Trauma PIPS and ACS Verification

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“the volume and complexity of what we know has exceeded our individual ability to deliver its benefits correctly, safely, or reliably.”

— Atul Gawande, *The Checklist Manifesto: How to Get Things Right*
Sources

- 2018 STN TOPIC Manual
- Resources for Optimal Care of the Injured Patient, 2014
- Optimal Resources for Surgical Quality and Safety 2017
- Burn VRC Criteria 2018, ABA
- National Quality Forum (NQF) Surgery Standing Committee and NQF Consensus Standards
- Agency for Healthcare Research and Quality (AHRQ)
- 24 years experience in trauma, 15 years as a TPM, 5 years as an ACS VRC / State Trauma Center reviewer, 3 years as a content editor for the ACS VRC, 4 years ACS TQIP Education Planning Committee, 4 years as the National Course Director of the ATS TPM Course, 5 years as a TOPIC Instructor
PIPS Plan

Performance Improvement and Patient Safety
Goals of PIPS

- Improve Outcomes
- Eliminate Problems
- Reduce Variation
Why PIPS?

• Evaluates
  – patient care outcome
  – provider response
  – system performance
• Improves patient care at bedside level
• Fosters competent and current providers
• Evaluates the cost of care
• Enhance the fiscal aspect of a surgical program

#1 reason hospitals fail trauma or burn center verification
ACS-COT requirements

- “Demonstrate a continuous process of monitoring, assessment, and management directed at improving care”
- “This effort should routinely reduce unnecessary variation in care and prevent adverse effects”
- “the PIPS program must be supported by a reliable method of data collection that consistently obtains the information necessary to identify opportunities for improvement” CD 15-3 (I-IV)
Characteristics of PI

- Data driven
- Systematic
- Measurable
- Spans the continuum of care
- Directly impacts care at the bedside
PIPS Plan Components

- Philosophy/ Mission/ Vision
- Authority/Scope
- Indicators/Audit Filters
- Event Identification
- Data Management
- Committee Structure
- Team Members
- Roles/Responsibilities
- Levels of Review
- Peer Determinations
- Corrective Action Plan and Implementation
- Event Resolution and Re-evaluation
- Confidentiality
- Integration into Hospital PIPS process
Data Concurrency

• An effective PIPS program is dependent upon a concurrent registry for effectiveness. The individual facility may choose to define concurrency more stringently based upon the needs of the program.
• The trauma registry must be concurrent defined as having, at a minimum, the NTDB core data set entry completed on 80% of patient records within 60 days of the patient discharge date (CD 15-4).
• This should be expressed as the number of patients with NTDS core data set record completed within 60 days of discharge divided by the total number of patients in the registry during the time period of the audit.
• At the time of the trauma center verification visit, the center shall demonstrate routine tracking of registry concurrency. This may be demonstrated by including this measure as a scheduled audit, presentation of this measure at trauma PIPS committee or another applicable forum.

• Formula: Utilizing a defined time period for the audit, calculate: # of patients with NTDS core data set complete within 60 days of discharge / total # of patients in the selected time period

• Example: In the fourth quarter 2018 there were 636 total records in the registry. Of those, 487 records were completed within 60 days of discharge. 487 / 636 = 76.5%, which does not meet the standard.
PI Data Reporting
Who was Arthur Brisbane?
New York Herald

Edition of New York Sunday, April 15, 1912

Titanic Slowly Sinking

All the passengers have been transferred at sea onto ships that steamed to the rescue.

Our planet goes wild

The German Emperor settles a conflict concerning the ethical rules of fishing.

Balloonists have narrow escape

Takes valet's role to rob jewelers.
Getting Started

Ask Yourself:

• Do you have accurate data?
• Do you have timely and meaningful data?
• Who is your target audience?
• What do you want your audience to get from your data?
• What message do you want to convey?
• What is the goal of the report?
• If it takes more than 5 seconds to grasp the data on the slide, they are **READING**.

• If they are **READING** the slide, they are **NOT LISTENING** to you.

• If they are **NOT LISTENING** to you they are **MISSING THE POINT** of the information you want them to have.
Creating Reports: Some Basic Caveats

- When creating charts for PIPS keep words to a minimum
- Chart: a way to present data that would alternatively be shown as a table.
- Table: presents data that otherwise would need to be displayed as text.
- Goal: your report should convey the main idea(s) of your data, that might not be apparent if the display was in a table or text
2017 MTP Key Indicators
≥ 6 units PRBC in 1st 4 hours
Surgeon Response to Highest Trauma Activation Level
Quarterly Report

The University of Kansas Health System

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Percent</th>
<th>Cases</th>
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</thead>
<tbody>
<tr>
<td>1st QTR</td>
<td>94%</td>
<td>86/91</td>
</tr>
<tr>
<td>2nd QTR</td>
<td>96%</td>
<td>95/99</td>
</tr>
<tr>
<td>3rd QTR</td>
<td>94%</td>
<td>141/150</td>
</tr>
<tr>
<td>4th QTR</td>
<td>95%</td>
<td>107/112</td>
</tr>
</tbody>
</table>
Report Tips

• Show everything in context
• When in doubt, annotate
• Place labels in close proximity to the actual data
• When presenting the data, get to the point fast
• Data slides are not about the data, they are about the meaning of the data
• Focus the audiences attention on the message behind the data, and not the data
• Anticipate questions
Monitoring of Clinical Performance and Outcomes
Are You a “Good” Trauma Center?

“A trauma center should provide safe, efficient, and effective care to the injured patient.”

*Resources for Optimal Care of the Injured Patient- Chapter 16*

How is this Measured?
Audit Filters

- Tools that make you ask questions or dig deeper
  - They aren’t stand alone evidence that care was sub-optimal. Just because care doesn’t meet a filter standard doesn’t mean it was bad care.
  - Requires you to answer the question “Why was the standard not met?”
  - Deviation from the standard is then judged to be either acceptable or unacceptable
Audit Filters

• Non-discretionary (Mandatory)
  – American College of Surgeons COT / ABA
  – State required
  – Regional
  – TJC and/or other regulatory agencies

• Discretionary
  – As defined by your program
  – May vary with changes in population or volume
Non-Discretionary (Mandatory) Audit Filter Examples
Process Measures - Required

- Surgeon response to ED – highest level trauma plus all other required responses
- Trauma team activation criteria
- Response of specialists to time-sensitive procedures
- Over and under triage
- Admissions to non-surgical service
- Transfers out
- Times trauma center is on diversion
- ED physicians covering other hospital units – response times to ED
Process Measures – Required

• Response times of CT/MRI when on-call
• Transfers to higher level of care within the institution
• Organ donation rate
• Registry abstraction – 80% within 2 months

• Multidisciplinary Trauma Committee Attendance
System Process Core Measures

- Appropriateness of neurosurgical care at Level III center
- Use of neurosurgical back-up
- Protocol compliance
- ED dwell time for trauma top tier activation

- In-house emergent/urgent intubations
- Delay in OR availability
- OR staff response & PACU staff if on-call
- Radiology misread rate
- Screening and brief intervention
Outcome Measures

- Mortality
  - Rates
  - Autopsy Rate
- Complication rates
  - Trauma Service
  - Trauma Center
- Length of Stay
- Ventilator days
- Patient/Family Satisfaction
- Hospital charges and cost (RVU’s)
- Quality of life metrics
Pediatric Measures

- **Process (Trauma)**
  - > 100 Pediatric patients per year – must have pediatric specific PIPS
  - < 100 Pediatric patients per year – each case needs to be reviewed for appropriateness of care

- **Core Measures**
  - Solid Organ Injury Mgmt
  - Head Injury Outcomes
  - Resuscitation (Fluid)
  - DVT Prophylaxis
  - Non Accidental Trauma
  - Radiation Exposure
  - Pain Management
Discretionary (Non-Mandatory) Audit Filter Examples
Institution Specific Audit Filters (Examples)

• Clinical
  – Failed non-operative management
  – Operative management not warranted
  – Patient leaves ED with GCS < 8 and no definitive airway
  – Was massive transfusion protocol used in hemorrhaging patient
Institution Specific Audit Filters

• Performance
  – Missed injuries
  – Delayed diagnosis
  – Documentation completeness
Institution Specific Audit Filters (Examples)

- Pediatric
  - Delays in obtaining vascular access
  - Screening and brief intervention
  - Physician coverage in the PICU
  - CT scans – over-scanning
  - Delays in transfer
Institution Specific Audit Filters (Examples)

• Resource/Financial
  – Delay in discharge disposition
  – Hospital readmission within 72 hours
  – Transfer to another facility due to lack of inpatient beds
  – Reimbursement of trauma activation fees
  – Reimbursement for Screening and Brief Interventions
  – Physician billing and reimbursement
Identifying Events
“Event”

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

  TJC 2008

The goal is to identify near misses before they actually harm a patient.
Sources for Finding Potential Issues

- ED Trauma Committee members
- Trauma Registry
- Chart review
- Anecdotal
- Hallway conversation
- Referring/Accepting hospitals
- EMS
- Patient
- Family
- Anywhere . . . .
Levels of Review
Trauma PIPS Levels of Review

Primary Review
Opportunity for Improvement/Validation

Secondary Review

Tertiary Review
Adverse Event/Audit Filter Review
Issues Elevated to Hospital PIC Monthly

Peer Review or other venue where cases are reviewed

Actions
- Education
- Counseling
- Track/Trend
- Guideline Development
- PIPS Team Project
Primary Review

- Concurrent/retrospective event identification
- Confirmation of actual event
- Immediate resolution and feedback
- Events may be closed or trended at this level
- Determination if it needs further review
Trauma PIPS Levels of Review

Primary Review

Opportunity for Improvement/Validation

Secondary Review

Adverse Event/Audit Filter Review

Tertiary Review

Issues Elevated to Hospital PIC Monthly

Peer Review or other venue where cases are reviewed

Actions

Education

Counseling

Track/Trend

Guideline Development

PIPS Team Project
Second Level Review

• In the Primary Review, we validated that we believe there was an issue and did any background investigation such as speaking to providers involved in the case, listening to transfer tapes, etc.

• In the secondary review, we take the issue to our physician partners to review, explaining our findings in writing
  – A timeline is often helpful
Third Level Review

- Review at a formal committee
  - Physician Peer Review Committee
  - Acute Care Surgery M&M
  - Trauma/Burn Systems Committee
  - Hospital QI Committee
  - Regional and Systems PIPS Meetings
- System vs. Provider issues
- Team performance
- Corrective recommendations/actions
- Resolve event and document, document, document
Judgement Determination

And classification of events
Determination

• The definition and classification of events must be consistent with institution-wide PIPS program
• Mutually agreed upon nomenclature allows for integration with the institution-wide PIPS
• Opportunities for improvement (for example, events of judgment, technique, treatment, or communication, along with delays in assessment, diagnosis, technique, or treatment) should be determined and documented
Obstacles and Essentials

Obstacles:

- Absence of required surgeons/liaisons
- Imperfect probability of survival scoring
- Incomplete data for case discussion
- Absence of autopsy information
- Inadequate minutes reflecting the critical discussion of the events

Essentials:

- Attendance
- Framework for outcome (Type, Factors) selection
- Minutes that reflect critical aspects of discussion of selected events and outcomes
- Feedback
Determination Mortality Peer Review

- Mortality without opportunity for improvement (OFI)
- Mortality with opportunity for improvement (OFI)
- Unanticipated mortality with opportunity for improvement (OFI)
Opportunity for Improvement (OFI)

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

*If the same patient were to walk through the door today, would we do anything differently?*
Corrective Actions
Action Plan

• Identify Opportunity for Improvement
• Analyze supporting data
• Develop corrective action(s)
• Implement prevention/mitigation action
• Ensure event resolution as evidenced by data to demonstrate change in practice after prevention/mitigation
S.M.A.R.T. Action Plans

- Action plans need to have clear goals that are
  - Specific
  - Measurable
  - Attainable
  - Realistic
  - Timely
Prevention and Mitigation: Corrective Action Examples

- Guideline/Protocols development or revision
- Education
- System Enhancements (resources)
- Counseling
- Peer Review
- External Review
- Focused Workgroup
- Focused Profession Practice Evaluation (FPPE)
- Change in Provider Privileges
Assessment of Event Resolution
• Event resolution is a cycle
• The first action plan may not fix the problem
• Continue until an acceptable result has been attained
Situation

• Failure to demonstrate resolution of PI events is a common reason for unsuccessful verification/designation reviews

• Important both to achieve and demonstrate (document) resolution of events
Key Aspects Event Resolution

• Specific and *measurable*
• Clearly state what the goal is that you are trying to reach so that you know when you are done
  – 100% of trauma activations will be recorded on a trauma flow sheet
• Determine how long you are going to monitor further cases to make sure the issue is really resolved
  • i.e. Each trauma activation will be reviewed for documentation on a trauma flow sheet for next 6 months
PI and the Site Review
What do reviewers want?

• Reviewers want to see that a trauma center:
  – Is consistently practicing safe and efficient, organized trauma care; not just plans on paper
  – Has established EBPMGs and can show data demonstrating compliance in delivering care that is consistent with their guidelines, protocols, etc.
  – Has the necessary equipment to care for injured patients
  – Tracks the response times of on call personnel
  – Can recognize a problem or issues in delivery of safe, effective trauma care
  – Can develop and implement a plan to correct problems
Basic Survey Components

• Meeting between reviewers and program leadership CEO/DON, MD, PM/C
• Hospital tour: Ambulance bay, decon, ED, Radiology, OR, ICU, blood bank, rehab (as applicable)
  – Inspect facility/equipment
  – Interview staff
• Chart Review/Document Review
  – Look at specific requested charts
  – Review PI
  – Review supplemental supporting documentation
• Exit Review
Planning in Advance

• Read and understand your resources:
  – Survey guidance, ACS Orange Book clarification document (check frequently), other resources
  – PRQ
  – Survey Agenda

• Reporting Period: this is the specified period of data/patient charts (usually 12 months) that will be subject to review during your site visit
  – Start by making sure you identify all patients during that time period that meet inclusion criteria
  – Ensure all of the patients who should have PI reviews are reviewed at the appropriate level and follow-up on any problems is documented

• Gather any other requested data/reports during that time period
  – Example: radiology tech on-call logs; physician CME
<table>
<thead>
<tr>
<th>Time Out from Survey Date</th>
<th>Task</th>
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<tbody>
<tr>
<td>14 months</td>
<td>Reporting year begins</td>
</tr>
<tr>
<td>14 months</td>
<td>Submit application and fee no later than 14 months prior to date of preferred survey dates; allow for time for administrative sign off and check request process</td>
</tr>
<tr>
<td>10 months</td>
<td>Meet with specific areas to identify issues; focus on PI; begin filling in PRQ</td>
</tr>
<tr>
<td>6 months</td>
<td>Book rooms, secure needed resources</td>
</tr>
<tr>
<td>5 months</td>
<td>Build and test survey reports in registry</td>
</tr>
<tr>
<td>4 months</td>
<td>Assemble evidentiary binders; Provide administrative briefing to C-suite and overview to Board; obtain letters of support</td>
</tr>
<tr>
<td>2 months</td>
<td>Close out registry for reporting year, run reports, categorize and review requested charts, assemble requested material</td>
</tr>
<tr>
<td>1 month</td>
<td>Complete and submit PRQ; focus on staff education; hold mock surveys, complete any plans for dinner/catering, arrange any travel/hotels for reviewers</td>
</tr>
<tr>
<td>1 week</td>
<td>Double check everything, re-confirm attendees/resources</td>
</tr>
<tr>
<td>1 day</td>
<td>Set up chart review room, test equipment</td>
</tr>
</tbody>
</table>
Writing the PRQ
Pre-Review Questionnaire

• Purpose – information needed by your review team members to understand your trauma program
  – Reflection of your program
  – Demonstrates how your program meets the regs
  – Used to determine direction of survey
  – Used to write VRC or other surveying body report
Steps to successful PRQ completion

• Acclimate to the document
  – LEARN the form
  – When is it due?
  – What dates must be reflected?
  – What data is required?

• Set timeline for completion
Survey Evidentiary Material

KEEP CALM AND GATHER EVIDENCE
Commonly Requested Material (on site)

- Intramural Education Binder
- Extramural Education Binder
- Community Outreach/Injury Prevention Binder
  - Data, grants, events
- Research Binder
  - Protocols
  - IRB submission
  - Committee minutes
- Trauma Related Manuscripts Binder
  - Published or in press within last 3 years
- Call Schedules Binder for 3 months (primary and back-up, staff and residents)
  - Trauma
  - NS
  - Ortho
  - ED
- CME Binder
- Transfer agreements

- Peer Review Binder and Systems Binder
  - Minutes 1 year
  - Attendance records
- PI Initiatives Binder
  - Documentation of all PI initiatives
  - Loop closure evidence
  - Be prepared to address ACS specific measures.
- Attachments to the PRQ Binder
  - Board and Med Staff resolution of support
  - Map of referral area
  - TMD job description
  - TPM job description
  - Diversion policy
  - Trauma flow sheet
  - Injury Prevention Coordinator job description
- Protocol Manual for Trauma
- Organizational chart
Chart review
Chart Review

• The governing body will let you know which types of charts to pull
• This will typically be a sample of your population in various categories
  – Reviewers do not want to see simple cases (minor injuries), they want to see ones that tested your system
  – If you pull a lot of minor injury cases, be prepared to be asked to pull other charts on the day of chart review
What do reviewers want to see?

• They will want to see every issue you identified addressed in each case they review (if issues identified)
• Reviewers are looking for opportunities in the case and they want to see that you identified the same issues on your form or minutes
• The purpose is to validate that your program can identify and fix problems
• Have one person EMR navigation savvy assigned to each reviewer
• List of patients with MR#s
• IT on standby
• Have the right equipment
• Must be able to access (print if necessary)
  - EMS run sheet
  - Referring facility ED chart
  - Trauma flow sheet
  - H&P
  - Consults
  - Operative reports
  - DC summary
  - Autopsy
  - PI
Staff preparation for the tour

I HAVE NOTHING TO SAY. I HAVE NO COMMENT. I'M RUNNING AND HIDING.
Preparation for the Hospital Tour

- Ensure requested staff are present and available for interview
  - Block time on their calendar
- Educate staff about the purpose of the survey ahead of time
  - The staff should be able to articulate their role in trauma care
  - Teach basic survey etiquette
- Hold mock surveys
- Assign someone to accompany the site reviewers on tour
Common survey pitfalls from a reviewers perspective
Common Pitfalls

- Reviewers find issues you didn’t identify
  - Example: patient met activation criteria but was not activated and this was not found in PI review by hospital trauma program
- Reviewers see recurrence of same issue through several charts without intervention from PI program
  - Example: x-ray tech repeatedly responding > 30 min after called, no intervention by hospital trauma program
- Determinations of no OFI just because injury was non-survivable, when there were provider or systems issues
  - Example: patient with GCS 3 had an esophageal intubation by EMS, patient died from massive head trauma but no follow up with EMS was done- case was determined as no OFI by hospital trauma committee
- Not identifying OFI because outcome was good
  - Example: Patient with ISS of 25 was declared no OFI because he survived even though transfer was delayed.
Common Pitfalls

• Not addressing EMS performance
  – Scene times, communication, airway and spine management, etc.
• Not looking beyond the ED phase if patient is admitted
  – Hospital trauma program review should encompass the entire continuum of care
• Disorganized or missing patient records and PI information
  – **One source** should tell the story of PI for the patient- reviewer should not have to ask for multiple documents from various locations
• Not demonstrating event resolution – action plan written but no post-plan data to show that the problem was fixed
  – Example- PI review determined harm from NS delay, plan to fix paging system. No data produced to show improved NS response times.
• Incomplete or poor action plans
  – Letters to providers, EMS without response
  – Education not targeted to correct providers
  – Misuse of “track and trend”
Questions?