Performance Improvement and Patient Safety

WHAT IS PERFORMANCE IMPROVEMENT AND PATIENT SAFETY (PIPS)?
PIPS is a confidential systematic review and discussion of the trauma patients care with continuing monitoring of processes, systems, and the impact both have on outcomes. Trauma PIPS is a multi-step process vital to the existence of your trauma program by documenting the quality of trauma care you provide while providing direction to continually improve.

PIPS is not intended to be punitive, but is designed to identify opportunities to improve the care of the trauma patient.

WHY DO PIPS IN YOUR TRAUMA CENTER?
PIPS is required by the state trauma system in order to be designated as a trauma center. The Rural Trauma Team Development Course (RTTDC) manual quote captures the concept very well: "Without a free and broad ranging review of its own outcomes, a hospital is doomed to keep performing a potentially sub-optimal level."

All trauma programs are quality programs so we must constantly strive to provide the best care to all injured patients. Elements of your PI process include:

- Issue identification
- Analysis
- Corrective actions to address issue
- Implementation
- Evaluation of effect
- Loop closure

The goal of Performance Improvement is to improve patient care and outcomes while preventing repetitions of substandard care. Recommendation would be to attend a Trauma Outcomes and Performance Improvement Course (TOPIC) and Texas Trauma Designation Education Course (TTDEC). These and many other educational opportunities may be found on www.strac.org.

IDENTIFICATION OF PI ISSUES FOR REVIEW
Potential sources include, but are not limited to:

- EMS documentation and medical record
  - Compare care delivered to standards of care
  - Did care adhere to or deviate from clinical practice guidelines (CPGs)
- Feedback from providers – email, verbal
- For admitted patients – daily rounds
- Feedback from tertiary trauma centers
  - Autopsies Potential identification of missed injuries
  - Can be used to determine if appropriate lifesaving intervetions were provided
  - Assist to accurately describe injuries in the trauma registry
- Reports from external agencies – as regional PI and data improves
- Audit filters

LEVELS OF REVIEW

1. Primary Review

- Goal of primary review is to identify and validate issues
  - Responsibility of the trauma program manager/trauma coordinator
  - Validation of information is key – develop a detailed timeline of the entire episode of care
  - There are several courses of actions that may follow the primary review:
    - Resolution of the issue/loop closed
    - If your findings indicate a need for further review, refer the issue on to the trauma medical director
    - Track and trend the issue for reoccurrence

Reoccurring issues warranting tracking and trending should be complied as overall compliance. Issue Examples: Nursing documentation of GCS, VS, Tetanus; Presence of EMS runsheets. Example: Community EMS runsheet is missing from a medical record, continue to trend to see if a true issue, and if persist address this issue with the EMS agency.

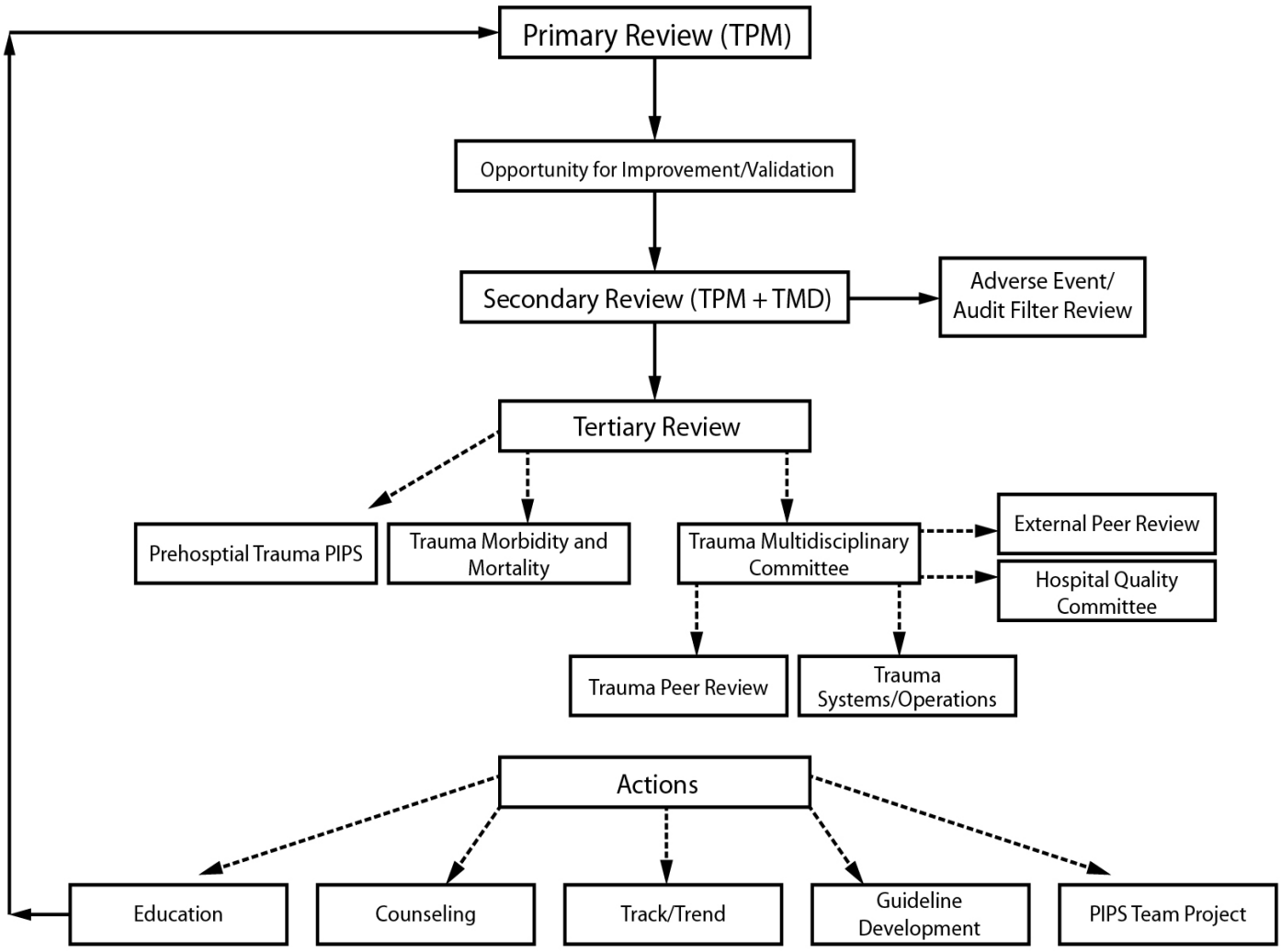
2. Secondary Review

- Goal of secondary review is in-depth evaluation of identified events
  - Responsibility of Trauma Medical Director (TMD) – determines if standard of care is met according to national standards (ATLS, etc.).
  - There are several courses of actions that may follow the secondary review:
    - Resolution of issue/loop closed
    - Referral for further review can be escalated to a specialty group (ie orthopedics) or multidisciplinary peer review committee (PI committee).

3. Tertiary Review

- This is a structured review by a multi-disciplinary group (in-house, system-wide or regional)
- Goal of the tertiary review is to determine course of action to provide loop closure and assigned preventability
- Cases appropriate for committee review
  - Deaths
  - Transfers out
  - Unexpected outcomes
  - Review requested by trauma stakeholder
  - Sentinel events
  - System issues
  - Policy/protocol non-compliance
  - Low volume populations such as pediatrics, pregnant women, burns
- There are several courses of action that may follow the tertiary review:
  - Mortality determination/judgment as non-preventable, potential preventable or preventable.
    - Mortality with opportunities for improvement provides a gross measure of individual or system errors that were evident in individual and aggregate cases.
  - Mortality without opportunities for improvement. Provides a gross measure of in which no individual or system errors identified in individual or aggregate cases. Corrective action plan is initiated – this will be explained in detail under Action Plan section.

Trauma PIPS Levels of Review



(TMD) INDICATES TRAUMA MEDICAL DIRECTOR, AND (TPM) INDICATES TRAUMA PROGRAM MANAGER.
SOURCE: AMERICAN COLLEGE OF SURGEONS: RESOURCES FOR OPTIMAL CARE OF THE INJURED PATIENT (ORANGE BOOK)

TRACKING PI ACTIVITIES

It is important you have a consistent way to track what you and your team are doing from time of issue identification to loop closure. There is an example included below. This will also help you organize your PI materials to show to reviewers at your site visit. Make note of every conversation and email you sent related to a particular case, “Sent case 12459 to Dr. Jones for review 09-10-2013”.

ACTION PLAN DEVELOPMENT

Once an opportunity for improvement is identified through your PI process, appropriate action must be taken to prevent similar future adverse events.

Each issue should have an action plan.

Examples of corrective actions:

- Guideline / protocol development
- Focused PI workgroup
- Education
- System enhancements
- Remediation / counseling
- External review

There may be times your action plan will require more than one corrective action.

Guideline/Protocol Development

- Goal of a Clinical Practice Guideline (CPG) is to decrease variation in practice
- Establishes the standard of care for all providers and provides clinical direction
- Can be clinical or administrative
    - Clinical → Anti-coagulation Reversal
    - Administrative → Trauma Call Expectations
- Should be evidence based
- Best if drafted with input from appropriate stakeholders
- In the development of your CPG, do not re-invent the wheel. Chances are high that if your trauma center needs a CPG about a topic others have also. Use available resources to find what others have developed and use that as a starting point. CPG's should be applicable to your institution and/or region. Some of your available resources for CPG's include:
    - Contact the Trauma Program Manager at a tertiary trauma center in the region
    - Clinical practice guidelines can be found at the following professional organization websites:
        - Eastern Association for the Surgery of Trauma – www.east.org
        - Pediatric Trauma Society – www.pediatrictraumasociety.org
        - Brain Trauma Foundation – www.braintrauma.org
        - American College of Emergency Physicians – www.acep.org
        - Western Trauma Association – www.westerntraumaassociation.org
    - Query other trauma professionals through organizational list serves (Example: Society of Trauma Nurses)
- All CPG's must be monitored for compliance and achievement of desired outcome.
    - For example, over the past 6 months your PI process identified an increase in poor outcomes for major trauma patients transferred from your hospital to the Level 1 trauma center and internal review attributed this to variation in resuscitation practice including late blood administration. As part of your action plan a guideline for Initial Management of Major Trauma was developed to include early blood administration. Monitoring would include:
        - Outcomes → rate of poor outcomes decreases, decrease in time from identification of shock to blood administration
        - Processes → 100% compliance with ED education regarding PMG
- Frequency of monitoring will depend on volume → if low volume occurrence can review each case
- For more frequent occurrences helpful to look at data in aggregate

Focused PI Workgroup

- Workgroup of stakeholders to work on specific issueMust have oversight by trauma center leadership
- Use available data to determine effectiveness of suggested changes
    - For example, it is noted that frequently there is no temperature documented on the trauma flow sheet and nurses are not utilizing warming measures consistently. A workgroup of ED nurses with an interest in trauma is formed to try to improve this problem. They use chart review to look at documentation of temperatures, use of warming measures and temperature of the patient at first destination from the ED. After solutions are implemented the same metrics will be used to determine success.

Education

Examples of education action plan:

- Invite a speaker to present on area of identified knowledge deficit
- Address need at nursing competencies
    - For example, case review demonstrated a knowledge/comfort deficit with pediatric medication dosing. Every ED nurse as part of annual competencies was required to take a medication test and return demonstration pediatric drug calculations and dosing.
- Distribute new CPG's with appropriate training on-line education
- Newsletters
- Conferences

System Enhancements

Examples:

- Resources (staff, support staff, equipment, pharmaceuticals)
    - The state site review at your visit identifies the trauma coordinator needs more dedicated time for trauma
    - A delay in care is identified because mannitol is not available in the ED and has to come from pharmacy – develop a system to ensure needed pharmaceuticals are available for the team
    - Child had a bad outcome because inappropriate ETT size was used– implement the Broselow system and ensure appropriate equipment is available
- Facilities
    - There is no helipad at your hospital. You create a process by which part of the parking lot is made into a helipad.
- Communication
    - Development of additional forms of communication such as MEDCOM, websites, EMSystems, listserves, group pages, etc.

Remediation/Counseling

- Remediation/Counseling is rarely utilized to address PI issues and is usually most effective for behavior related issues
- Should be done as soon as possible after the event
- Requires direct communication Delivered by Trauma Medical Director or Nurse Manager depending on who is involved.
- Must be documented
    - The TMD has a one on one conversation with his colleague regarding his poor documentation for trauma activations. He then sends a memo to the trauma coordinator outlining the conversation and action items that came from the meeting.
- Look for trends and changes in behavior for loop closure
- Mitigation plan may include involving administration and removing provider from trauma panel

External Review

- Sometimes it is helpful with a small staff to have an outside provider review a case
- The resources at the level 1 and 2 trauma centers can help with this review
- Regional PI Committee should be utilized for system problems or issues that can not be resolved between institutions
- Your trauma site visit will also provide an external review of your care and processes

MEETING STRUCTURE

The trauma program is required to have a forum in which all system and trauma deaths and other issues are reviewed and discussed. The actual structure of how this will be operationalized is left up to each trauma center.

One option is a physician peer review committee to review provider related issues. Corrective actions and judgments are referred to trauma program leadership and should be chaired by the trauma medical director. In centers where there is a separate physician PI meeting, there should also be a multi-disciplinary PI meeting to review all identified issues.

Attendees should include: (as applicable)

- Emergency department (physician and nursing) representatives
- Radiology representative
- Surgeons
- Orthopedic representative
- Anesthesia representative
- ICU representative
- Trauma registrar
- TMD and TPM/trauma coordinator
- Administration
- EMS
- Pediatrics
- Rehab specialists
- NP/PA's involved in trauma care
- Social services
- Educator

Meeting frequency should be at least quarterly. All information presented at trauma PI meetings is confidential and protected by Texas Peer Review Statute. Attendance should be recorded for each meeting to so that all disciplines are involved. Minutes from the trauma PI meetings should be written to include in-depth critical review.

EVENT RESOLUTION

Event Resolution refers to the ability of your trauma program to show you have resolved an identified issue. Event refers to the cycle of monitoring, identifying, resolving and monitoring again. Your resolution should address the key aspects of the problem. In laymen's terms "We have solved the problem and here is the proof". Remember that some events take a long time to resolve. Remember that some events may never be resolved.

RESOURCES

- Never hesitate to call the Trauma Program Manager / Trauma Coordinator at the Level I or Level II trauma center that serves as your tertiary referral center. All are well versed in PI and the PI process and will be more than willing to help answer any question you may have.
- There are also several on-line resources that might be helpful:

    - TOPIC by Society of Trauma Nurses (STN): http://www.traumanurses.org/topic

    - ACS Orange Book: https://www.facs.org/quality%20programs/trauma/vrc/resources

    - ACS Committee on Trauma: https://www.facs.org/quality-programs/trauma/publications