rationale; If attendance is a Medical Staff Bylaw; official appointment letters
- Assess the suitability of the Liaison and commitment to trauma program; Committee appointment letter from COS, Chair, CEO

**ACTION**
- Change the meeting time; combine Peer and System back to back; Serve lunch/breakfast/pizza
- Set up reminders in Outlook for all attendees; call/text cell on the day of the meeting; offer CME!!

**IMPLEMENT**
- Increase Participation: Establish roles for each participant, reporting calendar for each department, and hold accountable
- Provide education to all Committee participants and liaisons as to the changes and strategies
- Sign in sheets monitored on entrance and exit; ‘Read Receipt’ when minutes are E-distributed

**EVALUATE**
- Evaluate compliance with attendance; 50% minimum goal; 100% expectation
- Disseminate minutes with signature of review when there is absence
- Monitor for set time; loop closure with metric driven criteria; show integration into Hospital PI process/Bylaws Process
## Over and Under Triage Report

### March 2017

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<tr>
<th>Arrival Year-Month: 2013-03</th>
<th>ISS 1 to 9</th>
<th>ISS 10 to 14</th>
<th>ISS 15 to 24</th>
<th>ISS &gt;= 25</th>
<th>Total with ISS</th>
<th>Not Valued ISS</th>
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<tr>
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<tr>
<td><strong>Consult</strong></td>
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<td>0</td>
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<td>0</td>
<td>0</td>
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<tr>
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<td>0</td>
<td>2</td>
<td>3</td>
<td>22</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
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<td>2</td>
<td>3</td>
<td>3</td>
<td>28</td>
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</table>

### Over Triaged
- Number of Patients: 5
- Percentage: 83.33%

### Under Triaged
- Number of Patients: 5
- Percentage: 22.73%
# Over and Under Triage Report

**July 2017**

<table>
<thead>
<tr>
<th>Arrival Year-Month: 2013-07</th>
<th>ISS 1 to 9</th>
<th>ISS 10 to 14</th>
<th>ISS 15 to 24</th>
<th>ISS &gt;= 25</th>
<th>Total with ISS</th>
<th>Not Valued ISS</th>
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</thead>
<tbody>
<tr>
<td>Highest</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Second Level</td>
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<td>0</td>
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<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Consult</td>
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<td>0</td>
<td>0</td>
<td>3</td>
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<td>14</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>21</strong></td>
<td><strong>0</strong></td>
<td><strong>0</strong></td>
<td><strong>2</strong></td>
<td><strong>23</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Over Triaged**
- Number of Patients: 3
- Percentage: 60.00%

**Under Triaged**
- Number of Patients: 0
- Percentage: 0.00%
Geriatric Trauma NICHE Initiative: Project Time Line

Goal: implement a multidisciplinary approach to geriatric trauma, minimizing polypharmacy, delirium prevention, pain control, early definitive OR repairs, and rapid preoperative risk evaluations

02/08/2016

DEFINE

- Implement a Geriatric Trauma initiative focused on best practices and evidence-based approaches for improving outcomes in the acute care of older adult patients

03/01/2016

MEASURE

- LMC Geriatric Trauma volume is 51% of trauma patients in first 2 months of 'trauma ready'. PA volume of geriatric patients is 13.5%, but in this area county it is 18%. Only 8% of US trauma centers incorporate Geriatric Resource Programs

03/01/2016

ANALYZE

- Trauma is the 5th leading cause of death in the geriatric population and negative outcomes post trauma are not always due to the injury. Early and consistent intervention coupled with enhanced nurses education related to geriatric care is needed.

03/01/2016 06/30/2016

IMPROVE / IMPLEMENT

- Geriatric Trauma Nursing Education and Competencies (Foresman-Capuzzi, Christy Visconti, Lisa Lupica)
- Pain Management, Non-pharmaceuticals, Delirium control (Donna Stecher, Deb Andresen)
- Palliative Care Consultation (Dr. Chris Jones)
- Injury Prevention Education and Injury Prevention Consults (Flo Byarims)

06/30/2016

CONTROL

- Improved outcomes:
  - Decrease in morbidity and mortality
  - Enhanced nursing skills and confidence
  - Improved pain management, mobility, and nutrition
  - Greater patient, family, and staff satisfaction

2/08/2016 – 6/30/2016

Team Members:
- Fran Cusick (Director of Nursing)
- Joyce Foresman-Capuzzi (3S Nurse Educator)
- Christie Visconti, (Trauma/ICU Educator)
- Lisa Lupica (NICHE Coordinator)
- Mary Canan (Nurse Manager 3S)
- Deborah Andresen (3S Clinical Coordinator)
- Donna Stecher (Clinical Pharmacist)
- Darlene Gondell (Trauma PI Coordinator)
- Kathleen Martin (Trauma Program Manager)
- Sharon Hanglider (Nutrition)
- Mary Young (PT)
- Anne Judge (Trauma CRNP)
- Dr. Chris Jones (Palliative Care)
- Flo Byarims (Injury Prevention Coordinator)
Let’s Talk........

What are the biggest Events in your trauma system?

- Communication
- Regulation
- Documentation
- Triage
- Transfers/Transport
- Delays
- Complications

What data do you need to analyze the Event?
Summary

• Don’t try to run before you can walk
• What is the significance of the event?
• Take Events through Levels of Review
• Triage Events based upon Degree of Harm
• Delay to OR with a poor outcome: Severe
• Poor compliance with ED Nursing documentation: Minimal

• Document each step of the process in your Trauma PIPS Plan!
Thank you!

Questions?

Kathleen.martin2@uchealth.org