Trauma Program Performance Improvement:

A Guide for Level IV Trauma Centers

http://www.azdhs.gov/bems/

Objective

```
Improved Outcomes
        ↓
Eliminate Problems
        ↓
Reduce Variation
        ↓
```
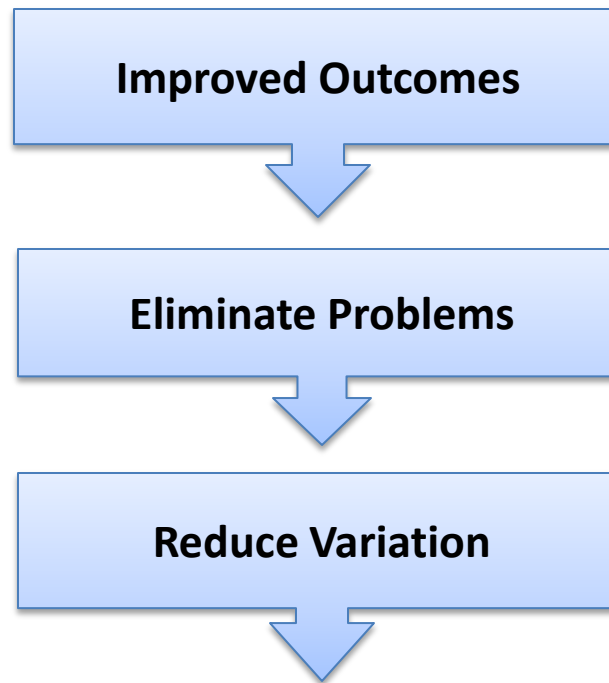
Why Performance Improvement (PI)?

❖ **All hospitals should scrutinize their trauma care**
   ❑ Systematically
   ❑ Critically

❖ Fosters competent, current clinicians

❖ Measures performance

❖ Validates care

What does it do?

❖ Monitors, Measures, Assesses:
  - ❑ Patient care
  - ❑ Team's performance
  - ❑ System performance

❖ Improves patient care

❖ Identifies opportunities for improvement

❖ Provides functional framework to effect improvement

Characteristics of PI

❖ Data-driven

❖ Systematic

❖ Measurable

❖ Spans the continuum of care
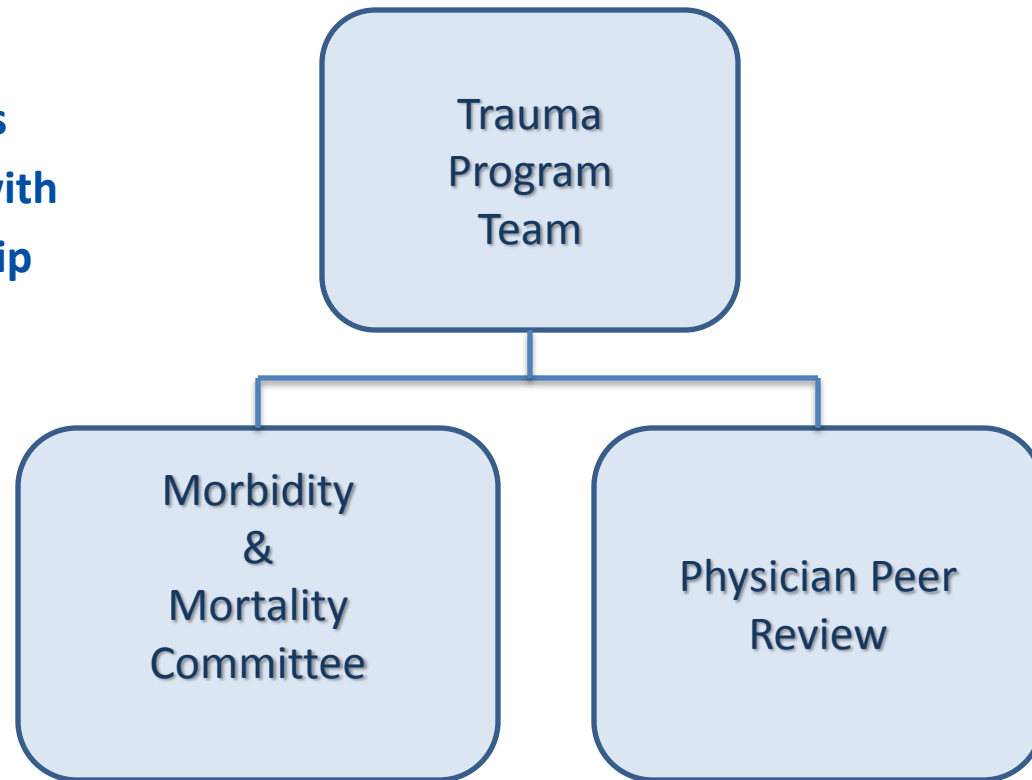
❖ Directly impacts care at the bedside

"Event"

Any type of error, mistake, incident, accident or deviation, regardless of whether or not it resulted in patient harm.
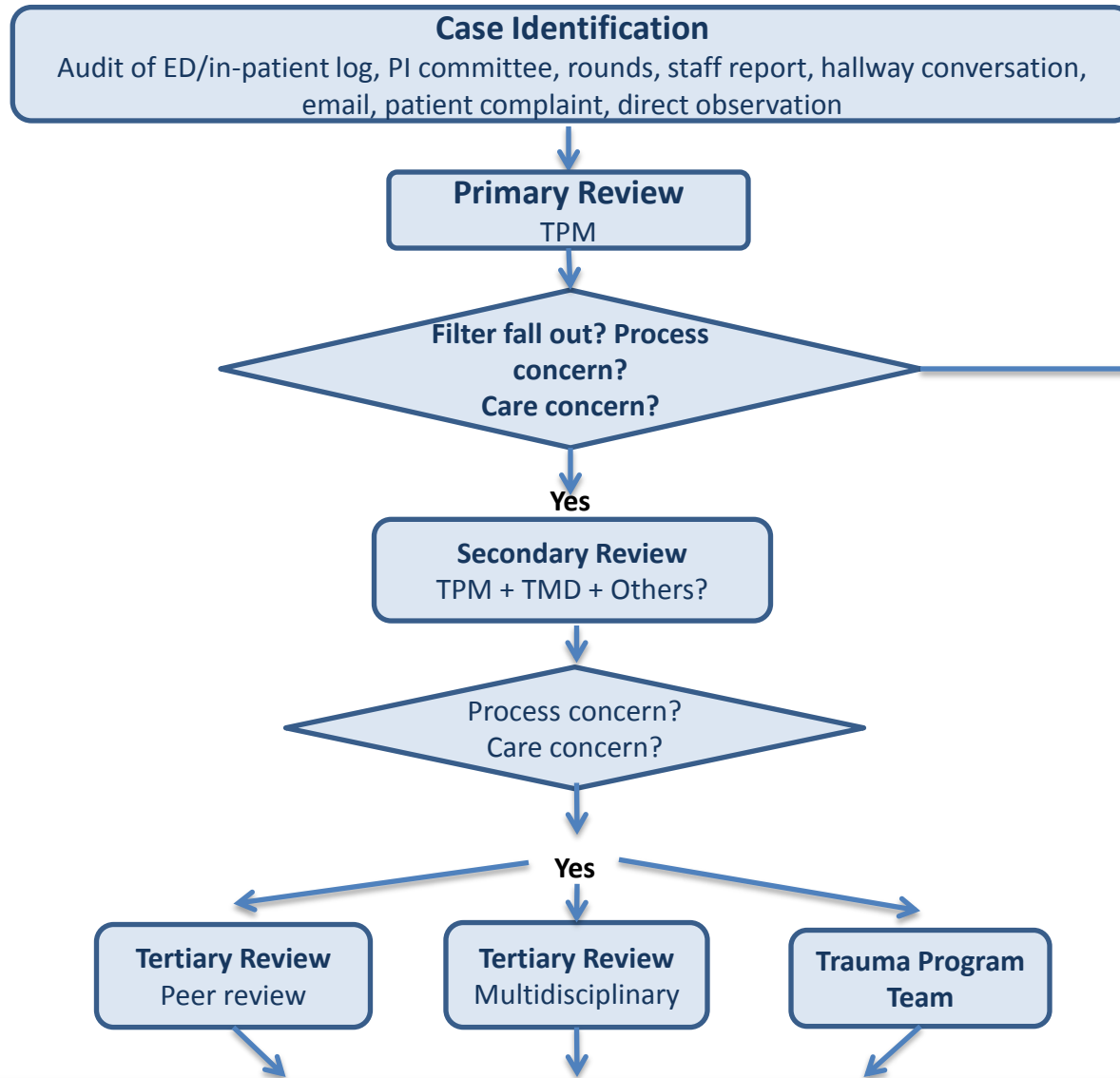
Joint Commission 2008

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

Structures

Leadership must be identified, committees formed and charged with the task. The leadership must be adequately supported by hospital administration!!

```
        ┌─────────────┐
        │   Trauma    │
        │   Program   │
        │    Team     │
        └─────────────┘
               │
      ┌────────┴────────┐
┌───────────┐    ┌───────────┐
│ Morbidity │    │           │
│     &     │    │ Physician │
│ Mortality │    │Peer Review│
│ Committee │    │           │
└───────────┘    └───────────┘
```

Trauma PI Flowchart

Case Identification
Audit of ED/in-patient log, PI committee, rounds, staff report, hallway conversation, email, patient complaint, direct observation

↓

Primary Review
TPM

↓

**Filter fall out? Process concern?
Care concern?**

↓ **Yes**

Secondary Review
TPM + TMD + Others?

↓

Process concern?
Care concern?

↓ **Yes**

| **Tertiary Review** Peer review | **Tertiary Review** Multidisciplinary | **Trauma Program Team** |

Develop an action plan
Define loop closure
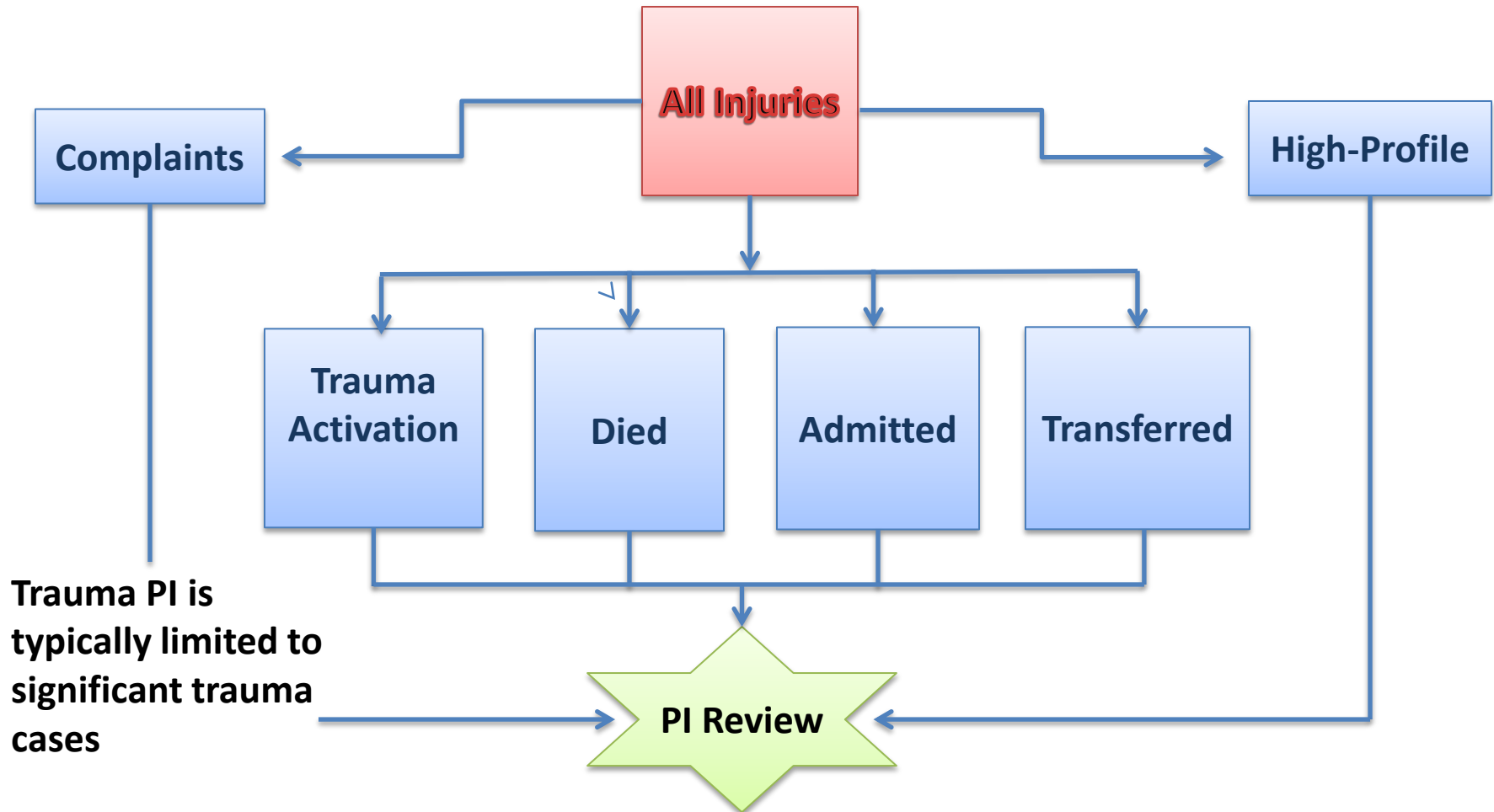
↓

close the loop

Records of all trauma PI activities maintained by trauma program staff

Getting Started

1. **Define** a trauma patient

2. **Locate** the patient in your hospital

3. **Establish Standards** (PI Filters)

4. **Review**
   - ❑ **Objective**
   - ❑ **Subjective**

1. Define the trauma patient

All Injuries

Complaints

High-Profile

Trauma Activation

Died

Admitted

Transferred

Trauma PI is typically limited to significant trauma cases

PI Review

2. Locate trauma patients in your hospital

❑ Abstract ED and in-patient logs daily/weekly to find trauma cases for review

- In-patient log will reveal trauma patients that were directly admitted

- Case reviews should be performed as concurrently as possible (daily/weekly)

- A report from medical records based on ICD-9 codes can be used to make sure cases were not missed

3. Establish Standards (PI Filters)

❑ Local, regional state or national standards of care and Performance

❑ Filters

▪ Non-discretionary performance standards

- State or regional

▪ Discretionary performance standards

- Local/hospital-specific

  ▪ Ex: "GCS   8 and no endotracheal tube or surgical airway within 15 minutes of arrival"

Filters

❑ Tools that beg the question

- Not in-and-of-itself evidence that care was sub-optimal

- Requires you to answer the question "Why was the standard not met?"

- Deviation is either acceptable or unacceptable

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

4. Review

❑ Did any filters fall out?

❑ Was care consistent with…

1. Industry standards?
2. Acceptable practice?
3. Regional/state guidelines?
4. Local/hospital treatment guidelines?
5. ~~Status quo~~

Guard against the tendency to consider locally accepted practice (i.e., status quo). Acceptable without sufficient vetting through the PI process.   Compare locally accepted practice to current standards of care (e.g., ATLS, TNCC, CALS).

Case Review

Critical (krĭt ĭ-kəl) adj. - Characterized by careful, exact evaluation and judgment.

The people selected for trauma program manager (TPM) and trauma medical director (TMD) positions are crucial. They have to be critical of the care being delivered and the processes used to deliver it.

We all have the tendency to advocate for the status quo. But the TPM and TMD must evaluate the care process critically, not evaluating the case with respect to the outcome, but rather the process and always asking the question,

"What could we have done Better?"

Levels of Review

❑ Primary
- ▪ TPM
- ▪ Close or refer to next level

❑ Secondary
- ▪ Trauma program team: TPM + TMD + others?
- ▪ Close or define steps to resolve or refer to next level

❑ Tertiary
- ▪ Committee
- ▪ Close or define steps to resolve

At each level, action plans are established and loop closure is defined.

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Audit of ED/in-patient log, PI committee, rounds, staff report, hallway conversation, email, patient complaint, direct observation

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TPM

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Care concern?**

Yes

Secondary Review
TPM + TMD + Others?

Process concern?
Care concern?

Yes

Tertiary Review
Peer review

Tertiary Review
Multidisciplinary

Trauma Program Team

Complete some form of documentation on every case reviewed!

Address each filter that falls out

- **Acceptable-explain rationale in comment section**

- **Requires further review-send to trauma medical director**

Address care concerns that you identify

- **Acceptable-explain rationale in comment section**

- **Requires further review-send to trauma medical director**

If no improvement opportunities identified, check the box and you're done! Summarize your activities in verbal report to the medical director.

Trauma PI Filter Tracking Worksheet

Patient name: Admit date:

Medical record #:

Complete for any case involving a trauma team activation, admit, transfer or death.

PI Filter	Yes	No	N/A
Under-triaged/trauma team not activated when criteria met	☐	☐	☐
Over-triaged/trauma team activated unnecessarily	☐	☐	☐
Trauma team response times incomplete/missing	☐	☐	☐
Trauma care provided by non-ATLS provider	☐	☐	☐
Transfer to level I trauma center > 60 minutes	☐	☐	☐
Transfer to non-designated trauma center	☐	☐	☐
GCS not recorded	☐	☐	☐
GCS ≤ 8 and no endotracheal tube or surgical airway within 15 minutes of arrival	☐	☐	☐
No chest tube placed for pneumothorax or hemothorax before transfer	☐	☐	☐
Complete initial vital signs not recorded (HR, BP, RR, temp, GCS, SaO$_2$)	☐	☐	☐
Vital signs not recorded every 15 minutes	☐	☐	☐
Spinal immobilization indicated and arrived via EMS without spinal immobilization	☐	☐	☐
EMS report not in patient chart	☐	☐	☐
EMS times incomplete/missing	☐	☐	☐
EMS on scene time >15 minutes without documented extrication efforts	☐	☐	☐
Blunt chest or abdominal, multi system or high-energy trauma admitted with no general surgeon evaluation	☐	☐	☐
Unrecognized misplaced endotracheal tube	☐	☐	☐
Trauma surgeon response time incomplete/missing	☐	☐	☐
Volume of infused fluids not documented	☐	☐	☐
Unstable vital/hemodynamic compromise and unable to obtain vascular access	☐	☐	☐
Missed injury/injury diagnosed >24H after an initial traumatic event	☐	☐	☐

Any chart that generated a "Yes" must be reviewed by trauma PI team.

☐ **No improvement opportunities identified**
Comments:

Signature:	Date:

Information Sources

- ❑ EMS run sheet
- ❑ Medical record
- ❑ Referrals
- ❑ Daily rounds
- ❑ PI committee meetings
- ❑ Autopsies
- ❑ Sidebar conversations

- ❑ Risk management variance reports
- ❑ Hospital quality department
- ❑ Patient/Family comments or complaints
- ❑ Staff Concerns

Analysis

❑ What was the outcome?

❑ Were policies followed?

❑ Was supervision adequate?

❑ What were the pre-existing conditions?

❑ Were practice management guidelines and protocols followed?

❑ Was standard of care followed (e.g. ATLS®, TNCC)?

❑ Examine the circumstances surrounding the event (multiple, simultaneous patients)

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Case Identification
Audit of ED/in-patient log, PI committee, rounds, staff report, hallway conversation, email, patient complaint, direct observation

Primary Review
TPM

**Filter fall out? Process concern?
Care concern?**

Yes

If a performance improvement opportunity is identified, or it is unclear, refer to trauma medical director for review.

You are here.

Secondary Review
TPM + TMD + Others?

Process concern?
Care concern?

Yes

Tertiary Review
Peer review

Tertiary Review
Multidisciplinary

Trauma Program Team

Health and Wellness for all Arizonans

Arizona
Department of
Health Services

If after secondary review the TPM and TMD agree that a performance improvement opportunity exists, decide how it should be addressed and who should address it.

- **Refer to a committee (e.g., peer review, multidisciplinary, nursing, etc.)**

- **TPM and TMD resolve the issue themselves**

- **Refer to another department**
    - **The trauma program must retain responsibility for the resolution of the issue!**

Document and track the action plans that lead to the ultimate resolution of that issue.

Trauma PI Tracking Form

Demographics	Source of Information	Location of Issue
Date of report: Medical record #:	☐ Trauma program coordinator ☐ Nurse Manager ☐ Staff nurse ☐ Physician ☐ Patient relations ☐ Rounds ☐ Multi-disciplinary conference ☐ Registry ☐ QA/QI chart audit ☐ Other	☐ EMS ☐ ED ☐ OR ☐ ICU/PACU ☐ Floor ☐ Radiology ☐ Lab ☐ Rehab ☐ Other

Complication, problem or complaint:

Reviewed by:

Date of review :

Determination:	Preventability:
☐ System-related ☐ Disease-related ☐ Provider-related ☐ Unable to determine	☐ Non-preventable ☐ Potentially preventable ☐ Preventable ☐ Unable to determine

Corrective action:

☐ Not necessary ☐ Trend/track similar occurrence ☐ Education	☐ Guideline/protocol ☐ Counseling ☐ Peer review	☐ Resource enhancement ☐ Privilege/credentialing review ☐ Other

Action Plan:

Signature:	Date:

Adapted from American College of Surgeons, Resources for Optimal Care of the Injured Patient: 1999, p.72 by Minnesota Department of Health, Office of Rural Health & Primary Care

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Tertiary Review
Peer review

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Trauma Program Team

Process

1. **Issue identification**
   - ❑ Trauma patient's length-of-stay in ED was 90 minutes. Delayed transfer due to radiological studies performed before transfer.

2. **Specific goal & measure of achievement**
   - ❑ Trauma patient requires transfer out of ED within 60 minutes
   - ❑ Ninety percent of the time

3. **Analysis w/data (when available)**
   - ❑ Eight of 15 cases (53%) met 60-minute standard

4. **Develop and implement action plan**
   - ❑ Send case to peer review; review trauma transfer protocol, discuss rationale for refraining from obtaining studies that do not impact the resuscitation, etc.

Process

5. Evaluation, re-evaluation, re-re-evaluation…

❑ Trend, measure performance and strategize solutions

❑ Six months later 10 out of 12 new cases (83%) met 60- minute standard. >>> New action plan, continue to trend and measure performance

6. Loop closure

❑ Goal attained; action(s) resulted in goal attainment

❑ Eight months later 12 of 13 cases (92%) met the goal.

❑ Once goal is attained, can close the loop or continue to trend to verify continued success.

Corrective Action

"A structured effort to improve sub-optimal performance identified through the PI monitoring process."

American College of Surgeons

Trauma PI Reference Manual

Corrective Action

❑ Measurable

❑ Many types
- ■ Education
- ■ Resource enhancement
- ■ Protocol revision
- ■ Practice guideline

❑ Patient focused

**Patient focused. Not provider focused.
Not hospital focused. Not nursing focused.
Patient focused!**

Loop Closure

❑ **Set goals when action planning** (so you know when you've closed the loop)

❑ **Track-n-trend**
  - After goal attainment to verify that real improvement has occurred
  - Periodically to validate that improvement is sustained

❑ **Some can't be trended**
  - Some issues do not occur frequently enough to trend. Close the loop after the action plan is executed.

Automatic Secondary Review (suggested)

❑ Admits

❑ Trauma team activations

❑ Direct to OR

❑ Care by mid-levels

Automatic Tertiary Review (suggested)

❑ Complications
  ▪ Ex: DVT, nosocomial pneumonia, missed injury

❑ Unexpected outcomes

❑ Sentinel events

❑ *Deaths

Peer Review

All providers who care for trauma patients must engage in a collaborative, periodic review of selected cases to identify and discuss opportunities for improvement. The goal is to increase the collective knowledge of the provider staff to improve provider and system performance by learning through case reviews on how to provide better care for trauma patients.

"the single greatest impediment to error prevention in the medical industry is that we punish people for making mistakes."

Dr. Lucian Leape
Professor, Harvard School of Public Health
Testimony before Congress on Health Care Quality Improvement

Health and Wellness for all Arizonans

Arizona Department of Health Services

Strategies

- ❑ **De-identify cases**
  - ■ Focus on the care and the process, not the provider
  - ■ No need to discuss whose case it was
  - ■ Attempt to turn any issue about a provider into a discussion of the system

- ❑ **Attendees should be peers**
  - ■ Providers will often be more comfortable being candid with their peers when other staff are not in the room

Strategies

❑ **If at all possible, refrain from one-on-one counseling/discussions.**

- If one provider will benefit from the knowledge, all providers will likely benefit from the knowledge. Take it to the peer review meeting.

❑ **Consult reference material**

- ATLS, TNCC, CALS manuals
- EAST (http://www.facs.org/trauma/rttdc/index.html# and http://www.east.org/resources)

Strategies

❑ **Concern about being able to provide objective, impartial review**

- ▪ **Consider exchanging cases with providers at a neighboring hospital**
  - ❖ Gather their thoughts about the case, then bring it to peer review

- ▪ **Consult your Trauma Level I or II referral center…**
  - ❖ …for advice about specific cases
  - ❖ …for advice about current standards of care or best practices

- ▪ **Discuss with your RTAC**
  - ❖ This may be a region-wide problem

Peer Review

Old   vs.   New

Old
- Who did it?
- Punishment
- Errors are rare
- A few chosen ones sit on the committee

New
- How did the system allow it?
- Collaborative Learning
- Errors are everywhere!
- All providers sit on the committee

Leadership's Responsibility in Facilitating Peer Review

❑ Set tone, expectations

❑ Endorse standards (e.g., ATLS, TNCC, CALS)

❑ Support the "blameless culture"
  ▪ Direct/re-direct focus: "Solution-oriented"

❑ Trauma medical director presents the case

Health care professionals do not want to make errors:
figure out why the system failed them!

Committee's Responsibilities

❑ Review

- ■ Candid review of the case
- ■ Identify opportunities for improvement in
  - ❖ Diagnosis
  - ❖ Judgment/decision making
  - ❖ Interpretation
  - ❖ Technique
- ■ Look for opportunities for improvement
  - ❖ Delays in recognition, transfer decision
  - ❖ Protocols: inadequate or need for

Committee's Responsibilities

❑Recommend:

- ▪ Action plans to trauma program leadership
- ▪ Goals

❑Document

- ▪ Keep comprehensive minutes that capture the essence of the discussion and general consensus of the participants
- ▪ Trauma program leadership must have access to the minutes!!

Tips for Meeting Security

- ❑ Confidentiality statement/agreement for all participants
- ❑ Lock the door
- ❑ Sign in
- ❑ Do not distribute documents
  - ▪ Use overhead projector instead
  - ▪ De-identify materials
  - ▪ If you do distribute documents:
    - ❖ Number the copies; collect and inventory at the end
    - ❖ Use a distinct colored paper

AZ Revised Statutes §§ 36-445.01 and 36-2403 provides discovery protection for hospital review organizations.

Tips for Meeting Security

❑ Do not discuss/disclose for any purpose other than review

❑ Disclaimer on ALL PI documents

- Ex: "Confidential Pursuant to AZ Revised Statues §§ 36-445.01 and 36-2403; DO NOT COPY OR DISTRIBUTE, FOR AUTHORIZED USE ONLY"

❑ Lock the file cabinet

❑ Avoid email and fax mediums

❑ Consult w/legal!!

How to Organize your PI program for a Site Visit

Site Visit

❑ **Reviewers want to see that a trauma center can:**

- Recognize a problem

- Develop and implement a plan to correct

- Measure to verify that problem no longer recurs

Reviewers will want to see one of these forms (or something like it) for every case that they review.

Reviewers are not looking at the care provided, primarily. They are looking for the improvement opportunities in the case. Then they will look at this form to see if you identified the same improvement opportunities.

The purpose of the chart review is to validate that your trauma program can identify opportunities for improvement.

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Medical record #:

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Missed injury/injury diagnosed >24H after an initial traumatic event	☐	☐	☐

Any chart that generated a "Yes" must be reviewed by trauma PI team.

☐ **No improvement opportunities identified**
Comments:

Signature: **Date:**

Reviewers will look for this form (or something like it) when you have identified a PI initiative (i.e., opportunity for improvement).

Use this form to track the progress made toward resolving the identified issue by listing the actions taken. Include the goal you are seeking (i.e., define what loop closure is) and your periodic measurements of your progress.

Use one form per issue, not one form per case!

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☐ Education	☐ Peer review	☐ Other

Action Plan:

Signature:	Date:

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Committee Minutes

❑ **Have minutes available for review by the site visit team**

- ■ Peer review meetings
- ■ Multidisciplinary meetings
- ■ Any other committee within the hospital to which the trauma program leadership has referred an issue

❑ **Keep comprehensive minutes that capture the essence of the discussion and general consensus of the participants**

Common Pitfalls

- Waiting for problems to affect patient care before taking action
- Looking only for complications or looking only at outcomes rather than seeking opportunities for improvement
- Accepting status quo without sufficient discernment
- Not monitoring compliance with your own guidelines
- Not looking at EMS performance or involving them in the improvement process
- Lack of physician leadership in program
- Lack of provider involvement in committee activities

Tips/Best Practices

❑ Look everywhere!

  ▪ Emergency department, in-patient floor, pre-hospital

❑ Close the loop!

  ▪ Track and trend

❑ Bring in experts

  ▪ From within your facility

  ▪ Utilize the experts at your Level I or 2 referral center

❑ Engender a blameless culture or no one will show up

❑ STAY PATIENT FOCUSED!!