TOPIC

RURAL TRAUMA OUTCOMES & PERFORMANCE IMPROVEMENT COURSE

STN
SOCIETY OF TRAUMA NURSES

1

Financial Disclosures

Faculty/Presenters/Authors/Content Reviewers/Planners disclose no relevant financial relationships for this educational activity.

2

Course Objectives

Discuss how to build a culture of safety & performance improvement in the rural trauma center.

Describe levels of the PI review process.

Apply audit filters, core measures, and practice management guidelines to minimize variation in rural trauma center care.

Review data management processes.

3

Course Objectives

Identify options for trauma reports that are specific to the rural trauma center.

Explain committee structures and functions, to include integration with telemedicine, EMS, and hospital quality.

Demonstrate the use of PI skills in case reviews.

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STN Rural TOPIC Course Recognizes and Dedicates this Course to Donald Jenkins, MD, FACS

Donald H. Jenkins, MD, FACS, Colonel (retired), Medical Corps, US Air Force

Professor of Surgery and Vice Chair for Quality, Department of Surgery, University of Texas Health Science Center in San Antonio

US Air Force

Trauma Medical Director, Wilford Hall Medical Center, then the only Air Force Level I Trauma Center, 2000-2008

Trauma Medical Director, Joint Theater Trauma System (JTTS), Iraq & Afghanistan, 2006, and Joint Trauma System, 2007-2008

Trauma professional societies

TOPIC instructor

Past Chair, ACS Performance Improvement and Patient Safety Committee

Past President, Eastern Association for the Surgery of Trauma, 2010

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Rural TOPIC Course

Practical application of trauma performance improvement for the rural trauma centers with limited resources and low trauma volume (with high acuity events).

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Rural TOPIC Course Collaboration

ACS
JOHN ARMSTRONG, MD,FACS

EAST
ALEXANDRA BRIGGS, MD

ACS RURAL COMMITTEE
MICHAEL PERSON, MD

TOPIC

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Evolution of TOPIC

Initial goal
To provide Trauma Program Managers with Trauma PI structure and processes
2003
1st course offered at STN Annual Conference
2004-2005
Received HRSA grant to teach TOPIC in 50 states
2006
Collaborated with ACS to regionalize TOPIC
2010-2012
STN/ACS collaborated to reengineer and teach TOPIC
2015
TOPIC revised for consistency with new Resources of Optimal Trauma Care
2019
TOPIC revised based on participant feedback and to increase course interaction
2020
Rural TOPIC Course implemented
2022
Integrated the American College of Surgeons (ACS) 2022 Standards for Verification

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Successful Completion

To successfully complete the course, participants must attend the entire course.

Attendance must be verified by signature on the sign-in sheets or camera on for virtual courses.

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Obtaining Continuing Education

Upon completion of the course, you will receive an email with a link to the online course evaluation. Evaluation should be completed within 10 days.

Nurses will be directed to the STN website with direction on how to download the CE certificate.

Physicians will be directed to UK College of Medicine site to complete CME requirements and obtain certificated.

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Continuing Nurse Education

Society of Trauma Nurses is accredited as a provider of nursing continuing professional development by the American Nurses Credentialing Center's Commission on Accreditation.

This event has been awarded 6.5 contact hours

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Continuing Medical Education

This activity was planned and implemented in accordance with the Essential Areas and policies of the Accreditation Council for Continuing Medical Education through the joint providership of the University of Kentucky College of Medicine and Society of Trauma Nurses. The University of Kentucky College of Medicine is accredited by the ACCME to provide continuing medical education for physicians.

The University of Kentucky College of Medicine designates this live activity for a maximum of 5.75 AMA PRA Category 1 Credit(s)™. Physicians should only claim credit commensurate with the extent of their participation in the activity.

The University of Kentucky College of Medicine presents this activity for educational purposes only. Participants are expected to utilize their own expertise and judgment while engaged in the practice of medicine. The content of the presentations is provided solely by presenters who have been selected for presentations because of recognized expertise in their field.

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STN Membership

- Only organization dedicated to trauma nursing
- All phases of care in all settings
- Opportunities for participation
- Committees
- Special interest groups
- Active Membership
- Associate Membership
- Assistance in education of under-developed countries
- Free educational contact hours through webinars

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Course Format

- Interactive Presentations
- Practical Skills Application
  - Using the PI process in rural settings
  - Defining what is managed through peer review versus operations committees

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Participant Introductions

- Name
- Role
- Type of trauma center
- Trauma center volume
- Experience in trauma system
- Have you taken TOPIC before
- Why you are attending TOPIC

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What is Quality Care

Institute of Medicine

Health care quality is the degree to which health care services increase the likelihood of desired health outcomes for individuals and populations and are consistent with current professional knowledge.

Structured approach

- Uses evidence-based practice
- Identifies opportunities for improvement (OFIs)
- Improves care for the next patient

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Why is Performance Improvement important?

- Better outcomes
- Promotes accountability
- Supports team wellbeing
- Engages patients & families
- Aligns with reimbursement

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TOPIC

Building the Structure and Culture of Safety
Module 1

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Where To Start

- STRUCTURE
- PROCESS
- OUTCOMES
- CULTURE OF A TRAUMA CENTER

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Elements of Success

- Leadership
- Commitment
- Communication
- Relationships
- System Development
- Well-being

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Integration with Hospital Quality / Risk

Integrate	Integrate with Hospital Quality PIPS Plan
Refer	Refer to other PIPS/peer review committees (EMS, ED, Critical Care, Hospital)
Present	Present trauma reports & annual report to Hospital Quality, Governing Board, & community
Share	Share defined PIPS minutes with Risk/Quality
Enable	Enable trauma access to Hospital Incident/Event reports (Patient Safety Systems)
Ensure	Ensure access to trauma dashboards by hospital leadership

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Trauma Medical Director & Trauma Program Manager As Leaders

- PI improves patient care
- It requires attention to detail
- It needs dedicated time
- It addresses complex multispecialty, multidisciplinary, & multi-departmental care

Most **COMMON** Reason for Focused Site Surveys

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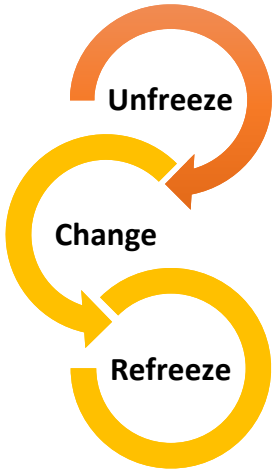
Trauma Performance Improvement Drives Change To Improve Care & Outcomes

Lewin's Change Theory



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Plan - Do Study - Act (PDSA)

- Most common in healthcare performance improvement
- Reduces or removes unnecessary activities and variations
- Increases efficiency, decrease costs, and improves quality
- Improves one issue at a time

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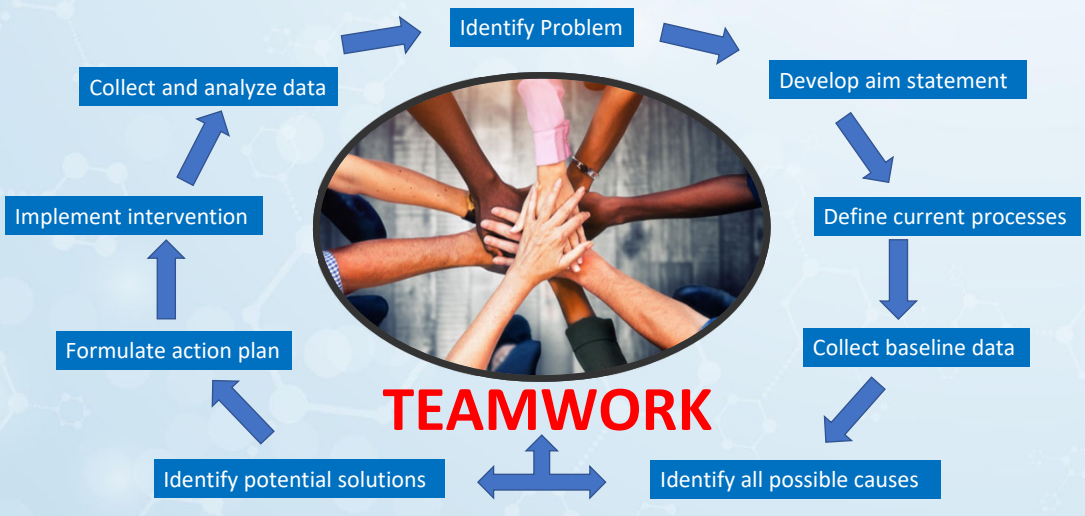
PDSA Model



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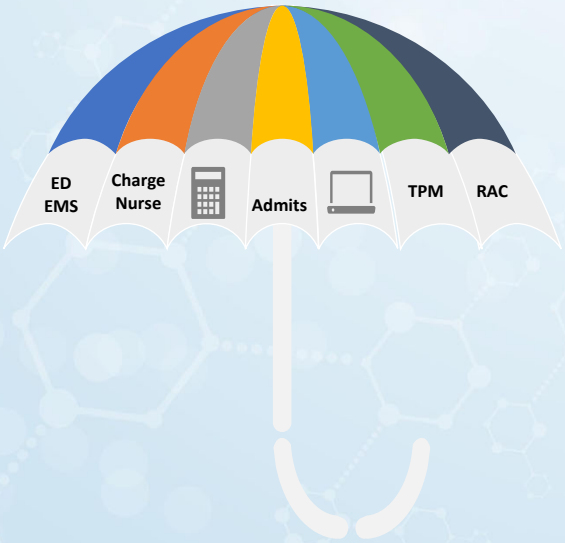
Many Tasks of Rural Staff



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Trauma Center

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Culture of Safety

- Remove language of blame
  - Preventable
  - Cause
  - Unanticipated
  - Who did this?
- Find OFIs
- Promote tracking
- Encourage mutual accountability

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Culture of Safety: Inherent Risks

System Risks	Human Factors
• Technology • Competing priorities • Distracting environments • Variable clinical skills & experience • Heterogeneous patients	

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What Impacts Culture of Safety in the Workplace: Communication and Teamwork

Communication

- Fabric of a well functioning team
- Enhances situational awareness (huddles)
- Promotes information exchange (EMS time out)
- Ensures consistency of content (SBAR)
- Connects care for the injured patient
- Enables team focus

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Building a Culture of Safety

- Team training
- Rounding
- Safety teams
- Rapid response teams
- SBAR
- Engage all levels of staff

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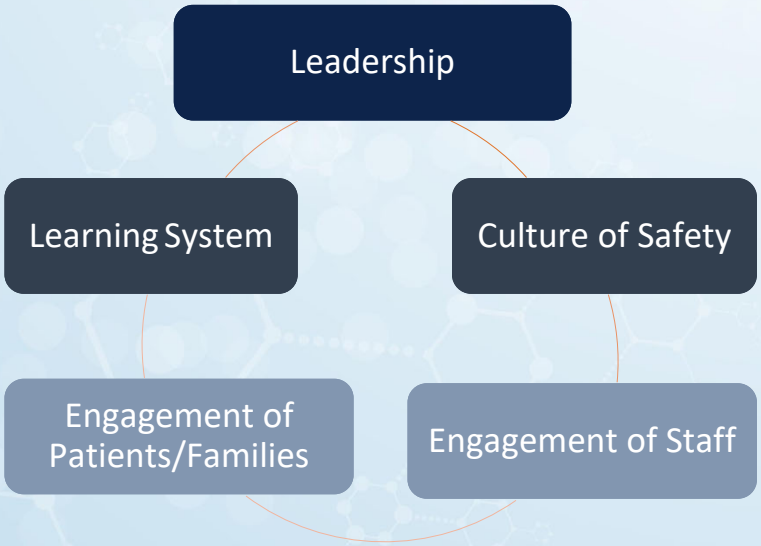
Highly Reliable Organizations



Institute for Healthcare Improvement (www.ihi.org

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Equity

Access to care

Consistent management guidelines

Consistent outcomes

Each individual has a fair opportunity to achieve their full health potential

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Disparities or Inequities in Care

Differences in care

- Access to care
- Management guidelines or treatment
- Outcomes

Differences between individuals across populations that are systemic, avoidable, or predictable

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Trauma Performance Improvement Plan

- Establishes authority and structure
- Establishes opportunity for continuity
- Offers blueprint for the operational processes of PI
- Establishes events for review
- Defines the levels of review

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11 Essential Principles For Success

- Appropriate team
- Clearly defined goals, process, and parameters
- Structured communication
- Common language
- Shared understanding
- Authority
- Champions
- Shared norms and accountability
- Skilled facilitation
- Understanding of systems theory
- Self-evaluation

Berg et all Journal Trauma Nursing 2011

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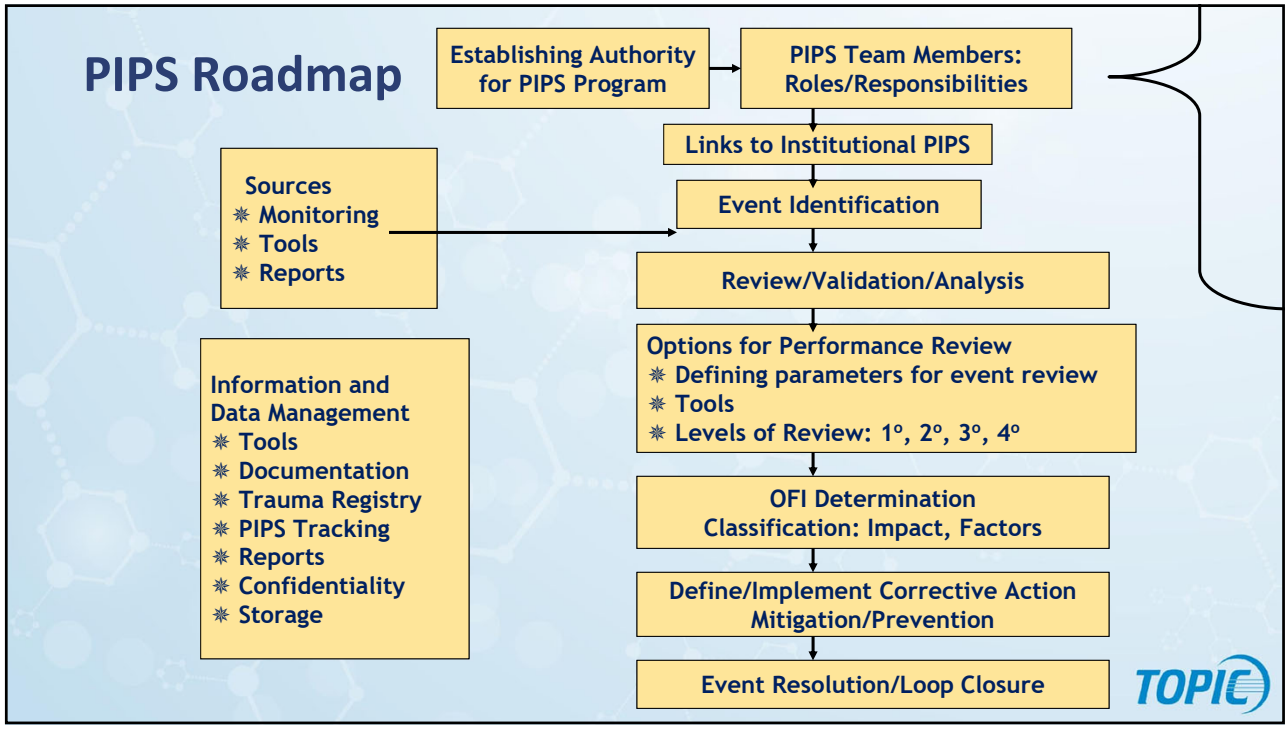
PIPS Roadmap



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Trauma Program Authority

- Board Resolution
- Medical Staff Resolution
- C-suite Commitment
- Trauma Medical Director (TMD)
- Trauma Program Manager (TPM)
- Trauma Operational Plan (Scope of Service)
- Trauma Performance Improvement Plan

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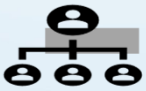
Trauma Center Administration (C – Suite)

Commitment

Resources

Support



Appropriate Organizational Structure

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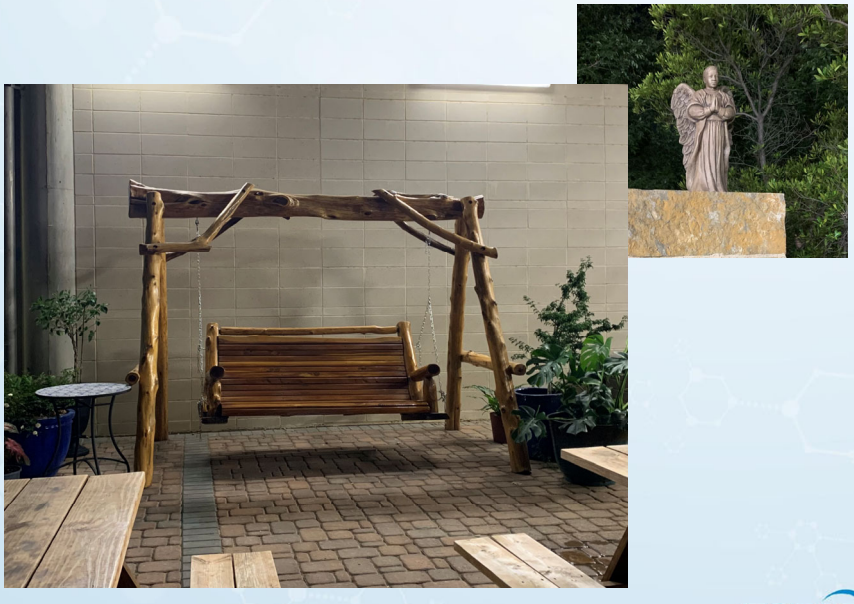
Resilience
Wellbeing



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TMD Authority

- Trauma program & trauma care oversight
- Trauma Performance Improvement
- Trauma peer review & trauma operations committee
- Physician credentialing to participate on trauma
- Participation in the disaster response planning
- Participation in regional trauma system development

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TMD Roles & Responsibilities

- Conducts Secondary Level of Review
- Identify Opportunities for Improvement
- Define Action Plans *
- Evaluate Action Plan Outcomes *
- Recommend Event Resolution *
- Chairs Trauma Peer Review & Trauma System Operations

*In collaboration with the TPM

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TMD Contract

Contract with Trauma Center

Hours Dedicated to Performance Improvement

Authority for trauma care from prehospital to hospital discharge

Hours Dedicated to Meetings
- Operations Committee
- Trauma Peer Review
- Trauma System Participation and Development
- Regional System Participation

On-call Schedule

Trauma Management Guidelines

Case Reviews

Credentialling

Disaster Management Responsibilities

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TPM Roles & Responsibilities

- Aligns with Trauma Center designation
- FTE resources linked to trauma volume
- Operationalizes PIPS plan
- Manages trauma registry
- Prepares for, and moves actions from, committee meetings (Operations and Peer Review) into operations
- Promotes data management & confidentiality
- Connects trauma program to hospital departments

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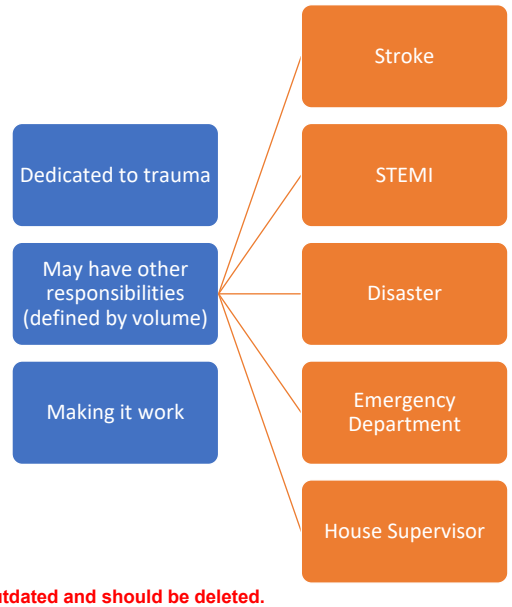
Trauma Program Manager



Note: The term "Trauma Coordinator" is outdated and should be deleted.

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Registrar Roles & Responsibilities

- Authority for registry integration with TPIPS
- Validates data
- Completes 80% registry profiles within 60 days of discharge
- May be integrated into TPM role
- Assists in PIPS planning
- Generates reports
- Assists in tracking loop closure

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Trauma Liaisons & Department Responsibilities

- Trauma Liaisons
  - Commitment
  - Expectations
- Departments
  - Commitment
  - Education
  - Care processes c/w trauma guidelines
  - Documentation

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Getting Started

- Job Descriptions
- Commitment - Resolutions
- Trauma Activation Guidelines
- Trauma Resuscitation Guidelines
- Admission / Discharge Guidelines
- Transfer Guidelines
- Trauma Management Guidelines
- Trauma Education
- Trauma Documentation Standards

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Trauma PIPS Scope

- All phases of trauma care
  - Resuscitation
  - Diagnostic evaluation
  - Where trauma patients admitted
  - Continuum of care to discharge
  - Clinical Practice Guidelines
  - Documentation

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Integration of Telemedicine Physicians

Contracts

- Physician Credentialing
- Clinical Practice Guidelines
- Data Business Use Agreement
- Attendance at Peer Review
- Attendance at Operations meeting
- Documentation Standards

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Initial Activities Reviewed in TPIPS

- Trauma activation guidelines
  - Compliance
    - Timely
    - Appropriate level
    - Timely response
  - EMS communication
  - Time to transfer; transfer coordination
- Admission & transfer guideline compliance
- Trauma management guideline compliance
- Timeliness and coordination of care

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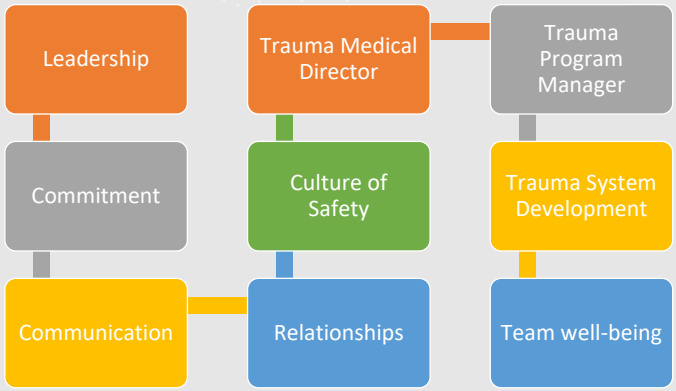
How do you integrate these processes into practice?



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Summary

- Leadership
- Purpose of PIPS – Create and Sustain Needed Change
- PDSA Model for PI
- Culture of Safety
- PIPS Authority
- Role of Administration
- Role of TMD, TPM, Registrar

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Processes of Performance Improvement Reviews Module 2

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Do you have a written TPIPS plan?

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TPIPS Plan Elements

- Structure for review
  - Event identification
  - Primary Level Review
  - Secondary Level of Review
  - Factors
  - Tertiary Level of Review
  - Determination
  - Corrective Action Plan
  - Event Resolution
- Confidentiality
- Integration with Hospital PI
- Event Resolution and Re-Evaluation
- Data Quality
- Annual summary defines effectiveness of TPIPS Plan

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TPIPS Plan Elements

Plan needs to reflect the care and resources you provide.

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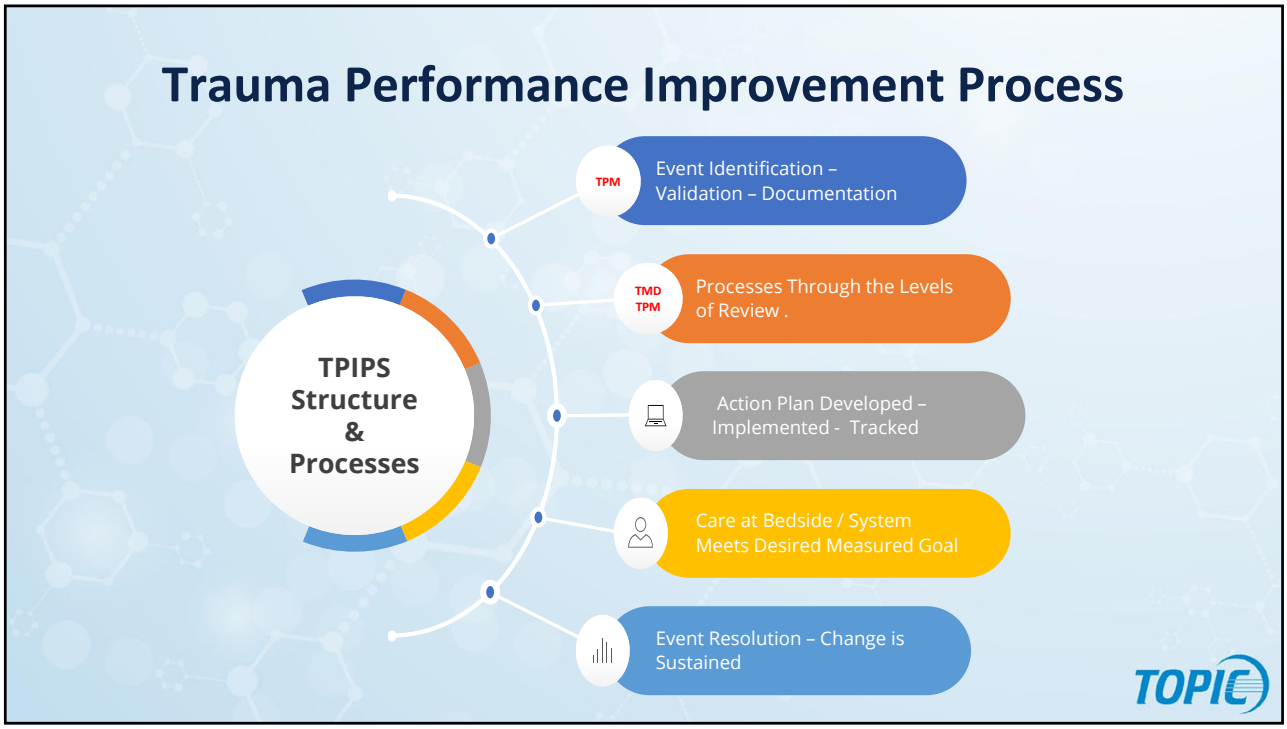

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TPIPS Continuum of Care

- Pre-Hospital
- Trauma Resuscitation Bays
- Radiology
- OR
- ICU
- Specialty Services
- General Unit
- Rehabilitation
- Transfer

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Event Identification

Event = variation in clinical care or system response; an occurrence that has led to or could potentially lead to a poor outcome

- Uses data definitions
- Relates to system, clinician, and/or patient factors
- Identified through case & registry review
- Requires validation
- Define the impact of event on patient, system, and/or team

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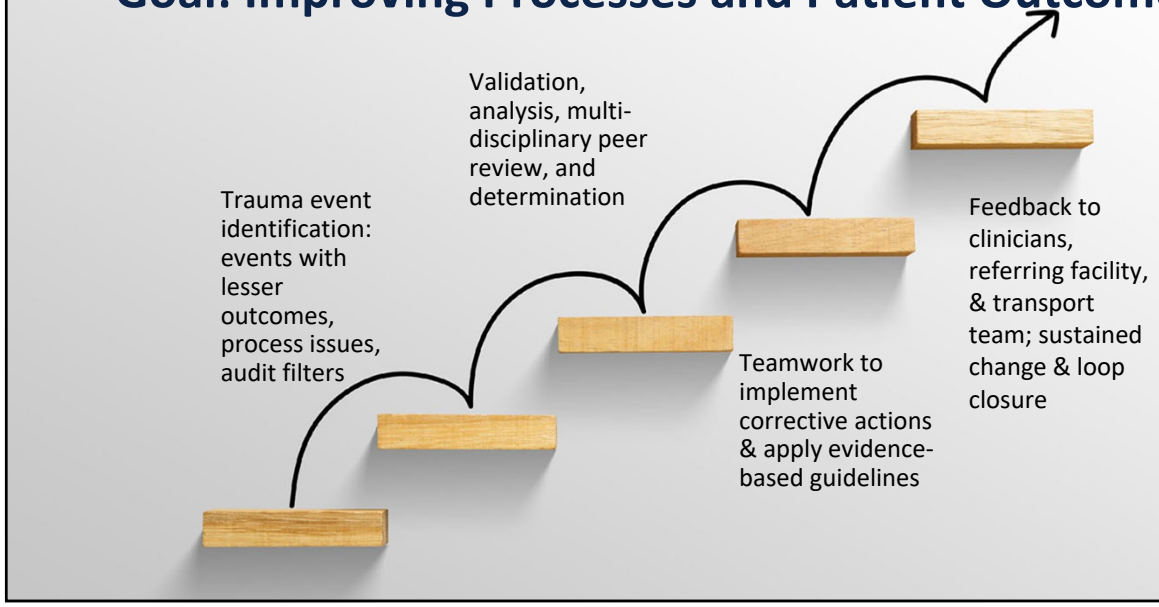
Goal: Improving Processes and Patient Outcomes



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Sources of Event Identification

Internal

Medical Record
Staff Referral
Daily Rounds
PI Activities/ Meetings
Risk/ Quality
Patient Feedback
Registry Activities

External

Air Medical / EMS
Receiving Trauma Center
Transfer In/ Out
Transfer/ Communications Center
Survey Reports
Families, Community
Autopsies

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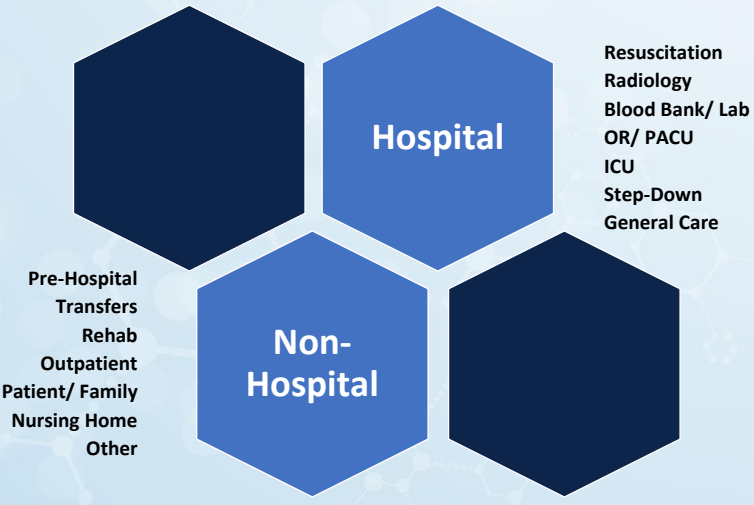
Where Did the Event Occur?



Resuscitation
Radiology
Blood Bank/ Lab
OR/ PACU
ICU
Step-Down
General Care

Pre-Hospital
Transfers
Rehab
Outpatient
Patient/ Family
Nursing Home
Other

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When Did the Event Occur and Who was Involved?

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Elements of PIPS Management

1

Process and tools for tracking identified **events**

- Strongly recommend electronic tracking
- Trauma Registry is best practice
- Standardized reporting formats
- Ability to interface with Hospital Quality, Medical Staff, etc.

2

Event review and documentation

- Level of harm
- Levels of review
- Case review discussion
- Opportunity for improvement

3

Ensure confidentiality at all levels

- Develop action plan
- Implement action plan
- Monitor outcomes of action plan
- See desired changes
- Monitor through resolution

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Adverse / Sentinel Events

- **National Quality Forum Definition of Adverse Event**
  An event that results in unintended harm to the patient by an act of commission or omission rather than by the underlying disease or condition of the patient. A sentinel event is a Patient Safety Event that reaches a patient and results in any of the following: Death, permanent harm or severe temporary harm and intervention is required to sustain life.
- **The Joint Commission (TJC) Sentinel Event Definition**
  An unexpected occurrence involving death, serious physical or psychological injury, or risk thereof.
- https://www.jointcommission.org/resources/sentinel-event/sentinel-event-policy-and-procedures/

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(Adverse Event Examples) Opportunity for Improvement

- Unintended consequence
- Unplanned clinical occurrence
- Therapeutic misadventure
- Peri-therapeutic event
- Hospital-acquired complication
- Medical mishap
- Unexpected occurrence
- Untoward incident
- Iatrogenic complication/injury

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Events: (Audit Filters) Core Measures

Audit Filters assist with monitoring the process of care relative to standards of care

- Proactively look for issues
- Vary over time and across the continuum of care

Core Measures are based on data/scientific evidence about processes and treatments that are known to get the best results for a condition or illness

- Clinical Practice Guidelines
- EAST Guidelines
- Brain Trauma Foundation

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Events

Rate based	Case reviews	Concurrent/Point of Care Review
• Frequency of specific events • Occurrence / total number of trauma cases • Numerator / Denominator	• Review of specific cases where a variation in care was identified – triggers a further review for outcome	• Review of specific populations (e.g. Pediatric, orthopedics, STAT blood)

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Event Reviews

Required

- Regulatory agency
- State/Lead agency required
- Regional/Health System
- Trauma center standards

Institution Specific

- As defined by your trauma program
- May vary with population, and geospatial considerations

Refer to the ACS or State Recommended Events
(ACS2 2022, Resources for Optimal Care of the Injured Patient)

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Core Measure Events for Quality and Patient Safety

- Core Measures utilize data to improve the healthcare delivery process
  - **Process measures**
    - System operations/Not clinical in nature
    - Qualitative filters (e.g. Satisfaction survey)
    - Institutional filters (e.g. Time to CT)
  - **Outcome measures**
    - Clinical/Patient focused
    - Specific to the care provided

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Core Measures for Quality and Patient Safety

- Trauma team activation criteria compliance
- Provider response to ED –trauma activation
- Over and undertriage
- Inappropriate imaging
- Time to Decision to Transfer; Transfer coordination and timeliness
- ED physicians covering other hospital – creating response delays in ED
- Trauma center diversion

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Analysis of Process Measure
Overtriage / Undertriage (Cribari Matrix)

	ISS < 15	ISS > 15	Total
Highest Activation	A	B	C
Second Tier Activation	D	E	F
No Activation	G	H	I

Over-triage Formula:

A ÷ C

Under-triage formula

(E + H) ÷ (F + I)

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Need for Trauma Intervention (NFTI) Criteria

65-year-old man walks into triage stating he needs stitches after a trip and fall. He has a 6 cm laceration on forehead. Bleeding is controlled. His GCS is 15. He takes a baby aspirin every day. The ED doc orders a CT head which reveals a small intracerebral bleed. After his tetanus shot and suturing by the ED doc, he is admitted to ICU by a non-surgeon with a neurosurgery consult. He is discharged home after 36 hours.

NFTI Criteria

- PRBC within 4 hours
- ED to OR within 90 minutes
- ED to Interventional Radiology
- ED to ICU and LOS > 3 days
- Therapeutic ventilation within 3 days
- Death within 60 hours

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Corrective Actions for High Percentage Admit to Non-Surgical Service

- Admit to NSS CPG implemented
- Targeted education to ED, Trauma, Orthopedics and Hospitalists
- Providers focused on valid patients to admit to Trauma
- Decreased rate to <10%
- No patients with score of 1-3 admitted to a NSS
- Met review requirement “centers with >10% admit to NSS” resolution

NELSON SCORE

1 point	Age >65 years
1 point	3 or more comorbidities
1 point	ISS<10
1 point	MOI ground level fall
1 point	No ICU admission
1 point	No surgical intervention
1 point	No blood products

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Institution Specific Pediatric Events (Audit Filters)

- Delays in obtaining vascular access - IO
- Proper equipment
- Weight Recorded (Kg)
- Temperature, vital signs, GCS
- IV access
- CT scans – over imaging
- Time to transfer; delays in transfer
- Screening for abuse / neglect
- Immunization screening
- Pediatric readiness survey
- Pediatric resuscitation simulations

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Neurosurgeon Response within 30 Minutes

- Severe TBI (GCS less than 9) with head CT evidence of intracranial trauma
- Moderate TBI (GCS 9-12) with head CT evidence of potential intracranial mass lesion
- Neurologic deficit as a result of potential spinal cord injury (applicable to spine surgeon, whether a neurosurgeon or orthopedic surgeon)
- Trauma surgeon discretion
- Trauma transfer guidelines

(ACS 2022, Resources for Optimal Care of the Injured Patient)

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Orthopedic Treatment Guidelines

- Patients who are hemodynamically unstable attributed to pelvic ring fractures
- Long bone fractures in patient with multiple injuries (e.g. time to fixation, order of fixation, and damage control verses definitive fixation strategies)
- Open extremity fractures (e.g., time to antibiotics, time to OR for operative debridement, and time to wound coverage for open fractures)
- Hip fractures in geriatric patients (e.g. expected time to OR)

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Orthopedic Response within 30 Minutes

- Hemodynamically unstable, secondary to pelvic fracture
- Suspected extremity compartment syndrome
- Fractures / dislocations with risk of avascular necrosis (e.g., femoral head or talus)
- Vascular compromise related to a fracture or dislocation
- Trauma Surgeon discretion
- Transfer guidelines

(ACS 2022, Resources for Optimal Care of the injured Patient)

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Best Practice Guidelines

- Geriatric
- Orthopedic
- TBI
- Palliative Care
- Pain Management
- Abuse / Neglect
- Anticoagulation Reversal
- Emergency Airway Management
- Pediatric Readiness – EMSC
- Spine Injury
- Mental Health and Substance Misuse

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Managing Best Practice Guidelines

Pertinent to the trauma center

Easily accessible to staff

Education for staff involved

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Trauma Diversion

- Monitoring diversion time
- Diversion log to record reason and duration of diversion
- MUST not exceed 400 hours or greater than 12 hours intervals
- Reviewed in the TPIPS process
- Action plan to decrease time

(ACS 2022, Resources for Optimal Care of the Injured Patient)

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Transfer Guidelines

- Clearly defined transfer guidelines
- Expected time frame for initiating and accepting a transfer
- Decision to transfer time; transport coordination
- Imaging and trauma work-ups
- Predetermined referral centers for transfers out
- TPIPS review
- Follow-up

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Regional Events

- Field Triage Not Followed
- Tourniquet use
- Remote Locations – arrival delays
- Transfer coordination with helicopter – Auto Launch
- Greater than 15-minute Wall-Times for EMS
- EMS patient care feedback
- Facility capacity or capabilities overloaded
- Lack of resources for severe trauma
- Telemedicine capabilities
- Digital sharing of images for transfers

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Event Identification

How do you manage a **concurrent** review process?

Concurrent PI reviews – PI event review and identification occurs during the trauma patient's hospital admission, beginning within the next business day and continues through to the patient's discharge

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Summary

- Elements of a Trauma Performance Improvement and Patient Safety Plan
- Encompasses all departments provide care to trauma patients
- Event identification and validation
- Sources of event identification
- Processes to manage and track events

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Processes of Performance Improvement: Levels of Reviews Module 3

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Processes of PI Review

Event Identified: What was the level of harm?

What processes led to the event?

When did the event occur and who was involved?

Was the event Provider/ System/ Disease related?

Opportunity for Improvement?

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Levels of Harm and Outcome

Level of Harm	Outcome Definition	Suggested Follow Up/ Review
Death	Unexpected mortality	Tertiary Review in conjunction with hospital quality
Severe Harm	Patient outcome symptomatic requiring LIFE SAVING intervention	Tertiary Review in conjunction with hospital quality
Moderate Harm	Patient outcome symptomatic requiring intervention (i.e. operative, therapeutic treatment)	Tertiary Review in conjunction with hospital quality
Minimal Harm	Patient outcome symptomatic requiring minimal or no intervention (i.e. observation, minor treatment)	Primary and Secondary Level Review
No Harm/ Near Miss	No symptoms detected, no treatment required	Primary and Secondary Level Review

Level of harm and outcome should be related and factored into the level of review and follow up

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Classification of PI Events (Issues) Getting Started

- Classify deaths according to verification and state/regional designation requirements
  - Morbidity/Mortality/ Event without opportunity for improvement (OFI)
  - Morbidity/Mortality/ Event with opportunity for improvement (OFI)
  - State / Regional Classification
  - American College of Surgeons

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Standardized Review Tool Example

SECONDARY LEVEL OF REVIEW:

EVENT IDENTIFIED:

LEVEL OF HARM CONFIRMED: _None; _None Detected; _Minimal; __Moderate; _Severe; _Death

System Related Event	Provider Related
Patient Related	**Staff Related**

SECONDARY LEVEL OF REVIEW: IDENTIFIED OPPORTUNITIES FOR IMPROVEMENT

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Standardized Review Tool Example

CLASSIFICATIONS:

- ☐ Morbidity / Mortality Without Opportunity for Improvement
- ☐ Morbidity / Mortality With Opportunity for Improvement
- ☐ Morbidity / Mortality With Regional Opportunity for Improvement
- ☐ Unable to Determine

Recommendation

Standardized Process
Regional, State, National American College of Surgeons
Standardized Tool
Electronic

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How Do You Classify Events at Your Center?

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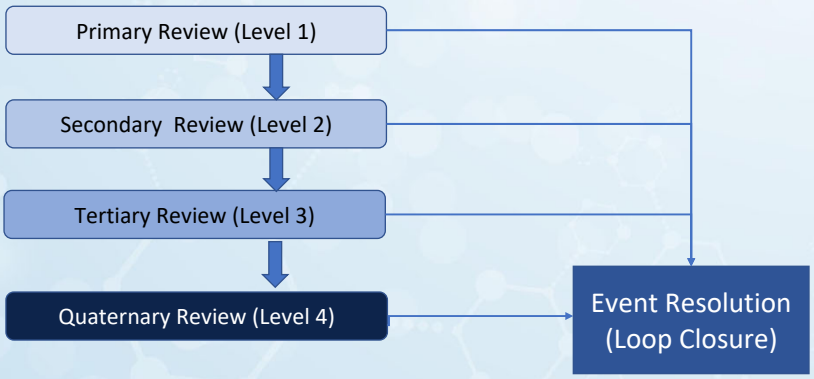
Levels of Review



Event resolution (loop closure) can occur at any level

95

Primary Level of Review

Primary Review – Event Validation / Documentation

- Concurrent / Retrospective
- Validation of event
- System Issue or Patient Impact
- Factors Leading to Event
- Define Timeline
- Determine Need for Further Review

Trauma Program Manager Responsibility

Management Process Written in PIPS Plan

- System issues with No Patient Impact - TPM Manages
- Patient Impact – TMD Must Address (Secondary Review)
- Physician Issues – TMD Must Address (Secondary Review)

Tracking Process

96

Secondary Level of Review

Secondary Level of Review

- TMD Screening – Triage
- Review Patient Impact – Changes in Plan of Care
- Reviews Medical Records
- TMD - Variations from Standards
- Case is Triaged for the review process and further actions
  - Referral
  - PI Workgroup
  - Request additional data
  - Close
  - Trauma Operations Committee or Trauma Peer Review

Tracking Process

ALWAYS SCREENED BY TMD

97

Poll question

Who participates in secondary level of review

98

Third Level of Performance Review

Tertiary Review - structured review by formal committee

- Trauma Multidisciplinary Peer Review Committee
- Trauma Operational Process Performance Committee
- Hospital/Department PIPS Committee
- Regional and Systems PIPS Meetings
- Prehospital Trauma PIPS

Outcome of Review – Opportunities for Improvement which leads to an Action Plan

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Fourth Level of Review

Quaternary Review

- System facility review
- Outside consultation/ assistance
- Require outside opinion
- External Review
- Forums
- Hospital Quality
  - -External peer review
    - Regional
    - State
    - Expert

100

Rural Trauma Center Options for Peer Review

Peer Review Options

- Standards Multidisciplinary Peer Review Committee
- Combined Trauma Peer Review with Hospital Peer Review – TMD must review the cases
- *Engage with System Facilities Trauma Peer Review*
- *Regional System Peer Review*
- *Contracted Peer Review*
- Rural Trauma Centers Acts on Findings

Outcome of Review – Opportunities for Improvement which leads to an Action Plan

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Event Identification, Monitoring, Reporting

Identification

- Review is completed concurrently to identify events – audit filters/events, core measures, criteria compliance

Monitoring

- Use your trauma registry activities to monitor compliance results
- Develop a reporting structure for the data review

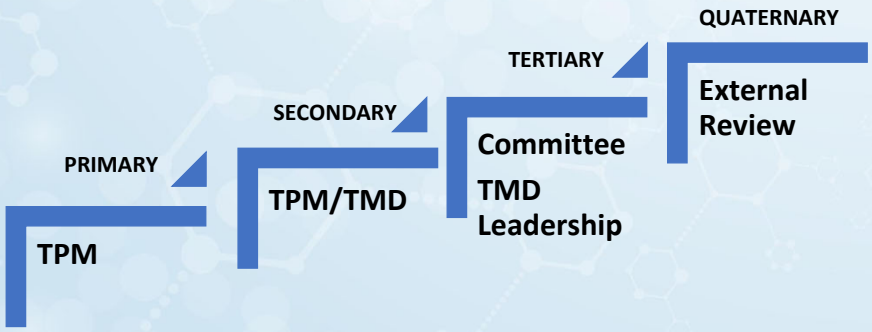
Reporting

- Monthly performance case reviews
- Reporting to the Trauma Committee
- Annual report to hospital leadership

102

Aligning Levels of Review

Pre-assigning levels of review in the Performance Improvement Plan can streamline processes significantly



103

Summary

- Event Identification and Validation
- Level of harm
- Levels of review
- Classification System
- Opportunities for improvement

104

105

Definition of Trauma Registry

"High-quality data are critical to inform quality improvement and measure the performance of trauma programs. This is dependent on having well-trained registry personnel working closely with trauma leadership. High-quality data also allow for focused quality improvement activities and maximize the value of trauma benchmarking programs."

(ACS 2022, *Resources for Optimal Care of the Injured Patient)*

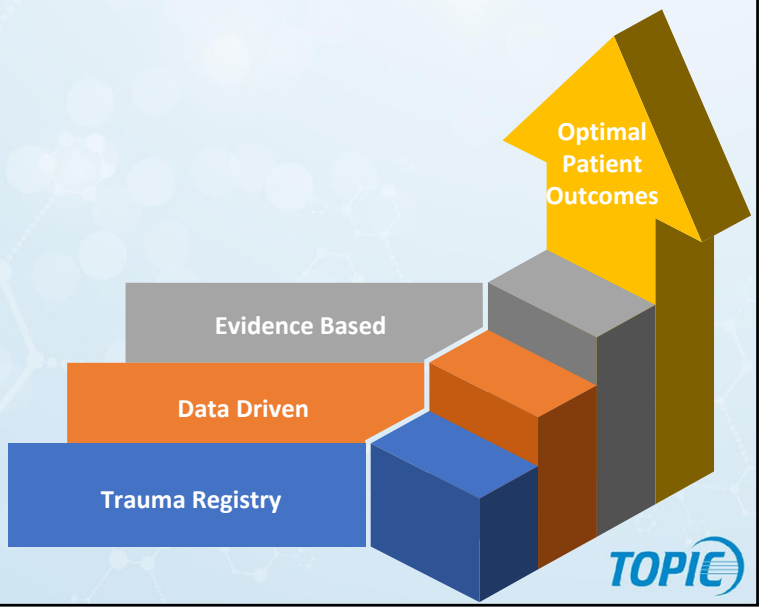
NTDS Data Dictionary

TOPIC

106

Purpose of the Trauma Registry

The purpose of the trauma registry is to ensure that all aspects of trauma center and trauma systems are data driven and evidence based.



107

Trauma Registry Functions

- The foundation for the trauma program
- Key Element of Performance Improvement
- Data repository for clinical and systems research
- Public health and injury prevention resource
- Supports trauma center designation / verification process
- Administrative evaluation of care to include trauma cost analysis and resource utilization

108

Trauma Registry

- The goal is to create and sustain a **concurrent** process with **validated** data
- If backlog exists, the center must have a plan to become concurrent

109

Trauma Registry

How is your trauma registry utilized in your facility?

110

Data Quality Elements

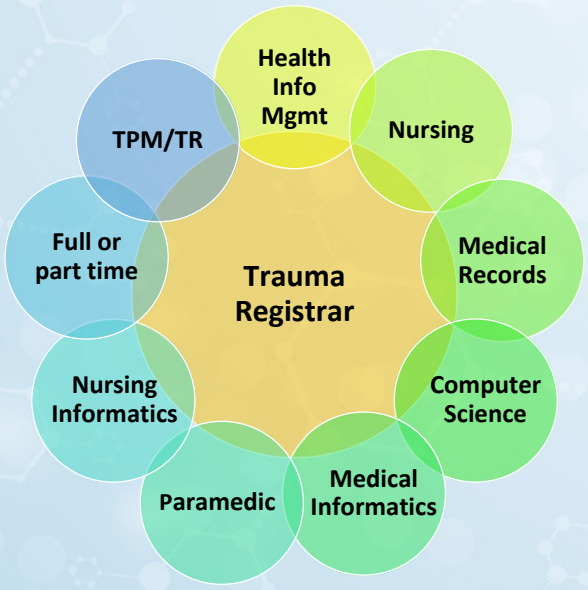
111

Trauma Registry Infrastructure

- Hardware
- Software – Vendor Contract
- IT Support – Hospital Support
- Funding
- Annual Licensing Fees

112

Who is the Trauma Registrar?



- Who performs the trauma registrar functions?
- What measures are in place to sustain a **concurrent trauma registry?**

TOPIC

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Trauma Registrar Job Description

Must include:

- Trauma Registry duties (all inclusive)
- Close interface with TPM and TMD
- PIPS Data Support in a timely manner
- Expertise in spreadsheet utilization and graphics
- State and verification requirements
- Regulatory data submission requirements
- Interface (State, Regional, NTDB) – understand what your state requires
- **NOTE: This may be integrated with the TPM job description or may be part-time in rural trauma centers**
  - Full or Part-Time FTE

114

Trauma Program Manager/Trauma Registrar

- Depending on volume and resources
- TPM MIGHT be the Registrar
- It is important to remember that there are two separate functions

115

Staffing Models

- **Options**
  - Registry staff is on-site
  - Remote
  - Hospital System
  - Third Party
- **Considerations**
  - Participate in program via technology (conf calls, computer access, etc.)
  - Requires oversight and data validation

116

Optimize Work Processes

- Paperless, concurrent data models
- Laptops, Tablets, Dual Monitors
- Efficient PI process
- Interfacing with the electronic medical record
- Interfacing with the pre-hospital electronic medical record
- Lean methodology
- Learn about working smart
- What processes work for you?

117

Trauma Program Manager Interface

- Trauma Program Manager understands roles and responsibilities of the trauma registrars
  - Inclusion criteria
  - Continual Event Reviews
  - Report writing
  - Committee reports

118

Education and Training

- ATS Trauma Registry Course
- AAAM Abbreviated Injury Scaling Course
- State Training and Support
- Hospital Registry System Training and Support
- Regional System Training and Support
- Assistance with AIS and ISS scoring

TOPIC

119

Registry Integration and Operability

- Trauma Registry
  - Trauma PIPS Processes
  - Event identification and validation
  - Data element, data field updates
  - Data validation processes
  - Data reporting
  - Link to verification / designation
  - In some states – link to funding

120

Data Dictionary

- Adherence to the National Trauma Data Bank (NTDB) data definitions, or your regulatory agency, is fundamental
- Essential for data consistency and integrity
- Centers may have additional hospital specific or State specific data elements which also require a data dictionary
- Should be updated annually
- www.facs.org – Quality Programs – Trauma - NTDS

121

Data Submission and Mapping

- Process for Data Submission
- Regional System Submission
- State Submission
- National Trauma Data Bank
- Correct Definitions
- Mapping

TOPIC

122

Trauma Registry Data Submission

What steps do you take to submit your trauma registry data to the regional or state registry?

123

Security: Protection of the Trauma Data

- Ensure data is secure at all times
- Create and maintain data security policy
- Create and maintain data request and release policy
- Limit access to the trauma registry
- Password protection process in secured environment

124

Business Intelligence

- Data Migration into PowerPoints
- Data Auto Entry
- Integration of PI
- Integration of EMS PCRs
- Generate Transfer Letters
- Use of Intelligence Software

TOPIC

125

Registry Policies and Procedures

- Inclusion criteria
- Data abstraction and hierarchy priority procedures
- Procedure for requesting registry data
  - Institutional Board Review (IRB) requirements
  - Forum data is released
  - HIPAA guidelines and measures to protect data
  - Data sharing
- Use agreements

TOPIC

126

Data Validation

Goals of data validation

- Accuracy
- Completeness
- Reliability
- Available
- Comparable
- Timely

Detect errors in mapping

TOPIC

127

Data Validation

- A process defined in your center's data quality measures to ensure the trauma registry data is correct and useful; to prove or disprove accuracy
- A review of data for completeness and appropriateness with the elimination of erroneous values
- The process of identifying suspicious or invalid data points, variables, and data values

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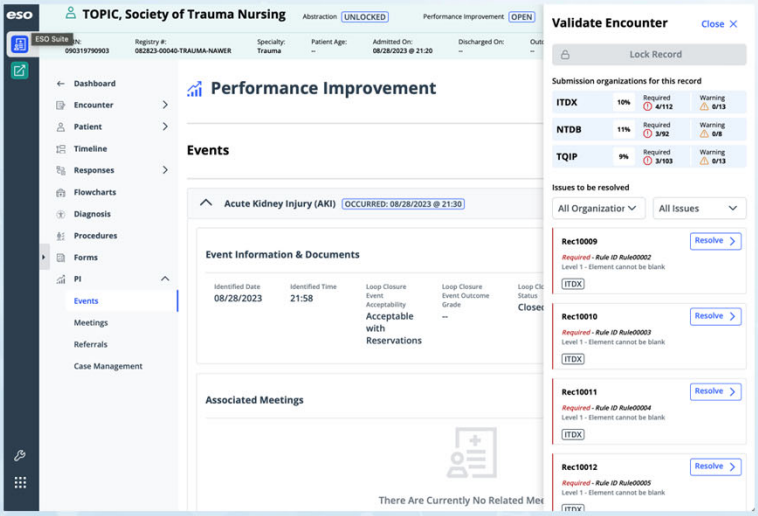
Performance Improve: Events Section with Validation Screen

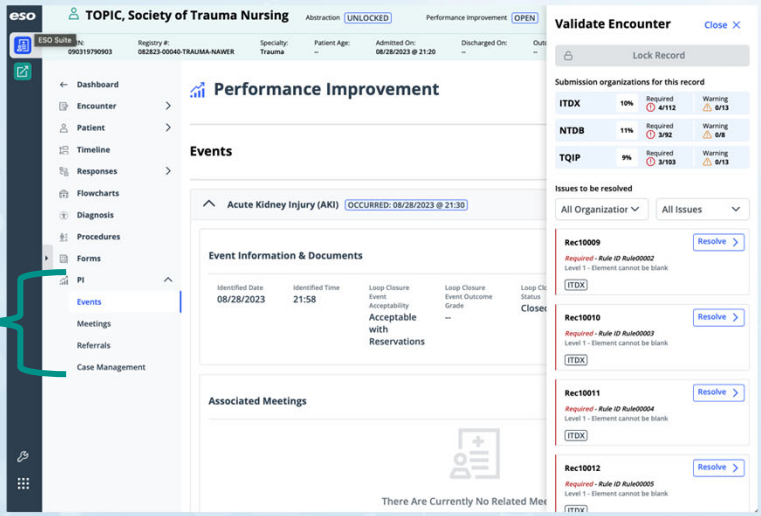


ESO Patient Registry

129

Performance Improve (PI): Events Section with Validation Screen

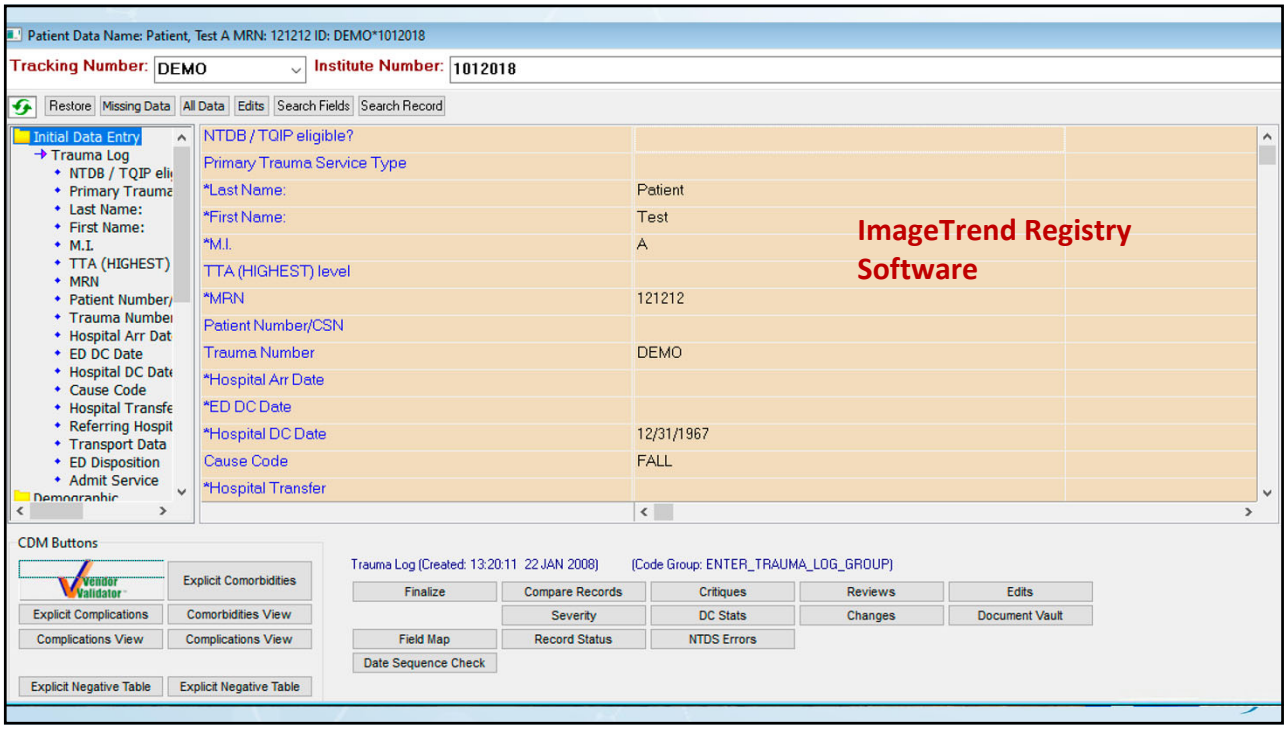
PI Section allows for tracking of hospital events, meetings associated with events, referrals to address the events, and our Case Management section to track Primary, Secondary, Tertiary, and Quaternary Reviews of PI Events. Allowing Trauma leaders to implement the STN TOPIC patient safety taxonomy.



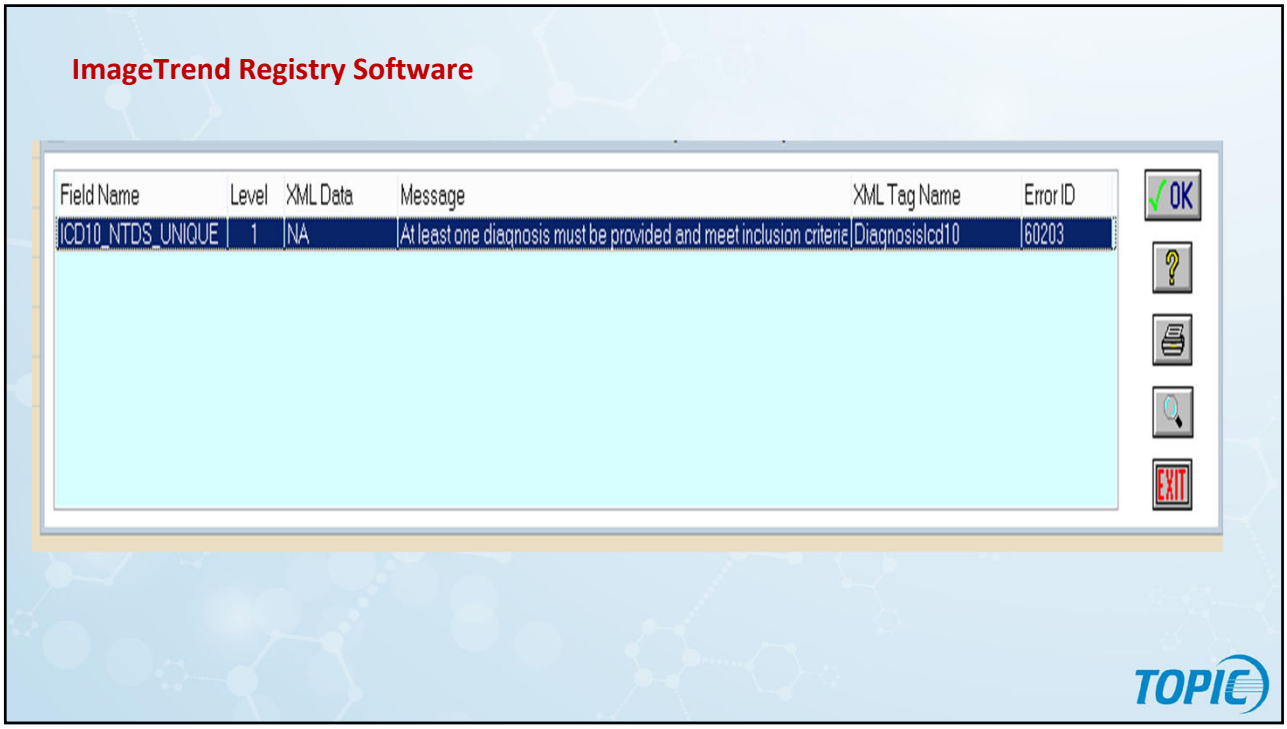
Trauma registry data validation is built directly into the application and follows the local Regional, State, and National data validation standards. With reference to the specific validation error registry professionals have access to real-time validation of patient encounters by collecting Performance Improvement and other clinical data points with the Patient Registry.

ESO Patient Registry

130


Patient Data Name: Patient, Test A MRN: 121212 ID: DEMO*1012018
Tracking Number: DEMO
Institute Number: 1012018
Restore
Missing Data
All Data
Edits
Search Fields
Search Record
Initial Data Entry
Trauma Log
NTDB / TQIP eli
Primary Trauma
Last Name:
First Name:
M.I.
TTA (HIGHEST)
MRN
Patient Number/
Trauma Numbe
Hospital Arr Dat
ED DC Date
Hospital DC Dat
Cause Code
Hospital Transfe
Referring Hospit
Transport Data
ED Disposition
Admit Service
Demographic
NTDB / TQIP eligible?
Primary Trauma Service Type
*Last Name: Patient
*First Name: Test
*M.I. A
TTA (HIGHEST) level
*MRN 121212
Patient Number/CSN
Trauma Number DEMO
*Hospital Arr Date
*ED DC Date
*Hospital DC Date 12/31/1967
Cause Code FALL
*Hospital Transfer
ImageTrend Registry Software
CDM Buttons
Vendor Validator
Explicit Comorbidities
Explicit Complications
Comorbidities View
Complications View
Complications View
Explicit Negative Table
Explicit Negative Table
Trauma Log (Created: 13:20:11 22 JAN 2008)
(Code Group: ENTER_TRAUMA_LOG_GROUP)
Finalize
Compare Records
Critiques
Reviews
Edits
Severity
DC Stats
Changes
Document Vault
Field Map
Record Status
NTDS Errors
Date Sequence Check

131


ImageTrend Registry Software
Field Name
Level
XML Data
Message
XML Tag Name
Error ID
ICD10_NTDS_UNIQUE
1
NA
At least one diagnosis must be provided and meet inclusion criteria
DiagnosisIcd10
60203
OK
EXIT
TOPIC

132

Trauma Registry

How do you validate your registry data?

How do you address interrelated-reliability?

133

Data Validation Abstraction Tool

Re-Abstractor:	Medical Record:

Pre-Hospital

Were the vitals taken on the scene of injury? Y N

Blunt Penetrating Burn

External Cause Code Correct? ☐ Yes ☐ No

Pre-Hospital Transport Decision: TC MAR Other

Emergency Department

Meets Trauma Registry Criteria: ☐ Yes ☐ No

Trauma Team Activated: ☐ Yes ☐ No ☐ N/A Activation Time:

ED Vital Signs: Within 30 Minutes? ☐ Yes ☐ No

BP: HR: RR:

GCS: E: V: M:

Trauma Surgeon Called Time: TRS Arrival Time:

NES Called Time: NES Arrival Time:

ORT Called Time: ORT Arrival Time:

Signs of Life on Arrival: Y N

Admitting Service: Next Phase After ED:

Hospital

Total Vent Days:

ICU Arrival Date 1: ICU Discharge Date 1:

ICU Arrival Date 2: ICU Discharge Date 2:

Consults:

D/C Date: D/C Time: D/C To:

134

Performance Improvement Reports: Using the Data

135

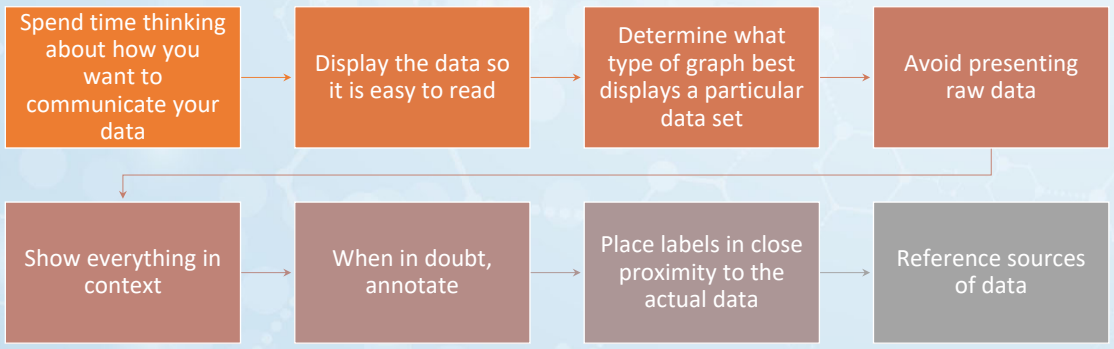
Generating Reports: Getting Started

Ask Yourself:

- Do you have accurate data? How do you know?
- Do you have timely and meaningful data?
- Who is your target audience?
- What do you want your audience to gain from your data?
- Who is presenting the data? How well do they know the data?
- What message do you want to convey?
- What is the goal of the report?

136

Tips for Creating Meaningful Reports



TOPIC

137

Types of Trauma PIPS Reports

- Data should be collected and presented in a concurrent fashion - monthly or quarterly, depending on volume
- Control charts show trends over time
- Include individual provider-specific complication rates in the annual credentialing process or physician report card

TOPIC

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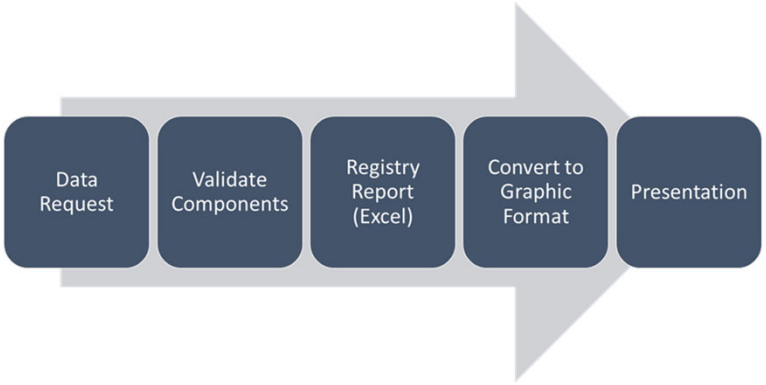
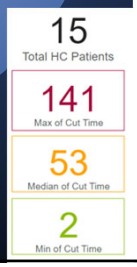
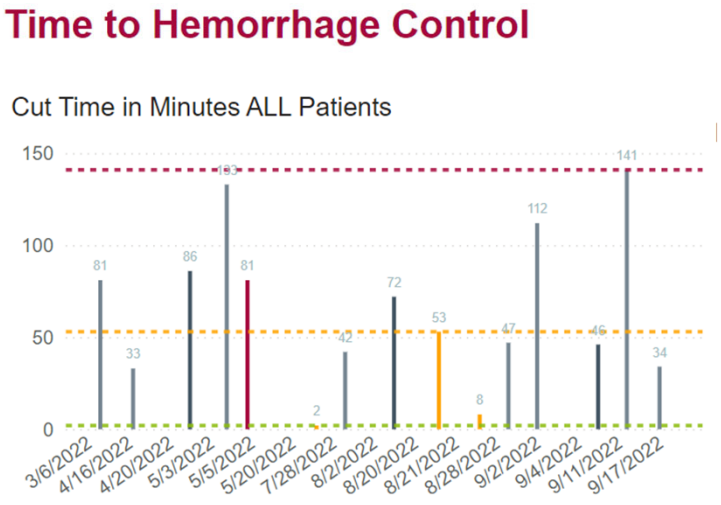
Process of Data Presentation



139

Control Charts





140

Consider How Your Data Looks in Table vs. Graph

ED to Critical Care by ED LOS Sep 2022
Trauma Patients

	ISS Range				
Hours	1--8	9--15	16--24	>24	Total
< 1	1	4	4	2	11
1 to 2	4	5	5	10	24
2 to 4	1	7	3	4	15
4 to 6	2	4	1	1	8
6 to 8	0	0	0	0	0
8 to 10	0	1	1	0	2
10 to 12	1	1	0	0	2
12 to 48	0	0	1	0	1
Total	9	22	15	17	63

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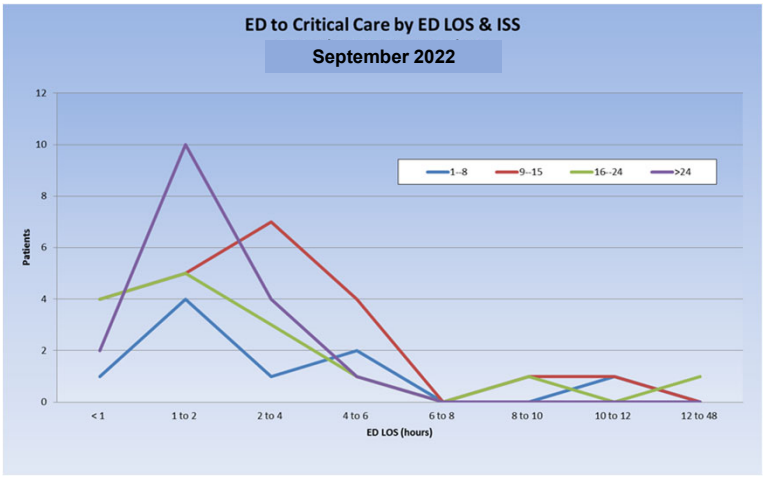
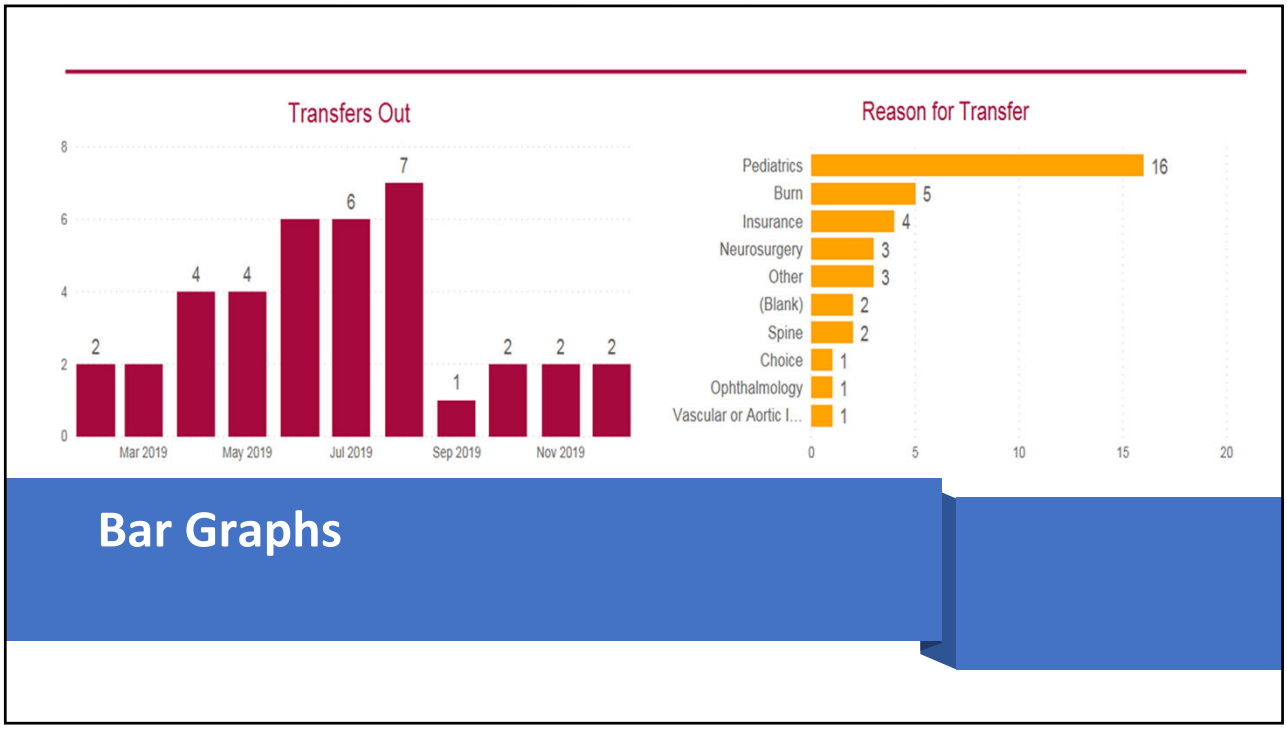
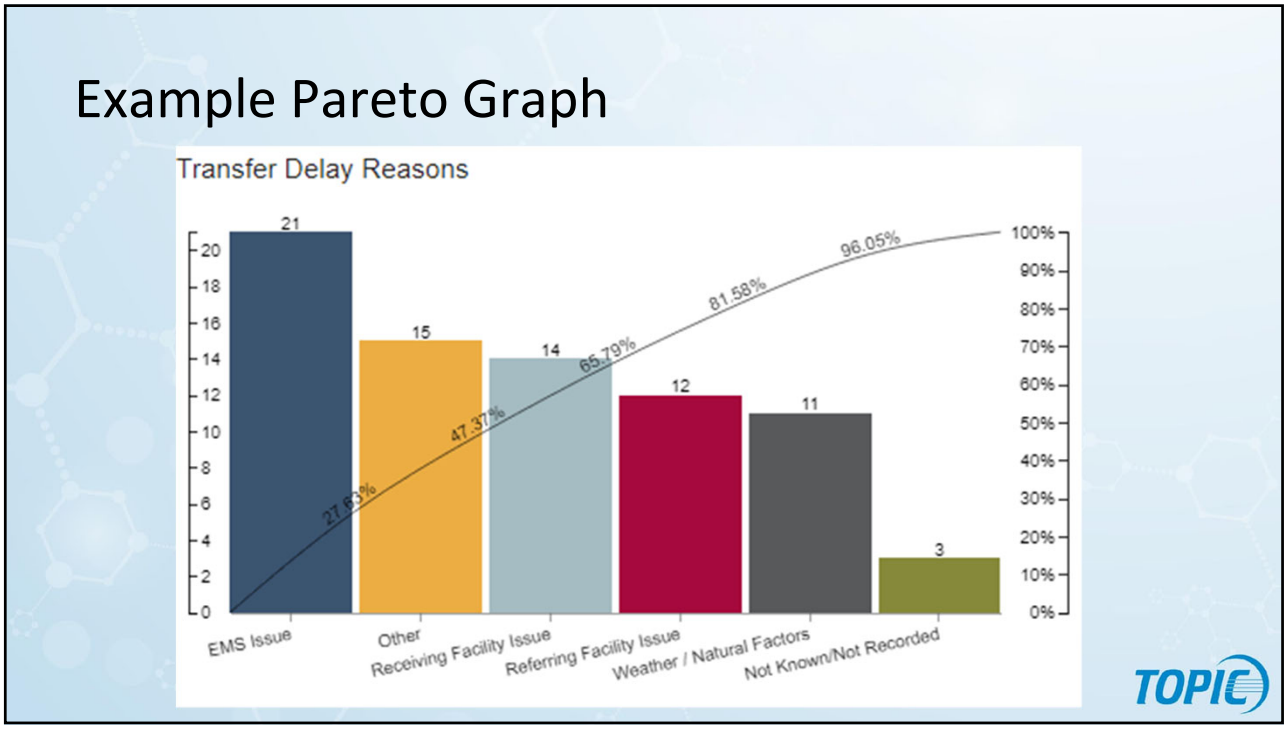
Same Information in a Graph



142


Transfers Out
8
6
4
2
0
2
4
4
6
7
1
2
2
2
Mar 2019
May 2019
Jul 2019
Sep 2019
Nov 2019
Reason for Transfer
Pediatrics 16
Burn 5
Insurance 4
Neurosurgery 3
Other 3
(Blank) 2
Spine 2
Choice 1
Ophthalmology 1
Vascular or Aortic I... 1
0
5
10
15
20
Bar Graphs

143


Example Pareto Graph
Transfer Delay Reasons
21
15
14
12
11
3
27.63%
47.37%
65.79%
81.58%
96.05%
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
EMS Issue
Other
Receiving Facility Issue
Referring Facility Issue
Weather / Natural Factors
Not Known/Not Recorded
TOPIC

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Example Dashboard

Performance Standard	Responsible Individual	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Telemedicine activated within 10 minutes of Highest Level TTA (80%)	ED Physician, Nurse, EMS	4/8 50%	7/11 64%	9/10 90%	
APP arrives within 15 of Highest Level TTA (80%)	APP	8/8 100%	10/11 90%	10/10 100%	
Vital signs are recorded every 15 minutes for first hour then every 30 for patient that meet the Highest Level of TTA (80%)	Nurses	3/8 38%	6/11 55%	5/10 50%	
Patients have their GCS recorded during the primary/secondary survey, and then hourly if the GCS is less than 12 (80%)	Nurses	3/8 38%	7/11 64%	7/10 70%	
Pediatric trauma patients (Less than 15) have their weight recorded in Kg.	Nurses	3/3 100%	4/5 80%	2/4 50%	
The Highest Level of TTA have a decision to transfer or no transfer within 60 minutes of the patient's arrival (80%)	Physicians	3/5 60%	6/10 60%	8/8 100%	
Primary and Secondary level of review for the Highest Level of TTA are completed within 7 business days of the patient's arrival (80%)	TPM/TMD/ Administrator	3/8 38%	5/11 45%	8/8 100%	

TOPIC

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Example of a Dashboard using a slide template

Trauma Activation Compliance

20 of the 25 trauma patients had appropriate levels of TTA. This is an improvement compared to the 70% last month

80%

8%

Example of a Level IV Dashboard

Two Patients were under-triaged

This is down from the 12% last month

48% Patients transferred within 2 hours of arrival - 15% last month

99% Nurse meeting the TNCC and ENPC requirement

80% Trauma registry data completed within 45 days

12% 3 / 25 patients arrived with CPR and expired

Trauma Patients Evaluated in July 2020 – 25
20 Patients had Correct TTA
2 Patients were under-triaged (No Harm Identified)
12 Patients were Transferred within 2 hours of Arrival
20 Records had Complete Trauma Registry Data Extraction
3 Patients Expired

TOPIC

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Summary

- The trauma registry is the foundation of the trauma program and trauma performance improvement
- Defined data quality processes
- Implement and maintain a concurrent data model and ensure work processes are optimized
- Policies and procedures for data access and use
- Data validation is essential

TOPIC

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Summary

- PLAN CAREFULLY WHEN CREATING A REPORT
- UNDERSTAND YOUR TARGET AUDIENCE
- ENSURE YOUR DATA IS ACCURATE
- USE CLEAR LABELING AND APPROPRIATE TYPES OF GRAPHS TO DISPLAY THE DATA
- PRACTICE PRESENTING THE REPORTS

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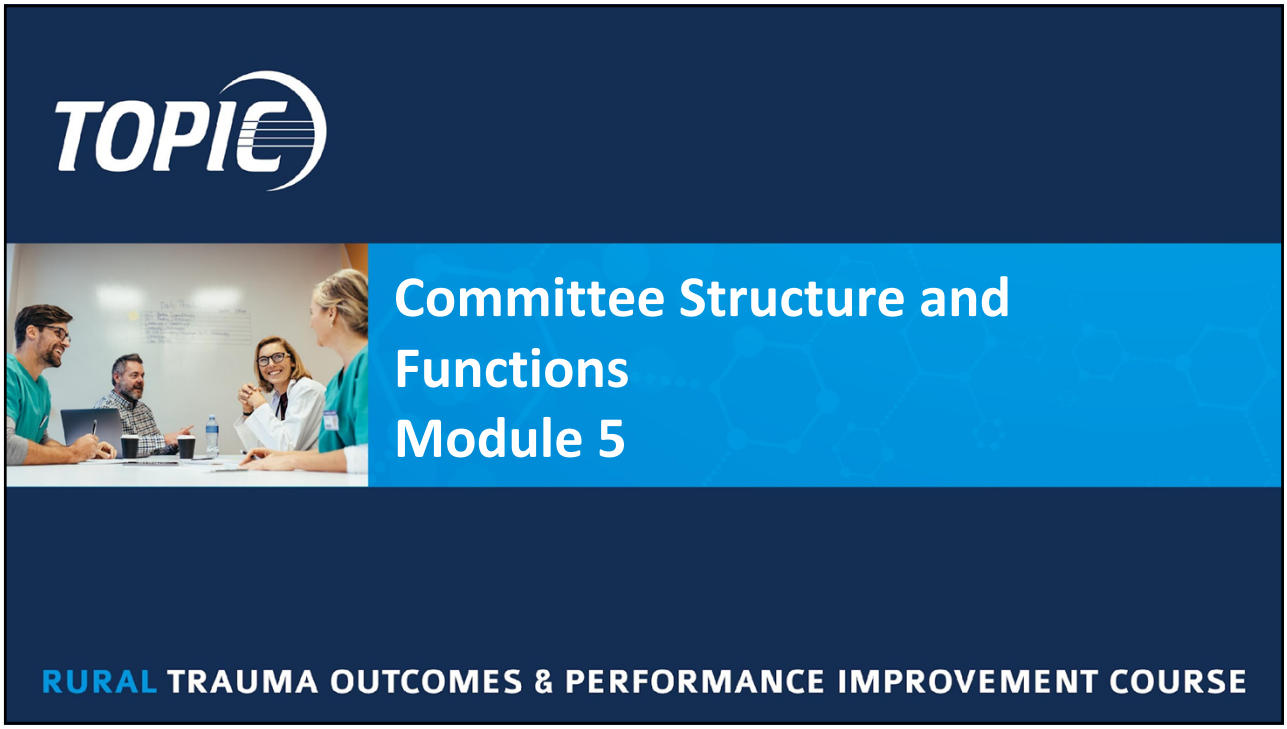
TOPIC
Committee Structure and Functions
Module 5
RURAL TRAUMA OUTCOMES & PERFORMANCE IMPROVEMENT COURSE

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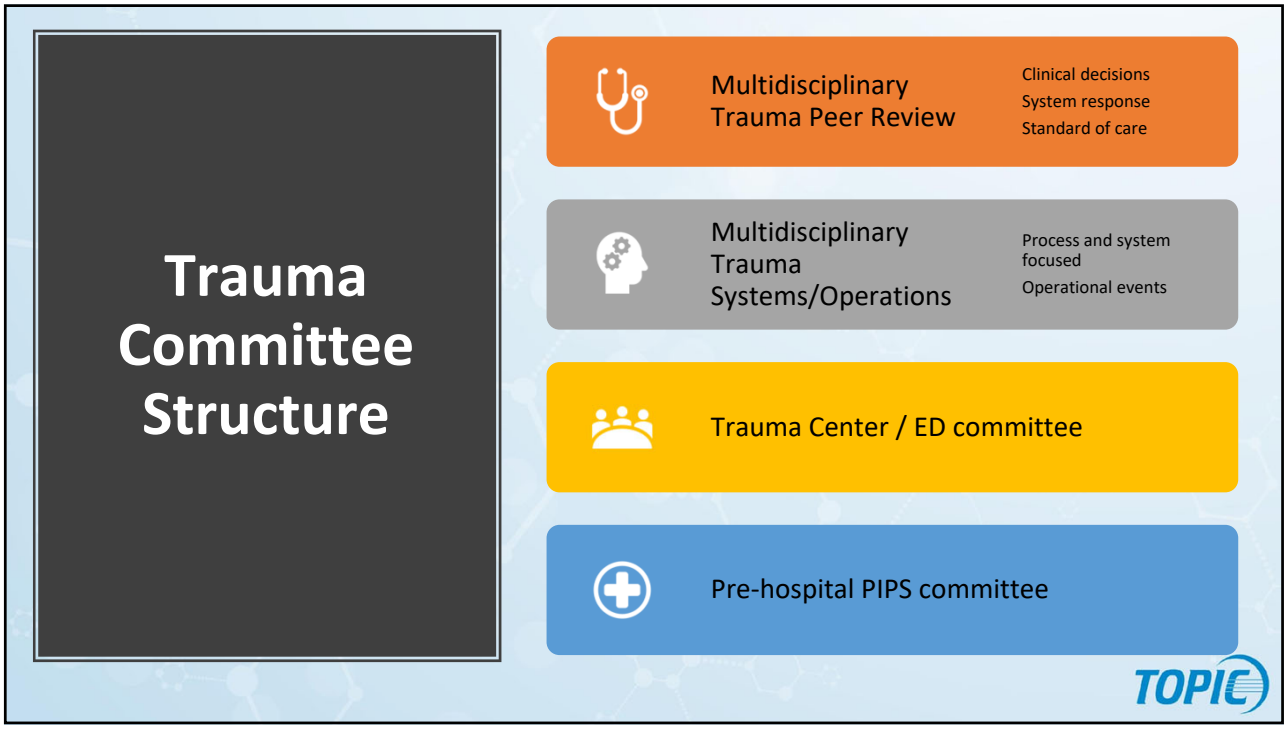
Trauma Committee Structure
Multidisciplinary Trauma Peer Review
Clinical decisions
System response
Standard of care
Multidisciplinary Trauma Systems/Operations
Process and system focused
Operational events
Trauma Center / ED committee
Pre-hospital PIPS committee
TOPIC

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Committee Goals

- Develop a culture that promotes both system and patient care improvements
- Aligns with national standards
- Review the performance and patient safety of the trauma center systems
- Review of objective data and processes to improve patient care

TOPIC

151

Trauma Committee Structure

- Defined by trauma center level and volume
- Defined by State Regulations, and the Lead Agency
- Driven by Hospital bylaws
- Supported by medical staff and quality department
- Compliant with State Statutes

TOPIC

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Trauma Multidisciplinary Peer Review Committee

Trauma Performance Improvement and Patient Safety Plan (PIPS)

153

Trauma Multidisciplinary Peer Review Committee

- Trauma Medical Director leadership
- Purpose: Review the decision making and processes of care for the trauma patient
- Protected environment
- Limited access forum
- Frequency of meetings should be volume driven and ensure concurrent review
- Measures to ensure time efficiency
- Integrate telemedicine physicians

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Trauma Multidisciplinary Peer Review Committee Function

- Review deaths, adverse events, complications, and events that produce a level of harm or impact on the patient
- Ensure the meeting minutes capture accurate points of discussion and why the case was referred to trauma peer review
- Classify events
- Identify opportunity for improvement
- Define action plans
- Refer system events to Trauma Systems Operations Committee
- Integrate with Hospital Quality Committee

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Trauma Multidisciplinary Peer Review Committee Cases

- All or selected deaths
- Selected occurrences
- Sentinel events
- Problem trends
- Unusual or uncommon cases
- Unexpected outcomes
- Control charts depicting complications
- Feedback from Receiving Facilities
- Great Saves

156

Multidisciplinary Trauma Peer Review Committee Options for Level III Trauma Centers

- Plan in conjunction with Trauma Operations Committee
- Prepare two separate agendas / minutes
- Document separate attendance
- Hold back-to-back for time management and physician utilization
- Follow peer review protection regulations / policies
- Trauma Medical Director authority

157

Multidisciplinary Trauma Peer Review Committee Options for Level IV Trauma Centers

May be held at time of Medical Staff Peer Review with separate agenda, minutes

Define physician disciplines

Trauma Medical Director	Emergency Physicians	Specialty surgeons if patient admitted or operative intervention	Internal Medicine / Hospitalist	Radiologist

Telemedicine physicians credentialed by the hospital

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Rural Trauma Center Options for Peer Review

Peer Review Options

- Standards Multidisciplinary Peer Review Committee
- Engage with System Facilities Trauma Peer Review
- Regional System Peer Review
- Contracted Peer Review
- Rural Trauma Centers Acts on Findings

Outcome of Review – Opportunities for Improvement which leads to an Action Plan

159

Integration of Telemedicine Physicians

Contracts

- Physician Credentialing
- Data Business Use Agreement
- Attendance at Peer Review
- Attendance at Operations meeting
- Documentation Standards

160

Peer Review Presentation

- Constructive
- Educational
- Not punitive
- Protective Environment

161

TPIPS: Case Reviews

- Leadership
- Professionalism
- Agent For Change
- Culture of Safety
- Focus on Patient Care / Outcomes
- Process Outlined in the PIPS Plan
- Medical staff

TOPIC

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Case Review Documentation

- WHY CASE REFERRED TO PEER REVIEW
- HISTORY OF CASE & EVENT; DECISION MAKING
- DISCUSSION OF EVENT AND WHAT LED TO THE EVENT
- REVIEW THE EVENT AND LEVEL OF HARM
- IDENTIFY OPPORTUNITIES FOR IMPROVEMENT
- RECOMMENDED ACTION PLAN
- TRAUMA PEER REVIEW COMMITTEE RECOMMENDATION
- ANY REFERRAL TO THE OPERATIONS COMMITTEE

TOPIC

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Multidisciplinary Trauma Operations Committee

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Multidisciplinary Trauma Operations Committee

- Chaired by Trauma Medical Director and Trauma Program Manager
- Purpose
  - Address operational events / infrastructure events
  - Verification / Designation readiness
  - Administrative oversight
- Process-focused
  - Regional/system Integration
  - EMS integration
  - Link with hospital systems
- System issues tracked until resolved

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Multidisciplinary Trauma Operations Committee

Separate committee from Peer Review

Oversight, system operations

Pre-hospital elements

Transfers/diversions

Data driven

Continuum of care focused

Systems events referred by Peer Review

NOTE: Not a forum to discuss individual cases vs Aggregate Data

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Multidisciplinary Trauma Operations Committee Members

- TMD / TPM
- Trauma Surgeons
- Anesthesia
- Specialty liaisons
- Radiology
- Critical Care
- Pediatrics
- Rehabilitation
- Administration
- Nursing Unit Leaders
- Trauma Registrar
- Pre-hospital/EMS
- Respiratory therapy
- Lab/Blood Bank
- Quality/Risk Management
- Pharmacy
- Nutrition
- Information Management
- Telemedicine Representative
- IR

Membership is based on trauma care and services provided.

TOPIC

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Trauma Operations Committee: Sample Agenda

Agenda	Responsible Individual	Action/ Informational
Call to Order	TMD / TPM	Action
Approval of Minutes	TMD / TPM	Action
• Trauma Center Statistics • Trauma Dashboard • Injury Prevention & Outreach • Trauma Education	Trauma Program Manager / Registrar	Informational Criteria Compliance / Actions
Trauma Systems Update (Local, Regional, National)	Trauma Program Manager and Trauma Medical Director	Informational Criteria Compliance
Trauma Performance Improvement Initiatives (Action items from Peer Review or Previous Operation Committees)	Individual responsible for the improvement	Informational/ Action and Tracking
Trauma Center Criteria (Examples) • New Trauma Center Criteria • Registry Completion Compliance • Trauma Nursing Documentation • Trauma Activation Compliance • Trauma Response Compliance	Individual responsible to address the criteria compliance	Criteria Compliance / Corrective Action Plan

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Trauma Center Dashboard Considerations

- Activation Review
- Physician Response
- Over/Under Triage
- Diversion Hours
- Transfers / Timeliness
- Trauma Activation ED Dispositions
- Trauma Deaths
- STAT Blood Request to ED
- Timeliness to OR
- GCS Less Than 12 Time to CT
- MOI
- Age breakdown
- Registry Profiles Completed 60 days after discharge
- Attendance at Trauma Peer Review
- Physician Report Cards
  - Timeliness to Activations
  - Number of Trauma Activations
  - Patient ED Dispositions
  - Attendance at System Operations Committee
  - Attendance at Trauma Peer Review
- Telemedicine utilization

TOPIC

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TPIPS: System Integration

- Overall Hospital PI integration
- Local / Regional System Participation
- EMS / Air-medical Prehospital Committee(s)
- Transfers / Diversions
- Registry Data Initiatives
- Emergency Preparedness & Planning

170

Member Roles

Should be defined in Trauma PIPS Plan

TOPIC

171

PI Case File

PI review data management is secured method to retain and retrieve

Most trauma registry software have PI processes

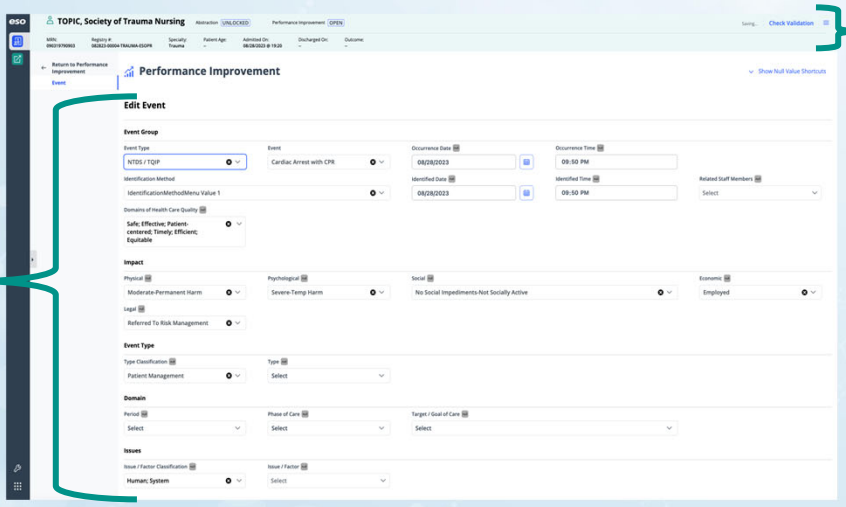
Best practice:

- All PI activity pertaining to one case is contained in one file (preferably an electronic file within the trauma registry)
- This is user friendly and efficient when retrieving case information.

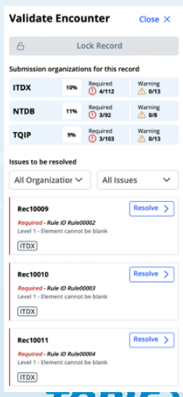
172

Performance Improve (PI): Events Section with Validation Screen

Here is an example of a specific PI Event with the PI section. Notice how the Event section allows for tracking Impact, Event Type, Domain, Issues, and other essential data points **allowing for the trauma leader to fully implement the STN TOPIC patient safety taxonomy.**



The "Check Validation" feature is the validation feature built directly into the registry application and follows the local Regional, State, and National data validation standards. As shown below with the validate encounter screen.



ESO Patient Registry

TOPIC

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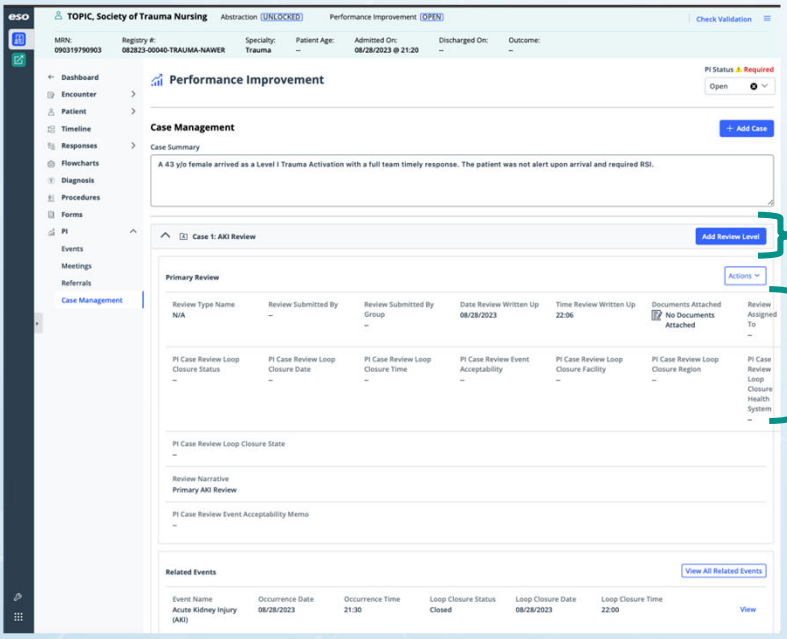
Performance Improve (PI): Case Management with Levels of Review

ESO Patient Registry



The ability for PI Events to be linked to Primary, Secondary, Tertiary, and Quaternary Reviews.

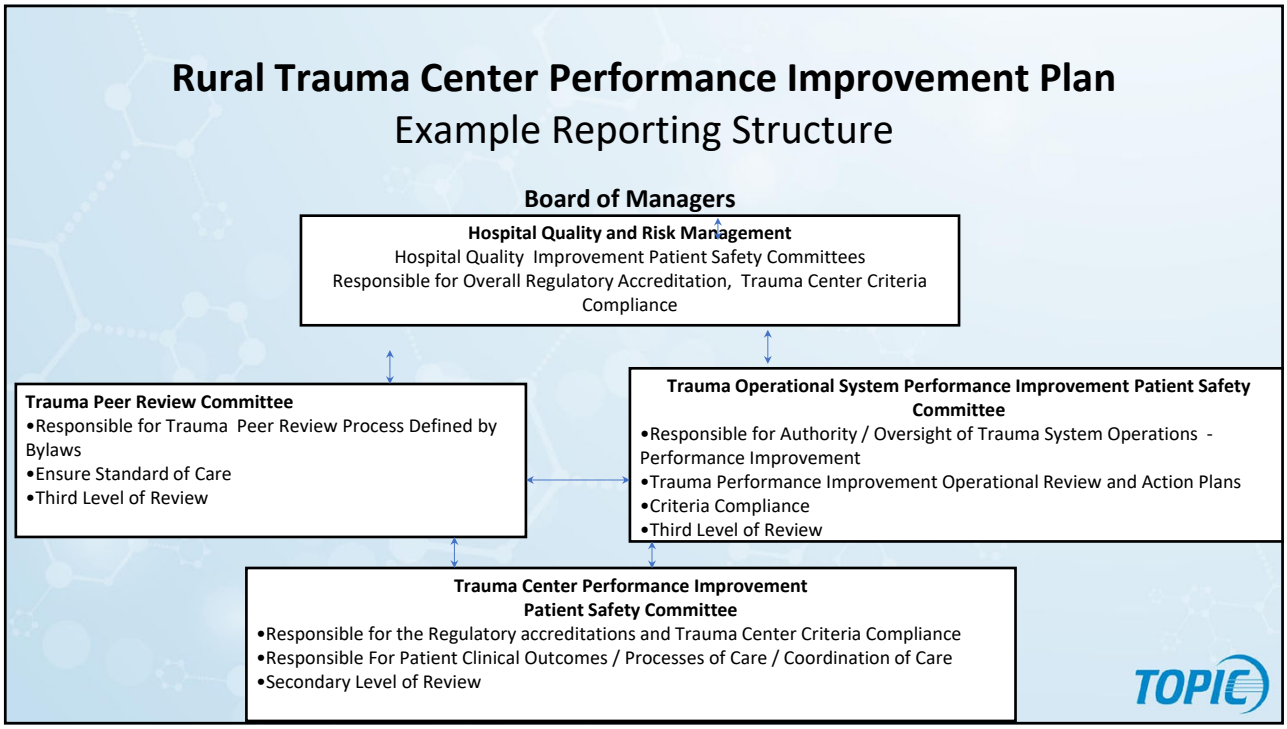
The Case Management section provides a summary of each level of review and allows for specific documents to be attached and tracked.

TOPIC

174

Rural Trauma Center Performance Improvement Plan

Example Reporting Structure



175

Summary

- Committee structure must be defined in PIPS plan
- Committee membership is defined by resources available
- Must have trauma peer review and systems review
- Confidentiality and security measures must be in place

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TOPIC

Trauma PIPS Action Plan Development, Implementation, and Monitoring Module 6

RURAL TRAUMA OUTCOMES & PERFORMANCE IMPROVEMENT COURSE

177

Action Plan Process

1	2	3	4	5
Identify opportunity for improvement	Analyze supporting data	Develop corrective action plan	Implement corrective action plan	Measure outcome of action plan

178

Action Plans

Should have clear goals that are:

S	M	A	R	T
Specific	Measurable	Achievable	Relevant	Timely

179

Corrective Action

Examples:

- Guideline / protocol development or revision
- Education
- System enhancements (resources)
- Counseling
- Peer review presentation
- External review
- Focused workgroup
- Ongoing professional practice evaluation (OPPE)
- Change in provider privileges

180

Clinical Practice Guidelines

- Evidence-based practice
- Decrease variation in practice/outcomes
- There are multiple resources available
  - American Association for the Surgery of Trauma (AAST)
  - Eastern Association for the Surgery of Trauma (EAST)
  - Pediatric Trauma Society (PTS)
  - Western Trauma Association (WTA)
  - Trauma Quality Improvement Program (TQIP)
- Implementation guidelines appropriate for the rural trauma center

181

Education

- Patient teaching rounds
- Conferences
- Subject matter expert
- Trauma grand rounds
- Telehealth education
- Journal clubs
- Case presentation
- Hospital newsletters
- Unit posters/ storyboards
- Video options
- Internal online education
- Focused readings
- Simulation training

Critical Question: What will be measured to define the needed change?

TOPIC

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System Enhancements

- Check lists
- Handoff reports every shift
- Order sets
- Increase or adjustments to staffing patterns and coverage
- Purchase of new equipment
- Part-time trauma registrar – assist with data abstraction
- How will change be measured

183

Focused Workgroup

- Focus specific to an identified issue
- Time limited
- Identify a workgroup champion
- Identify key stakeholders, keep it small
- Complete data analysis
- Utilize evidence-based information
- Identify OFI, develop action plan, accountability, and deadlines

Routine status reports to Trauma Systems-Operations Committee

184

Counseling

- Most events are systems related not behavioral
- Behavioral events
  - Difficult but necessary
  - Time sensitive
  - Face to face
  - Affects all staff that interface with trauma patients
- Delivered by:
  - Departmental leadership in each area/unit who have the authority and responsibility
  - Direct Supervisor or their Chain of Command
  - Remain Confidential
  - Appropriate HR recommendations

185

Credentials Review (OPPE)

- Critical Step
- Includes trended events
- Consistent with medical staff bylaws
- Consistent with policies for remediation
- Integration into hospital PIPS program
- Education
- Focused area of study
- External courses
- Mentoring

186

System Enhancements Proposing Solutions

- TPM and TMD can lead the business case for proposed solutions
- Use data and PI information
- Presenting the problem to senior management
  - Present the issue
  - Potential solution
  - Budgetary impact
- Relevance to improved patient / patient safety
- Designed to create change

187

External Consultation

- Local Designation Authority / Lead Agency
- Specialty group from another hospital
- Consultant (subject matter expert): clinical, financial
- Lead hospital in a health care system
- Specialty focused review, e.g., Neurosurgery
- Mock surveys

188

Action Plan Drives Desired Change

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Summary

- Action plans are structured and written (formalized)
- Action plans drive change
- Match the corrective action to the issue
- Multiple models:
  - Identify the opportunity for improvement
  - Define the action plan
  - Choose the correct people
  - Define elements of the action that are monitored
  - Define the timeline for desired change
- Identify specific solutions, timeframes and assign accountability
- Re-evaluate and confirm to show resolution

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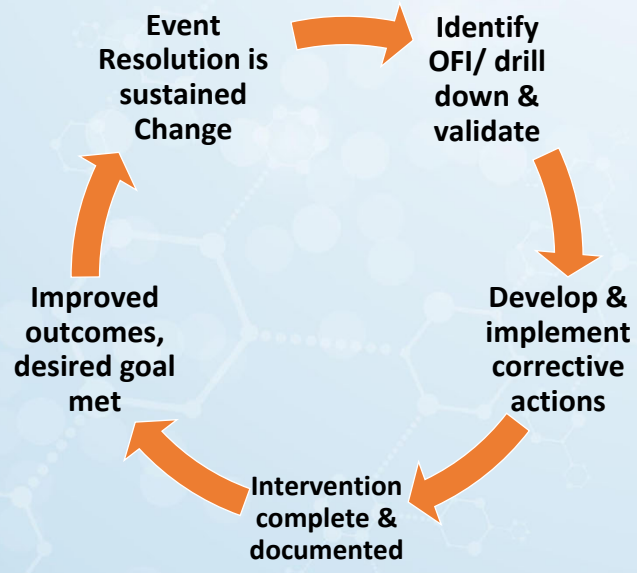
TOPIC

Event Resolution
Module 7

RURAL TRAUMA OUTCOMES & PERFORMANCE IMPROVEMENT COURSE

191

Event Resolution (Loop Closure)



TOPIC

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Event Resolution

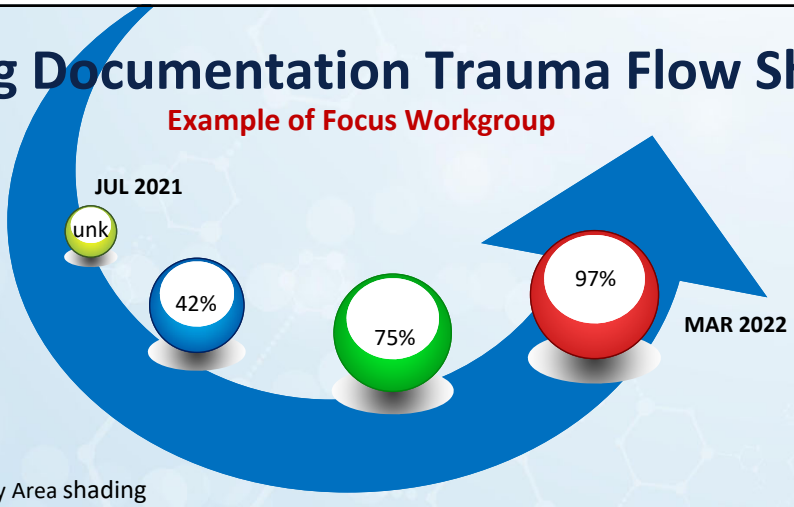
- Implementing corrective actions (i**s not resolution**)
- Event identification, analysis, reviewed at committee, and plan for corrective action is **NOT** loop closure
- Did the corrective action work?
- What is measured to define the desired change or outcome?
- Was the intended outcome/goal achieved and sustained?

193

Nursing Documentation Trauma Flow Sheet

Example of Focus Workgroup

Trauma Flow Sheet Focus Group



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

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

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

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Event Resolution

Step 1: Event Identification, validation, documentation: PI OFI tracking

Step 2: Analyze current status: registry data

Step 3: Complete the Levels of Review: Identify Opportunities for Improvement

Step 4: Develop Action Plan and Implement Plan – Track outcomes

Step 5: Meet targeted outcome

Step 6: Change practice
Sustain Change

TOPIC

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Event Resolution (Loop Closure)

Guiding Principles:

- Focus on the desired change, not just the plan.
- What was the level of harm and urgency?
- When is the event resolved?
- What is an appropriate timeframe to reach the desired goal?
- What is appropriate reporting of event resolution?
- How is this documented and where is this reported?
- Who determines if the event is resolved?
- Add this comment to your loop closure documentation

**"Future similar patients are less likely to experience this event because…..
[blank lines for entering explanation]."** M Bonta MD 2017

196

What are the most common events you address?

Poll question

TOPIC

197

Reasons for Unsuccessful Event Resolution

- "This is the way we have always done it"
- Providers refuse to engage
- No support to improve system event
- No improvement in patient outcomes
- Stagnant or ineffective action plans
- Inappropriate action for identified event
- Failure to involve appropriate departments in action plan
- Lack of authority/accountability for staff involved
- Competing priorities

198

Event Resolution

Summary of the total Trauma PIPS process reaching event resolution

199

Summary

- Process of event resolution
  - Identify, validate, and document
  - Identify level of harm
  - Process through the levels of review
  - Define opportunity for improvement
  - Develop action plan
  - Implement and monitor action plan results
  - Analyze data
  - Evaluate and re-evaluate
  - Reach and sustain desired goal
- Document
- Report through the Operations Committee

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TOPIC

Module 8: Case Scenarios

TRAUMA OUTCOMES & PERFORMANCE IMPROVEMENT COURSE

201

Case Reviews

Group Discussions For Scenario Review

- Types of Events Reviewed
- Data Definitions for Events
- How Do You Prepare For Meetings

202

SCENARIO 1

203

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Scenario 1

Hospital

- Rural Level IV Trauma Center
- 60 miles from Level II, 130 miles from Level I
- Closest trauma center is Level III 50 miles away with limited specialty services
- Geographic considerations – land mass with large lake between Level IV and other trauma centers

Providers

- Emergency Medicine Physician is the TMD; ED covered by contract physicians
- TPM is also over stroke program

Staff

- 2 RNs available in hospital

Adjunct Studies Available

- Radiology and lab available with limited resources; CT is available (64 slice)
- Lab, Blood Bank with 2 units of PRBC on site
- Local volunteer EMS

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Scenario 1

1023 - 89 y old male, driver, arrived by EMS with V/S 199/55, HR 68, R 19, GCS of 14, with a PIV in right antecub

- Pt is on anticoagulation therapy
- No trauma activation; ABCs evaluated by emergency physician

1100 - Chest film completed, then to CT for head / abdomen

- LABs – CBC, Chem, UA,
- Head CT Finding – small subdural

1140 - Emergency Physician request trauma transfer to Level II with neurosurgery coverage, GCS now 12,

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TOPIC

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Scenario 1

1250 – Transfer is accepted

1328 – Transfer team present, hand-off is completed

1330 – Daughter notified and in route

1400 – Receiving team called, images not present on transfer

1430 – Daughter arrives and states patient has a full DNR with advanced directives stating no resuscitation measures

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TOPIC

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Key Questions in Case Evaluation

- What was the outcome?
- Was the system response appropriate?
- Was the response timely?
- What were the pre-existing conditions?
- Were trauma practice management guidelines and protocols followed?
- What were the circumstances surrounding the event?
- Who was involved and what safety goals were related?
- Were staffing and resources appropriate?
- Were there knowledge and skill variations?
- Were there associated performance or behavioral events?

207

TOPIC

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Validation of Performance Improvement Events

208

TOPIC

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Identification of "Events"

Provider Related	System Related
• No trauma activation • Transfer decision time	• Trauma documentation • Serial vital signs and GCS • Delayed transfer • Images on transfer • Communication with daughter

Validation of Events

Provider Related	System Related
• Compliance to trauma activation – history • TMD discussion with emergency physician	• Trauma flow sheet utilization • Transfer coordination – checklist, MOT • Process for family notification and communication

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Levels of Harm and Outcome

Level of Harm	Outcome Definition	Suggested Follow Up/ Review
Death	Unexpected mortality	Tertiary Review in conjunction with hospital quality
Severe Harm	Patient outcome symptomatic requiring LIFE SAVING intervention	Tertiary Review in conjunction with hospital quality
Moderate Harm	Patient outcome symptomatic requiring intervention (i.e. operative, therapeutic treatment)	Tertiary Review in conjunction with hospital quality
Minimal Harm	Patient outcome symptomatic requiring minimal or no intervention (i.e. observation, minor treatment)	Primary and Secondary Level Review
No Harm/ Near Miss	No symptoms detected, no treatment required	Primary and Secondary Level Review

Level of harm and outcome should be related and factored into the level of review and follow up

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Levels of Review

Event resolution (loop closure) can occur at any level

211

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Levels of Review

Event	Primary	Secondary	Tertiary
PROVIDER • Trauma Activation Compliance • Transfer decision timeliness	• Review by Trauma program staff • Develop Timeline • Images	• Review by TMD • Review with emergency physician • Review history of compliance to trauma activation criteria • Use data to determine if this is a trend	• Operations Committee ? Peer Review
SYSTEM • Trauma flow sheet documentation • Vital signs – Serial GCS • Transfer coordination	• Review by Trauma Program staff • Develop Timeline	• Review by TMD, TPM • Review with emergency department nursing leaders • Collaborate with ED for action plan	• Operations /System Committee (summary no identifiers)

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Standardized Review Tool Example

SECONDARY LEVEL OF REVIEW:

EVENT IDENTIFIED:

LEVEL OF HARM CONFIRMED: _None; _None Detected; _Minimal; __Moderate; _Severe; _Death

System Related Event	Provider Related
Patient Related	**Staff Related**

SECONDARY LEVEL OF REVIEW: IDENTIFIED OPPORTUNITIES FOR IMPROVEMENT

213

Standardized Review Tool Example

CLASSIFICATIONS:

- ☐ Morbidity / Mortality Without Opportunity for Improvement
- ☐ Morbidity / Mortality With Opportunity for Improvement
- ☐ Morbidity / Mortality With Regional Opportunity for Improvement
- ☐ Unable to Determine

214

CORRECTIVE ACTION(S)

215

215

Appropriately Match the Corrective Action to the Issue

- Specific Issue, Time bound, Measurable
- Appropriate Corrective Action, Data Analysis
- Safe Patient Care and Prevention of Future Occurrences

216

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Event & Corrective Action(s)

Event	Corrective Action
PROVIDER • No Trauma Activation • Delay in transfer decision time	• TMD has discussion and reviews TTA criteria with physician. Begin to monitor emergency physician's compliance to trauma activation, with goal of achieving 90% compliance to trauma activation within 60 days. • Medical director overview of the importance of early transfer decision time and review timeliness to transfer request with goal of a minimum of 80% of transfer decisions made within one hour of patient's arrival within 60 days.
SYSTEM • Lack of Trauma Flow Sheet documentation • Transfer coordination • Family notification and coordination	• Integration of essential trauma elements on standard documentation tool within 6 weeks, provide nursing education, and then monitor compliance with the goal of 90% compliance within six months. (Operations/System Committee) • Develop checklist for transfer coordination to ensure all documents are included within two weeks, educate staff and implement, begin tracking in 30 days with a goal of reaching 95% compliance within three months. (Operations/System Committee) • Develop a script to follow for family notification and communication, implement, 80% compliance in three months. (Operations/System Committee)

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DATA TRACKING; DATA ANALYSIS DOCUMENTATION

218

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Documenting Loop Closure

- Document in:
  - the Trauma Registry (PI Screen for this patient)
  - include all correspondence, educational flyers, counseling
  - peer review minutes

- Best Practice:
  - keep all loop closure documentation within
  - 1 file in 1 location within the Trauma Registry

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219

Documenting Loop Closure

220

220

Scenario 2

221

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Scenario 2

Hospital

- Rural Level III trauma center with limited resources
- 75 miles to Level II and 93 miles to Level I trauma center
- Level III with higher resources 75 miles away
- Mountains and road constraints geographically

Providers

- TMD is a general surgeon with two other surgeons that take trauma call; 2 ORs available; 2 CRNAs available

Staff

- 4 RNs in ED, 4 Bed ICU is staffed, RT on site 24/7

Adjunct Studies Capabilities

- Lab and Radiology services are standard, CT available, no IR
- 6 units of PRBC available, maternal services provided

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Scenario 2

1023 – 1 y old male at home with family, arrived by POV, BP not recorded; HR 142; R 36; Father states he backed over the patient in the driveway with tire rolling over his chest, abdomen, patient is crying but is obviously in pain

- Emergency physician began the evaluation
- ABCs were assessed and intact, plain films obtained
- CT of head, spine, chest, abd, and pelvis ordered and completed.

1115 – Radiology notifies ED physician of abnormal findings in abdomen and pelvis

1115 – Trauma activation called

1200 – Trauma Surgeon arrives

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Scenario 2

1220 – Trauma surgeons defines need for trauma transfer to Pediatric Trauma facility

- Injuries identified include potential liver laceration, pelvic fracture, bilateral hip fractures, multiple abdominal abrasions

1315 – Patient transferred via air medical team

The following day, the pediatric facility called to share issues that the patient's weight was not recorded, IV access was inadequate, and concerns the images were not readable.

224

224

Key Questions in Case Evaluation

- What was the outcome?
- Was the system response appropriate?
- Were the center's response times appropriate?
- What were the pre-existing conditions?
- Were trauma practice management guidelines and protocols followed?
- What were the circumstances surrounding the event?
- Who was involved and what safety goals were related?
- Were staffing and resources appropriate?
- Were there knowledge and skill variations?
- Were there associated performance or behavioral events?

225

225

Identification of "Events"

Provider Related	System Related
• Delayed trauma activation • Delayed surgeon response time • Imaging – pediatric patients	• Trauma document • Serial vital signs and GCS • Temperature • IV access • Pediatric wt. not recorded • Delayed transfer

Validation of Events

Provider Related	System Related
• Compliance to trauma activation • Surgeon's response time to trauma activation • Transfer vs obtain images	• Trauma flow sheet utilization • Pediatric guidelines reviewed – wt, over imaging • Transfer timeliness – checklist, MOT

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226

Levels of Review

Event resolution (loop closure) can occur at any level

227

227

Levels of Review

Event	Primary	Secondary	Tertiary
PROVIDER • Trauma Activation Compliance • Surgeons' response time to trauma activation • Over Imaging	• Review by Trauma program staff • Develop Timeline • Images	• Review by TMD • Review with emergency physician • Review history of compliance to trauma activation criteria • Review surgeon's response to TTA • Transfer decision time • Use data to determine if this is a trend	• Peer review for physician decisions • Operations Committee – Pediatric guidelines
SYSTEM • Trauma flow sheet documentation • Pediatric weight • Vital signs – neurovascular • Transfer coordination • ? Abuse screening	• Review by Trauma Program staff • Develop Timeline	• Review by TMD, TPM • Review with emergency department nursing leaders • Collaborate with ED for action plan	• Operations /System Committee (summary no identifiers)

228

Standardized Review Tool Example

SECONDARY LEVEL OF REVIEW:

EVENT IDENTIFIED:

LEVEL OF HARM CONFIRMED: _None; _None Detected; _Minimal; __Moderate; _Severe; _Death

System Related Event	Provider Related
Patient Related	**Staff Related**

SECONDARY LEVEL OF REVIEW: IDENTIFIED OPPORTUNITIES FOR IMPROVEMENT

229

Standardized Review Tool Example

CLASSIFICATIONS:

- ☐ Morbidity / Mortality Without Opportunity for Improvement
- ☐ Morbidity / Mortality With Opportunity for Improvement
- ☐ Morbidity / Mortality With Regional Opportunity for Improvement
- ☐ Unable to Determine

230

CORRECTIVE ACTION(S)

231

231

Event & Corrective Action(s)

Event	Corrective Action
PROVIDER • Delayed Trauma Activation • Surgeon's response to TTA • Over Imaging	• Continue to monitor emergency physician's compliance to trauma activation, with goal of achieving 80% compliance within 60 days • Surgeon's response to TTA is 80% of their total activations within 60 days • Medical director overview of the pediatric trauma guidelines and standards of care with a specific focus on over imaging, with the goal of obtaining only the essential images prior to transfer in three months, with review of all pediatric trauma transfers with a desired rate of 90% compliance.
SYSTEM • Lack of Trauma Flow Sheet documentation • Pediatric trauma guidelines – weight and temp	• Trauma flow sheet is utilized for all trauma activations to include any delayed activations with 90% compliance in next three months. (Operations/System Committee) • Monitor pediatric trauma activations to ensure that Temp, serial vital signs, weight in Kg and IV access are recorded on the trauma flow sheet with 90% compliance in three months (Operations/System Committee) ,

232

232

DATA TRACKING; DATA ANALYSIS DOCUMENTATION

233

233

EVENT RESOLUTION

When is Event Resolution Achieved?
Where Is It Defined?
Who Initiates Closure?
How Is It Documented?
Where Should It Be Written?

234

234

Scenario 3

235

235

Scenario 3

Hospital

- Level IV trauma center 70 miles from Level I, 60 miles from level II
- Facility has an ED with one resuscitation room and one exam room, 5 observation beds
- No operative suite, ICU beds, or surgical services available.

Providers

- One Provider: Family Practice
- Three APPS that cover 7 pm to 7 am
- Contract with EM for weekend coverage 7 pm Friday to 7 am on Monday

Staff

- 1 RN 7 am to 7 pm , tech at 12 noon to 12 AM, RN 7 pm ; additional RN available in hospital 11 am to 11 pm.

Adjunct Studies Available

- Basic lab, X-ray, CT scan, EKG, 2 units PRBC
- Hospital is base station for EMS

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Scenario 3

1703 59 year old male involved in a MVC, ran off road into ditch and hit embankment. 911 notified

1709 EMS on scene, damage to the front-end of the vehicle, minimal intrusion; ABCs assessed. BP 136/92, HR 94, R 22, Sa02 99, GCS 14. Immobilized, c-collar, 02 NRM. Communication with trauma center.

1745 ED arrival. ED MD at bedside 1755; highest level of trauma activation called 1740 based on EMS report. ABCs assessed. BP 155/84, HR 92, R 24, T 97.9, Sa02 98, GCS 15, RTS 12. Remains on NRM, 2 peripheral IVs placed 16 g warm fluid. Bair hugger initiated to keep patient warm.

1821 Extremity films obtained. CT scans of head, c-spine, abdomen, and pelvis initiated.

1840 Injuries identified: small SDH

1900 Transfer initiated. Air medical service contacted and enroute.

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Scenario 3

1930 Transfer accepted by level II trauma facility. Accepting physician request a repeat of head CT with contrast.

2005 Return to CT for head CT with contrast .

2045 Patient transferred with air medical team.

Transfer follow up letter received ten days after transfer.

Unknown injuries – 2 right lateral rib fractures

Bilateral pulmonary contusions

Note: SDH not apparent on CT scan repeat reads.

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Key Questions in Case Evaluation

- What was the outcome?
- Was the system response appropriate?
- Were the TCs response times appropriate?
- What were the pre-existing conditions?
- Were trauma practice management guidelines and protocols followed?
- What were the circumstances surrounding the event?
- Who was involved and what safety goals were related?
- Were staffing and resources appropriate?
- Were there knowledge and skill variations?
- Were there associated performance or behavioral events?

239

239

Identification of "Events"

Provider Related	System Related

Validation of Events

Provider Related	System Related

240

240

Levels of Harm and Outcome

Level of Harm	Outcome Definition	Suggested Follow Up/ Review
Death	Unexpected mortality	Tertiary Review in conjunction with hospital quality
Severe Harm	Patient outcome symptomatic requiring LIFE SAVING intervention	Tertiary Review in conjunction with hospital quality
Moderate Harm	Patient outcome symptomatic requiring intervention (i.e. operative, therapeutic treatment)	Tertiary Review in conjunction with hospital quality
Minimal Harm	Patient outcome symptomatic requiring minimal or no intervention (i.e. observation, minor treatment)	Primary and Secondary Level Review
No Harm/ Near Miss	No symptoms detected, no treatment required	Primary and Secondary Level Review

Level of harm and outcome should be related and factored into the level of review and follow up

241

TOPIC

241

Standardized Review Tool Example

SECONDARY LEVEL OF REVIEW:

EVENT IDENTIFIED:

LEVEL OF HARM CONFIRMED: _None; _None Detected; _Minimal; __Moderate; _Severe; _Death

System Related Event	Provider Related
Patient Related	Staff Related

SECONDARY LEVEL OF REVIEW: IDENTIFIED OPPORTUNITIES FOR IMPROVEMENT

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Corrective Action(s)

243

243

Standardized Review Tool Example

CLASSIFICATIONS:

- ☐ Morbidity / Mortality Without Opportunity for Improvement
- ☐ Morbidity / Mortality With Opportunity for Improvement
- ☐ Morbidity / Mortality With Regional Opportunity for Improvement
- ☐ Unable to Determine

244

Event & Corrective Action(s)

Event	Corrective Action
PROVIDER	
SYSTEM	

245

245

EVENT RESOLUTION

When is Event Resolution Achieved?
How Is It Documented?
Where Should It Be Written?

246

246

Scenario 4

247

247

Scenario 4

Hospital

- ***Level V*** trauma center 100 miles from Level I, 80 miles from level II; ED, 5 observation beds

Providers

- Two providers: Family Practice
- Two APPS that cover 7 pm to 7 am

Staff

- 1 RN 7 am to 12 noon, additional RN 12 noon to 12 AM, RN 7 pm ; 1 tech per shift

Adjunct Studies Available

- Basic lab, X-ray, CT scan, EKG, 2 units PRBC
- Hospital EMS Crew

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Scenario 4

- Peer review is contracted out
- Trauma centers receives monthly trauma peer review summaries.
- September – APP inappropriate chest tube placement
- October – no findings
- November – no findings
- December – no findings
- January – APP inappropriate chest tube placement

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Scenario 4

- 2 physicians
- 1 physician serves as the TMD
  - Request the two x-rays for review
  - Chest tube inserted by the same APP
  - Reviews cases with the APP
    - Identified knowledge or experience gap in thoracostomies
  - Reviews the last eighteen months of cases, and additional chest tube issue is identified, with the same APP
  - Calls transfer receiving centers to gain feedback – all three cases required the chest tube to be replaced, once case defined a severe level of harm as a result of the chest tube placement

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250

Identification of "Events"

Provider Related	System Related

Validation of Events

Provider Related	System Related

251

Standardized Review Tool Example

SECONDARY LEVEL OF REVIEW:

EVENT IDENTIFIED:

LEVEL OF HARM CONFIRMED: _None; _None Detected; _Minimal; __Moderate; _Severe; _Death

System Related Event	Provider Related
Patient Related	Staff Related

SECONDARY LEVEL OF REVIEW: IDENTIFIED OPPORTUNITIES FOR IMPROVEMENT

252

Standardized Review Tool Example

CLASSIFICATIONS:

- ☐ Morbidity / Mortality Without Opportunity for Improvement
- ☐ Morbidity / Mortality With Opportunity for Improvement
- ☐ Morbidity / Mortality With Regional Opportunity for Improvement
- ☐ Unable to Determine

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Corrective Action(s)

254

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Event & Corrective Action(s)

Event	Corrective Action
PROVIDER	
SYSTEM	

255

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Corrective Action Plan

- Simulation Training for CT insertion
- Week of training at the Level I under supervision of their TMD
- Monitor every CT placed by facility
- Follow up with transfer receiving facility regarding CT placement outcomes

1st Quarter	2nd Quarter	3rd Quarter
1 CT placed	2 CT placed	1 CT placed
Appropriate Placement	Appropriate Placement	Appropriate Placement
Receiving facility feedback – no issues	Receiving facility feedback – no issues	Receiving facility feedback – no issues

256

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EVENT RESOLUTION

Has the Desired Change Occurred?
How do know if it is sustained?
Where Should It Be Written?

257

257

Scenario 5

258

258

Scenario 5

Hospital

- Rural Level IV Critical Care Access Facility with 5 bed availability

Provider(s)

- 3 Family Practice Physicians covering the ER (0800-1700 M-F)
- APP Coverage in the ER (24hrs/day)
- Telemedicine-Video (used when physicians not covering ER)

Staff

- 2 Nurses (ER / Hosp – 24hrs/day)
- 2 Techs (ER / Hosp – 24hrs/day)
- Lab / Radiology (0800-1700 M-F in house / otherwise on call)

Adjunct Study Capability

- Basic Labs / Xray / CT / EKG
- 2 units PRBC

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Scenario 5

1710 – ATV crash on highway when the ATV ran onto the highway from a gravel road and hit the back of a pickup truck on the right rear panel and then flipped. Rider was ejected and not wearing a helmet. EMS notified.

1746 – EMS (BLS) on scene.

1805 – EMS notifies hospital they are in route with a 18-year-old male driver of ATV crash that was found approximately 30 feet from the vehicle with no helmet, questionable loss of consciousness.

1840 – Patient arrives in the emergency department. EMS stays to assist in care of the injured patient.

260

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Scenario 5

1845 – Highest level trauma activation called. Physician notified.

- Patient is awake and alert and arrived with a GCS of 15. BP: 122/68; HR: 82; R: 18; RTS: 12. Advanced Practice Provider (APP) at bedside evaluating patient.
- Patient has swelling and bruising around right eye and zygomatic area. Right leg has blood and laceration above the knee, potential open fracture. Patient arrives and nursing places IV, 18GA in right antecubital

1858 – APP orders chest film, extremity film for right upper leg due to deformity and swelling of leg.

1920 – APP orders CT of the head and face (No contrast), with a CBC, BMP, coags, amylase, UA.

1930 – APP orders EKG, patient is complaining of chest pain.

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TOPIC

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Scenario 5

1945 – Chest x-ray identifies a right large pneumothorax
extremity films define an open proximal femur fracture
EKG is normal.
Repeat vital signs BP: 128/78; HR: 86; R: 22;
Patient appears more anxious, asking about parents.

1952 – APP notifies family practice physician. Physician questions if Telemedicine was activated. Response was no.

2005 – APP activates telemedicine and provides patient history and condition. Telemedicine directs APP to request transfer to higher level trauma center, place right chest tube and splint the right femur fracture.

2015 – Transfer is initiated. APP places right chest tube with 600ml output of bloody drainage. Family is now notified. Trauma center accepted and dispatched transport helicopter.

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TOPIC

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Scenario 5

2200 – Total chest tube output is 800 ml of blood.

2220 – Patient re-assessed through telemedicine.

- Repeat chest x-ray after chest tube insertion identified right rib fractures 2-4. Vital signs BP: 118/78; HR: 80; R: 20; GCS 15.
- Family becoming upset due to delays in transfer.

2230 – Transport team on site and patient SBAR reviewed. Patient transferred.

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Key Questions in Case Evaluation

- What was the outcome?
- Was the system response appropriate?
- Were the TCs response times appropriate?
- What were the pre-existing conditions?
- Were trauma practice management guidelines and protocols followed?
- What were the circumstances surrounding the event?
- Who was involved and what safety goals were related?
- Were staffing and resources appropriate?
- Were there knowledge and skill variations?
- Were there associated performance or behavioral events?

264

264

How do you identify opportunities for improvement or "events"?

265

265

Identification of "Events"

Provider Related	System Related

Validation of Events

Provider Related	System Related

266

266

Main Issues Identified

- Initial Management – Primary Survey / Eval
- Imaging
- Communication with Telemedicine
- Delay in Pain Med administration
- Delay in Abx administration
- Family Communication
- Other issues?

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TOPIC

267

Levels of Review

Event	Primary	Secondary	Tertiary
PROVIDER			
SYSTEM			

Which meetings should representatives from telemedicine attend?

268

Standardized Review Tool Example

SECONDARY LEVEL OF REVIEW:

EVENT IDENTIFIED:

LEVEL OF HARM CONFIRMED: _None; _None Detected; _Minimal; __Moderate; _Severe; _Death

System Related Event	Provider Related
Patient Related	**Staff Related**

SECONDARY LEVEL OF REVIEW: IDENTIFIED OPPORTUNITIES FOR IMPROVEMENT

269

Standardized Review Tool Example

CLASSIFICATIONS:

- ☐ Morbidity / Mortality Without Opportunity for Improvement
- ☐ Morbidity / Mortality With Opportunity for Improvement
- ☐ Morbidity / Mortality With Regional Opportunity for Improvement
- ☐ Unable to Determine

270

Corrective Action(s)

271

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Event & Corrective Action(s)

Event	Corrective Action
PROVIDER	
SYSTEM	

272

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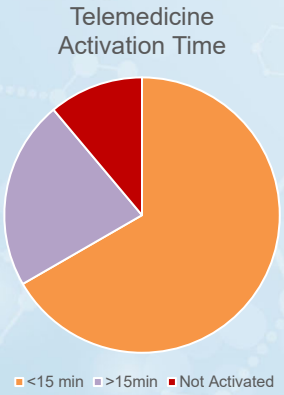
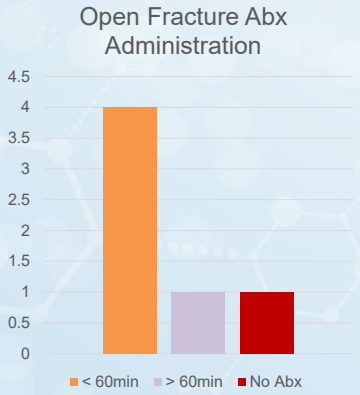
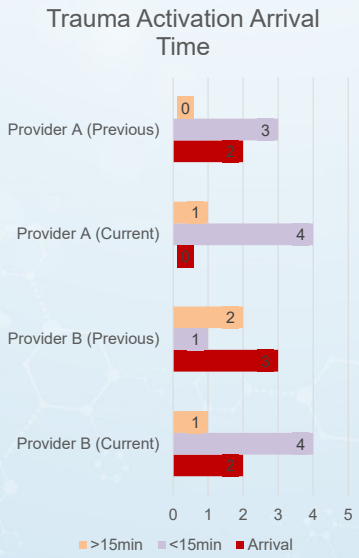
Quarterly Trauma Dashboard







273

273

EVENT RESOLUTION

What is needed to achieve event resolution?
How Is It Documented?
Where Should It Be Written?

274

274

Scenario 6

275

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Scenario 6

Hospital

- Rural Level IV trauma center, sixty miles from a Level II, fifty-two miles from a Level III, and 120 miles from a Level I
  - ED, routine diagnostics, 20 inpatient beds, no ICU resources, operating room no longer utilized.
  - Lab, radiology, blood bank, and respiratory services are available during the day and on-call after 5 pm

Staffing

- 1 RN in the ED and 1 RN on the hospital floor
- Assist each other during high acuity event

Provider

- One full-time family medicine physician and three APP that rotate call

External Resources

- Telemedicine services are used for resuscitations and high acuity events in the emergency department

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Scenario 6

1620 – on a Saturday afternoon, the ED receives a call from an hysterical female. Stating her 12-y daughter was riding on the tractor with her father. They hit a stump, jolting the tractor and the daughter fell and was run over by the tractor. The father stopped the tractor on top of the girl. Caller stated they live 25 miles out of town on a gravel road. Father is driving her to the hospital instead of waiting.

EMS is provided by a volunteer service.

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Scenario 6

ED alerts the Telemedicine team

APP is standing by and has requested lab, x-ray, and CT scan to respond to the highest trauma activation.

1640 – Physician is consulting and states to call for a helicopter for transfer, as it takes approximately 75 minutes for the helicopter to arrive.

1645 – father arrives with the 12-y female

- She is moved to a stretcher as her airway is assessed and the c-spine is protected by preventing any movement.
- As she is moved to the ED resuscitation room, it is noted she is very pale, shallow respiration and her lips and cheek appear cyanotic. She is not moving.

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Scenario 6

1648 – Telemedicine physician and the APP are assessing patient.

- Airway appears open but respirations are very shallow.
- The APP is attempting intubation with RSI.

1659 – Two RNs are assessing patient and removing clothing.

- note significant tractor tire marks.
- crushed right chest and pelvis, crushed right femur.
- HR is 132, skin is mottled and cold.
- Father states she weighs about 76 lbs.

279

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Scenario 6

1700 – Two lines are started. BP is 68/palp. Labs drawn.

- Intubation is successful and she is on a ventilator.
- NGT and foley are place. Only 100 cc urine output with foley place. Urine has blood.
- Chest, abdominal, and pelvic images are ordered.

1705 – RN calls for transfer of the patient to the pediatric trauma center that is approximately 90 miles away, and requests follow-up up on helicopter arrival.

1706 – Helicopter is coming from out of region but may be more than an hour.

1708 – Pediatric trauma center is not accepting transfer due to capacity issues.

280

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Scenario 6

1709 – Blood is ordered.

1710 – GCS is 3, HR 110, BP 64/palp, skin is pale, cold

1711 – Warming devices are initiated. Warm fluids IV

1720 – CT scans are complete.

- Antibiotics given for open fractures.

1730 – Multiple injuries are identified

- Bilateral HTX/PTX requiring bilateral chest tubes, flail chest on the right from 2nd – 10th rib.
- Left chest has 4-8 rib fx with defined scapula fx.
- Open book pelvic fracture with the right iliac wing separated.
- Complex open right femur fx, patient is oozing blood from pelvic fx and femur fx.
- Attempt to apply pressure, sheeting to control bleeding. Neurovascular checks define no pulse in the lower extremities.

281

281

Scenario 6

1730 – APP calls physician on call and requests his assistance

1731 – RN calls the Level I, Level II, and Level III facilities requesting transfer

1732 – APP places chest tube on right with direction of the Telemedicine physician

- Physician arrives and places the second chest tube on the right. 500 cc of blood drainage from chest tube on insertion.
- CT scan defines grade IV splenic and liver injuries,
- Blood in abdomen and questionable bladder injury.
- Head CT shows intracranial hemorrhage.

1743 – Physician orders additional unit of blood.

282

282

Scenario 6

1758 – Level III calls back to accept the patient, waiting on transportation; GCS remains 3, HR 80, BP: 60/palp;

- Right chest tube has additional 50 cc of bloody drainage. Left chest tube has only 75 total output. Minimal improvement in breath sounds.
- IV are patient and second unit of blood is being transfused. Warming devices are in place. T= 98.
- Ground transportation and air transportation called for.

1802 – Physician completes the physician-to-physician transfer acceptance.

- RN follows up on helicopter arrival. Anticipated arrival is 7 pm
- Care and reassessments continue

1810 – Sheriff's office called to assist with blood transport to the hospital.

- Chaplain and family at patient's bedside

1845 – Helicopter arrives.

- Whole blood initiated.
- Crew coordinating with receiving hospital for needed resources

1903 – Patient is transported out by helicopter. RN calls receiving hospital and provides handoff and report.

1940 – Notified patient arrested in flight and did not respond to interventions.

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TOPIC

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Key Questions in Case Evaluation

- What was the outcome?
- Was the system response appropriate?
- Were the TCs response times appropriate?
- What were the pre-existing conditions?
- Were trauma practice management guidelines and protocols followed?
- What were the circumstances surrounding the event?
- Who was involved and what safety goals were related?
- Were staffing and resources appropriate?
- Were there knowledge and skill variations?
- Were there associated performance or behavioral events?

284

TOPIC

284

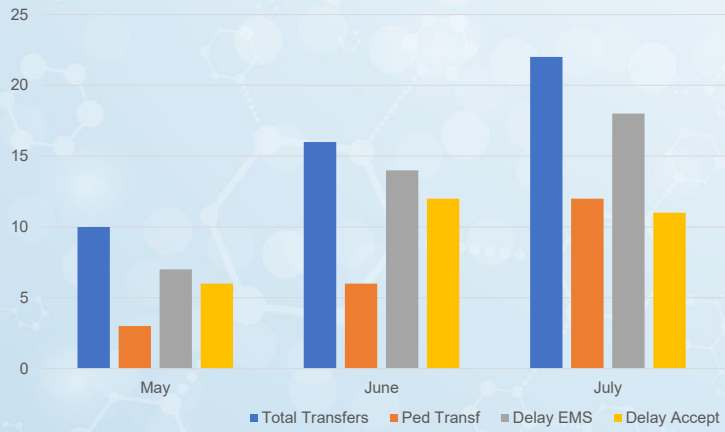
Events Identified

285

285

Data Review

Transfer Review May, June, and July



Regional Trauma System Plan defines

- High acuity patients are transferred out in 2 hours
- High acuity transferred are accepted with 15 minutes

286

Identification of "Events"

Provider Related	System Related

Validation of Events

Provider Related	System Related

287

287

Standardized Review Tool Example

SECONDARY LEVEL OF REVIEW:

EVENT IDENTIFIED:

LEVEL OF HARM CONFIRMED: _None; _None Detected; _Minimal; __Moderate; _Severe; _Death

System Related Event	Provider Related
Patient Related	Staff Related

SECONDARY LEVEL OF REVIEW: IDENTIFIED OPPORTUNITIES FOR IMPROVEMENT

288

Standardized Review Tool Example

CLASSIFICATIONS:

- ☐ Morbidity / Mortality Without Opportunity for Improvement
- ☐ Morbidity / Mortality With Opportunity for Improvement
- ☐ Morbidity / Mortality With Regional Opportunity for Improvement
- ☐ Unable to Determine

289

Levels of Review

Event	Primary	Secondary	Tertiary
PROVIDER			
SYSTEM			

Which meetings should representatives from telemedicine attend?

290

Event	Corrective Action
PROVIDER	
SYSTEM	

291

Rural Trauma Center Options for Peer Review

Peer Review Options

- Standards Multidisciplinary Peer Review Committee
- *Engage with System Facilities Trauma Peer Review*
- *Regional System Peer Review*
- *Contracted Peer Review*
- Rural Trauma Centers Acts on Findings

Outcome of Review – Opportunities for Improvement which leads to an Action Plan

292

What will be monitored to measure the desired change?

293

293

Scenario 7

294

294

Scenario 7

Hospital

- Rural Level IV trauma center, sixty-eight miles from Level II, forty miles from a Level III, and 110 miles from a Level I
  - ED, routine diagnostics, 30 inpatient beds, no ICU resources, operating room utilized only by a visiting orthopedic surgeon on Wednesdays.
  - Lab, radiology, blood bank, and respiratory services are available during the day and on-call after 5 pm

Staffing

- 1 RN in the ED and 1 RN on the hospital floor, the assist each other during high acuity events, 1 tech on duty in the ED

Provider

- Two full-time family medicine physician and two APP that rotate call

External Resources

- Telemedicine services are used for resuscitations and high acuity events in the emergency department

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Scenario 7

0102 32 year old male hunting with friend, drinking, accidental GSW to left chest. Location is approximately 15 miles from town. 911 notified.

0140 Sherriff arrives on scene. Individual is unresponsible with significant bleeding. Friend holding pressure over wound, but wound continues to bleed. Sherriff calls EMS exact location. Sherriff loads individual in car with friend to meet ambulance.

0205 EMS assumes care of patient. Profuse bleeding, no pulse, agonal respirations. CPR initiated, BVM for respirations, pressure on wound, I peripheral IV placed. EMS communicated with hospital regarding patient's condition.

0235 EMS arrives at hospital. Trauma team assemble and patient moved to ED stretcher. Patient intubated by ED physician 8 fr. ETT. CPR held, no pulse.

0242 Time of death called by ED physician.

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Key Questions in Case Evaluation

- What was the outcome?
- Was the system response appropriate?
- Were the TCs response times appropriate?
- What were the pre-existing conditions?
- Were trauma practice management guidelines and protocols followed?
- What were the circumstances surrounding the event?
- Who was involved and what safety goals were related?
- Were staffing and resources appropriate?
- Were there knowledge and skill variations?
- Were there associated performance or behavioral events?

297

297

Identification of "Events"

Provider Related	System Related

Validation of Events

Provider Related	System Related

298

298

Standardized Review Tool Example

SECONDARY LEVEL OF REVIEW:

EVENT IDENTIFIED:

LEVEL OF HARM CONFIRMED: _None; _None Detected; _Minimal; __Moderate; _Severe; _Death

System Related Event	Provider Related
Patient Related	**Staff Related**

SECONDARY LEVEL OF REVIEW: IDENTIFIED OPPORTUNITIES FOR IMPROVEMENT

299

Standardized Review Tool Example

CLASSIFICATIONS:

- ☐ Morbidity / Mortality Without Opportunity for Improvement
- ☐ Morbidity / Mortality With Opportunity for Improvement
- ☐ Morbidity / Mortality With Regional Opportunity for Improvement
- ☐ Unable to Determine

300

Scenario 8

301

301

Scenario 8

Hospital

- Rural Level III trauma center, sixty-eight miles from Level II, and eighty-one miles from a Level I
  - Six bed ED with one resuscitation room, radiology, CT scan, IR, 60 inpatient beds, eight ICU beds, four operating rooms, PT, OR, Speech Therapy.
  - Lab, radiology, blood bank, and respiratory services are available

Staffing

- 2 RNs in the ED per twelve hour shift, with one tech, hospital based EMS service

Provider

- One emergency medicine or family medicine physician per twelve hour shift, and one APP on Friday through Sunday 11 am to 11 pm.

External Resources

- Telemedicine services are used for pediatric trauma, pediatric neurosurgery, pediatric orthopedic services, and psychiatric services

302

302

Scenario 8

1730 80 y o female arrived by EMS, fell at home, not found for 3 days, EMS scene time 28 minutes, BP 94/61, HR 32, R 20, GCS 11, RTS 11; Atropine, CaCl; EMS notified the facility

Level I TTA activated

1731 EM at bedside; Trauma notified 1731 and arrived at 1738

EMS Time-out, BP 88/36, HR 76, R 22, T 29.5c, Sa02 100%, GCS 9

2 IVs, Bair Huggar, Potassium, Zosyn; EKG

Plain films – none; CT scans head, c-spine, chest, abdomen, pelvis, FAST, Labs: CBC, Chem, Coags, UA, Cultures

303

303

Scenario 8

1820 Injuries identified: left 2-5 rib fractures, pleural effusion, non-displaced C-2 fx., rhabdomyolysis, junctional bradycardia

1858 Admitted to medical ICU, pacemaker placed, c-spine fracture defined as old injury, PT, OT involved in car, Nutrition, Social Services, DVT prophylaxis, RT - spirometry; pain management

HD#13 Received Ms04 10 mg for rib pain, found unresponsible, possible aspiration; readmission to ICU

HD#14 Aspiration pneumonia diagnosed, febrile, goals of care discussed with family, palliative care requested

HD#15 Developed V-fib, then cardiac arrest; expired at 1833

304

304

Key Questions in Case Evaluation

- What was the outcome?
- Was the system response appropriate?
- Were the TCs response times appropriate?
- What were the pre-existing conditions?
- Were trauma practice management guidelines and protocols followed?
- What were the circumstances surrounding the event?
- Who was involved and what safety goals were related?
- Were staffing and resources appropriate?
- Were there knowledge and skill variations?
- Were there associated performance or behavioral events?

305

305

Identification of "Events"

Provider Related	System Related

Validation of Events

Provider Related	System Related

306

306

Levels of Review

Event	Primary	Secondary	Tertiary
PROVIDER			
SYSTEM			

Which meetings should representatives from telemedicine attend?

307

Standardized Review Tool Example

SECONDARY LEVEL OF REVIEW:

EVENT IDENTIFIED:

LEVEL OF HARM CONFIRMED: _None; _None Detected; _Minimal; __Moderate; _Severe; _Death

System Related Event	Provider Related
Patient Related	Staff Related

SECONDARY LEVEL OF REVIEW: IDENTIFIED OPPORTUNITIES FOR IMPROVEMENT

308

Rural Trauma Center Options for Peer Review

Peer Review Options

- Standards Multidisciplinary Peer Review Committee
- *Engage with System Facilities Trauma Peer Review*
- *Regional System Peer Review*
- *Contracted Peer Review*
- Rural Trauma Centers Acts on Findings

Outcome of Review – Opportunities for Improvement which leads to an Action Plan

309

Standardized Review Tool Example

CLASSIFICATIONS:

- ☐ Morbidity / Mortality Without Opportunity for Improvement
- ☐ Morbidity / Mortality With Opportunity for Improvement
- ☐ Morbidity / Mortality With Regional Opportunity for Improvement
- ☐ Unable to Determine

310

Event	Corrective Action
PROVIDER	
SYSTEM	

311

What will be monitored to measure the desired change?

312

312

Scenario 9

313

313

Scenario #9 Resources

Hospital

- Rural Level III trauma center, sixty-eight miles from Level II, and eighty-one miles from a Level I
  - Six bed ED with one resuscitation room, radiology, CT scan, IR, 60 inpatient beds, eight ICU beds, four operating rooms, PT, OR, Speech Therapy.
  - Lab, radiology, blood bank, and respiratory services are available

Staffing

- 2 RNs in the ED per twelve hour shift, with one tech, hospital based EMS service

Provider

- One full-time family medicine physician per twelve hour shift, and one APP on Friday through Sunday 11 am to 11 pm.

External Resources

- Telemedicine services are used for pediatric trauma, pediatric neurosurgery, pediatric orthopedic services, and psychiatric services

314

314

Scenario 9

1846 45 y.o.m arrived to the ED with a self-inflicted GSW to abdomen by EMS, EMS scene time 12 minutes, BP NR, HR 117, GCS 15, minimal bleeding from wound, abdomen tight, I peripheral IV, patient uncooperative, EMS communication to hospital – Level I TTA at 1848

1901 EM MD at bedside, trauma surgeon at bedside, OR notified

1902 EMS Time-out completed, ABCs assessed, chest and pelvis films completed, CT scan chest, abdomen, and pelvis ordered, No FAST, abdomen distended and tight

1920 To CT scan with nurse, returned to ED when completed

2033 Delay in CT scan reads, Grade II liver injury, stomach perforation, proximal jejunum perforation, transverse and descending mesocolon hematoma

2058 To OR, exploratory laparotomy, gastrography x 2, cauterization of liver injury, small bowl resection, partial L colectomy, EBL 300 ml

2205 Admitted to ICU, remained intubated, BP 102/62, HR 134, T 33.2, warming measures in place,\

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TOPIC

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Scenario 9

0730 Extubated by trauma surgeon and ICU team, remained in ICU due to diabetes, cardiac history, Nutrition, Social Work, and PT consults,

HD #3 Moved to floor, up and ambulator, surgical site without complications, family participating in care, psychiatric consult through telemedicine, bowel function confirmed

HD #4 SBIRT screening completed

HD#8 Discharged home with follow-up appointments and continued psychiatric evaluation, patient and family agree with plan of care

316

TOPIC

316

Key Questions in Case Evaluation

- What was the outcome?
- Was the system response appropriate?
- Were the TCs response times appropriate?
- What were the pre-existing conditions?
- Were trauma practice management guidelines and protocols followed?
- What were the circumstances surrounding the event?
- Who was involved and what safety goals were related?
- Were staffing and resources appropriate?
- Were there knowledge and skill variations?
- Were there associated performance or behavioral events?

317

317

Identification of "Events"

Provider Related	System Related

Validation of Events

Provider Related	System Related

318

318

Levels of Review

Event	Primary	Secondary	Tertiary
PROVIDER			
SYSTEM			

Which meetings should representatives from telemedicine attend?

319

Standardized Review Tool Example

SECONDARY LEVEL OF REVIEW:

EVENT IDENTIFIED:

LEVEL OF HARM CONFIRMED: _None; _None Detected; _Minimal; __Moderate; _Severe; _Death

System Related Event	Provider Related
Patient Related	Staff Related

SECONDARY LEVEL OF REVIEW: IDENTIFIED OPPORTUNITIES FOR IMPROVEMENT

320

Rural Trauma Center Options for Peer Review

Peer Review Options

- Standards Multidisciplinary Peer Review Committee
- *Engage with System Facilities Trauma Peer Review*
- *Regional System Peer Review*
- *Contracted Peer Review*
- Rural Trauma Centers Acts on Findings

Outcome of Review – Opportunities for Improvement which leads to an Action Plan

321

Standardized Review Tool Example

CLASSIFICATIONS:

- ☐ Morbidity / Mortality Without Opportunity for Improvement
- ☐ Morbidity / Mortality With Opportunity for Improvement
- ☐ Morbidity / Mortality With Regional Opportunity for Improvement
- ☐ Unable to Determine

322

Event	Corrective Action
PROVIDER	
SYSTEM	

323

What will be monitored to measure the desired change?

324

324

Scenario 10

325

325

Scenario 10

Hospital

- Rural Level III trauma center, sixty-eight miles from Level II, and eighty-one miles from a Level I
  - Six bed ED with one resuscitation room, radiology, CT scan, IR, 60 inpatient beds, eight ICU beds, four operating rooms, PT, OR, Speech Therapy.
  - Lab, radiology, blood bank, and respiratory services are available

Staffing

- 2 RNs in the ED per twelve hour shift, with one tech, hospital based EMS service

Provider

- One full-time family medicine physician per twelve hour shift, and one APP on Friday through Sunday 11 am to 11 pm.

External Resources

- Telemedicine services are used for pediatric trauma, pediatric neurosurgery, pediatric orthopedic services, and psychiatric services

326

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Scenario 10

2119 EMS on scene MVC 42 y.o.m. rollover in culvert, required extrication, BP 107/83, HR 139, R 22, GCS 5, RTS 6, BVM, 1 IV, Scene time 27 minutes, communication with hospital Level I TTA

2132 Arrival at hospital, ED MD at bedside, trauma surgeon at bedside, intubated, OGT, Foley, 2nd IV, chest tube on L due to absent breath sounds, BP 119/68, HR 118, R Vent, SaO2 100%, T 34.2, GCS 3

2150 Chest film and extremity films completed, Labs CBC, CHEM, Coag, AMAL, UA, UDS, ETOH

2203 CT scans of head, c-spine, chest, abdomen, pelvis

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TOPIC

327

Scenario 10

0025 CT scan read delays, injuries identified
Multiple rib fractures bilaterally
NOS intercranial injury, SAH with +LOC
Displaced dens fx
Concussion and edema of c-spine
Injury of brachial plexus, oblique fx of L radius, injury to abducent L nerve
Bilateral lung contusions, Sub-Q emphysema,
Skull fracture
PTX, displaced clavicle fracture, displaced scapula fracture
Fx of manubrim
Fx L5
Contusion to knees bilaterally
Displaced bi-molleolar fracture

0030 Orthopedic surgery consulted, neurosurgery consulted

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TOPIC

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Scenario 10

0125 Admitted to ICU with multisystem trauma by trauma, orthopedic evaluated patient, recommending OR intervention, neurosurgery evaluated patient repeat CT scan in 8 hours, evaluation of left extremity

0810 CT head repeated, no progression of injury, continue to monitor

HD #1 OR with orthopedics for ankle stabilization, Nutrition, Social Services, PT, OT, Speech Therapy consulted, family communication and involved in plan of care

HD #2 CT head repeated, no progression of injury, continue to monitor, neurovascular assessment of ankle left extremity continuing hourly

HD #6 OR for fixation of clavicle and scapula

329

329

Scenario 10

HD #7 Remains in the ICU, intubated, Nutrition, PT, OT, Speech Therapy, Social Services, orthopedics, and neurosurgery continue in care of the patient, working with family for LTAC placement

HD #9 Pressure ulcer to R buttock and R heal identified, wound care addressed

HD #10 Transferred to LTAC

330

330

Key Questions in Case Evaluation

- What was the outcome?
- Was the system response appropriate?
- Were the TCs response times appropriate?
- What were the pre-existing conditions?
- Were trauma practice management guidelines and protocols followed?
- What were the circumstances surrounding the event?
- Who was involved and what safety goals were related?
- Were staffing and resources appropriate?
- Were there knowledge and skill variations?
- Were there associated performance or behavioral events?

331

331

Identification of "Events"

Provider Related	System Related

Validation of Events

Provider Related	System Related

332

332

Levels of Review

Event	Primary	Secondary	Tertiary
PROVIDER			
SYSTEM			

Which meetings should representatives from telemedicine attend?

333

Standardized Review Tool Example

SECONDARY LEVEL OF REVIEW:

EVENT IDENTIFIED:

LEVEL OF HARM CONFIRMED: _None; _None Detected; _Minimal; __Moderate; _Severe; _Death

System Related Event	Provider Related
Patient Related	Staff Related

SECONDARY LEVEL OF REVIEW: IDENTIFIED OPPORTUNITIES FOR IMPROVEMENT

334

Rural Trauma Center Options for Peer Review

Peer Review Options

- Standards Multidisciplinary Peer Review Committee
- *Engage with System Facilities Trauma Peer Review*
- *Regional System Peer Review*
- *Contracted Peer Review*
- Rural Trauma Centers Acts on Findings

Outcome of Review – Opportunities for Improvement which leads to an Action Plan

335

Standardized Review Tool Example

CLASSIFICATIONS:

- ☐ Morbidity / Mortality Without Opportunity for Improvement
- ☐ Morbidity / Mortality With Opportunity for Improvement
- ☐ Morbidity / Mortality With Regional Opportunity for Improvement
- ☐ Unable to Determine

336

Event	Corrective Action
PROVIDER	
SYSTEM	

337

What will be monitored to measure the desired change?

338

338

Preparing for Committee Review

- Scenario 8, 9, and 10
- Trauma Operations Agenda Items
  - Who is assigned to bring information forward?
  - What data will be shared?
- Trauma Peer Review Agenda Items
  - Who is assigned to review the cases selected?
  - What data is needed to prepare for the cases?
- How will event resolution be tracked?

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Key Issues of the Scenario

Monitor outcomes of action plan

Report at the Operations Committee – no patient identifiers

Maintain documentation in specific file

Trauma Operations meeting minutes should define – event closed and the data to support this action

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Rural TOPIC

- Did you receive tools to assist you in addressing your current issues?
- Are the processes and structure clear?
- Concerns regarding implementing these processes?

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End of Course

Open Discussion

Questions?

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