Trauma Program Performance Improvement

For Level 3 and 4 Trauma Centers

MINNESOTA STATEWIDE TRAUMA SYSTEM

MINNESOTA MDH DEPARTMENT OF HEALTH

Acknowledgements

The collective knowledge contained in this material has been influenced by the hard work of many respected people and organizations in the trauma performance improvement arena. We wish to acknowledge the contributions of the many who have played a role in the education of trauma program leadership throughout the state.

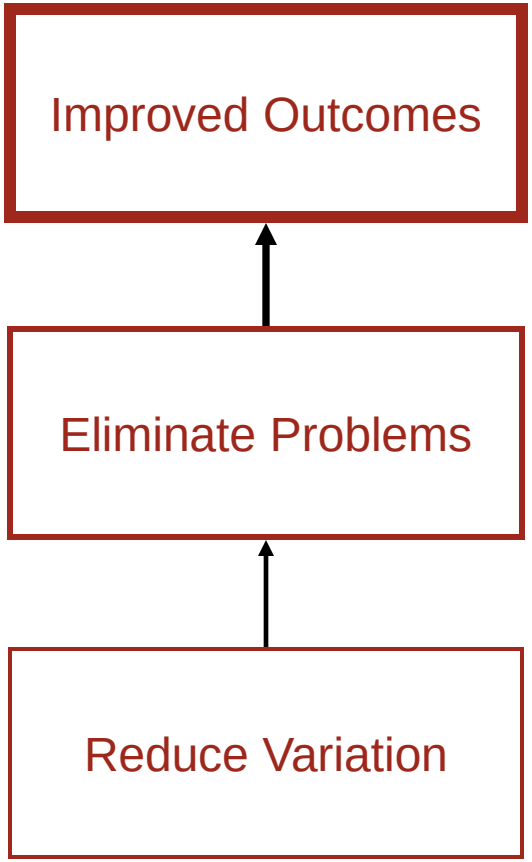
- John Cumming, MD, FACS
- Donald Jenkins, MD, FACS
- Connie Mattice, RN, MSN, CCRN, ANP
- Carol Immermann, RN, BSN
- Glenn Tinkoff, MD, FACS
- Society of Trauma Nurses

Change is in the air…

By definition, improvement cannot occur without change.

Continuous improvement cannot occur without continuous change.

Objective



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Why 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

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Characteristics of PI

- Data-driven
- Systematic
- Measurable
- Spans the continuum of care
- Directly impacts care at the beside

“Event”

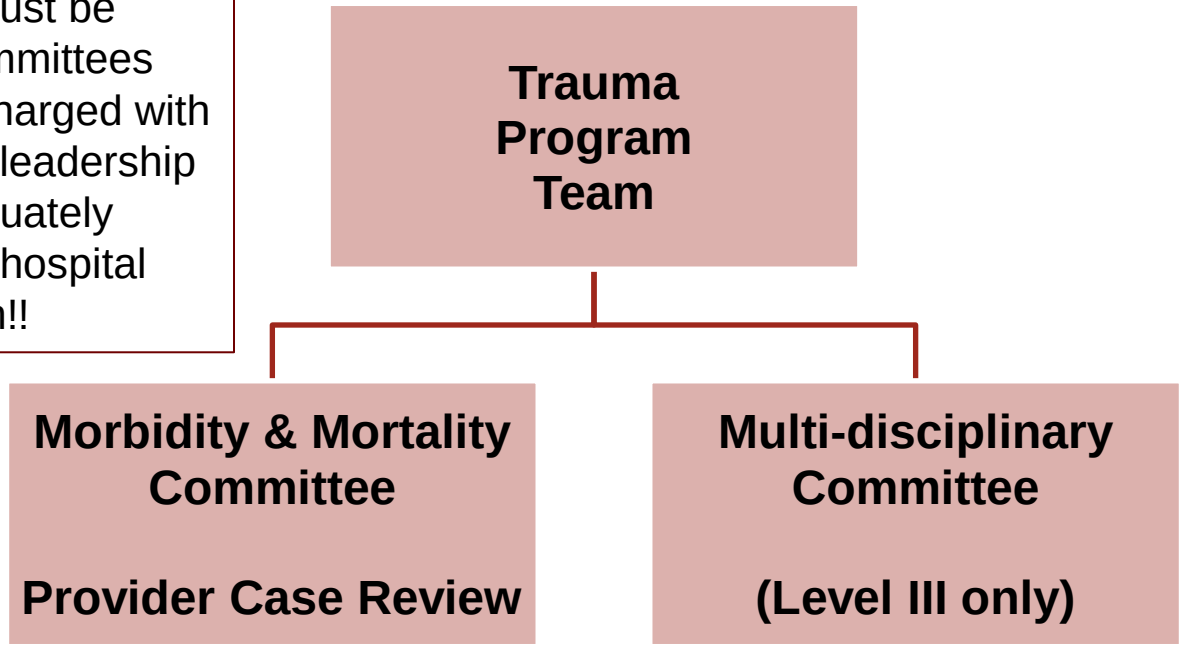
Any type of error, mistake, incident, accident or deviation, regardless of whether or not it resulted in patient harm.

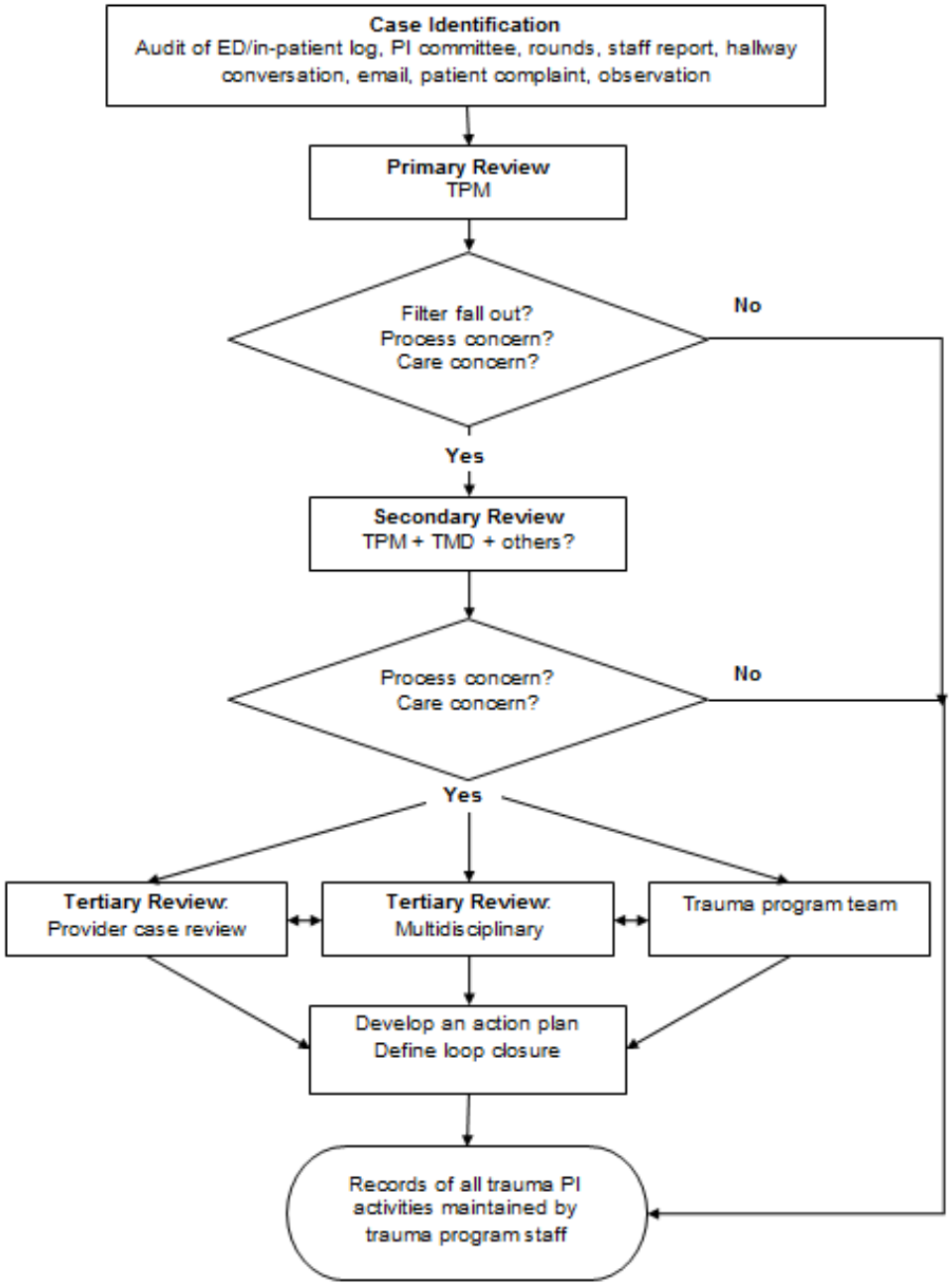
Joint Commission 2008

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!!





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Getting Started

1. Define a trauma patient
2. Locate the patients in your hospital
3. Establish Standards (PI Filters)
4. Review
   - Objective
   - Subjective

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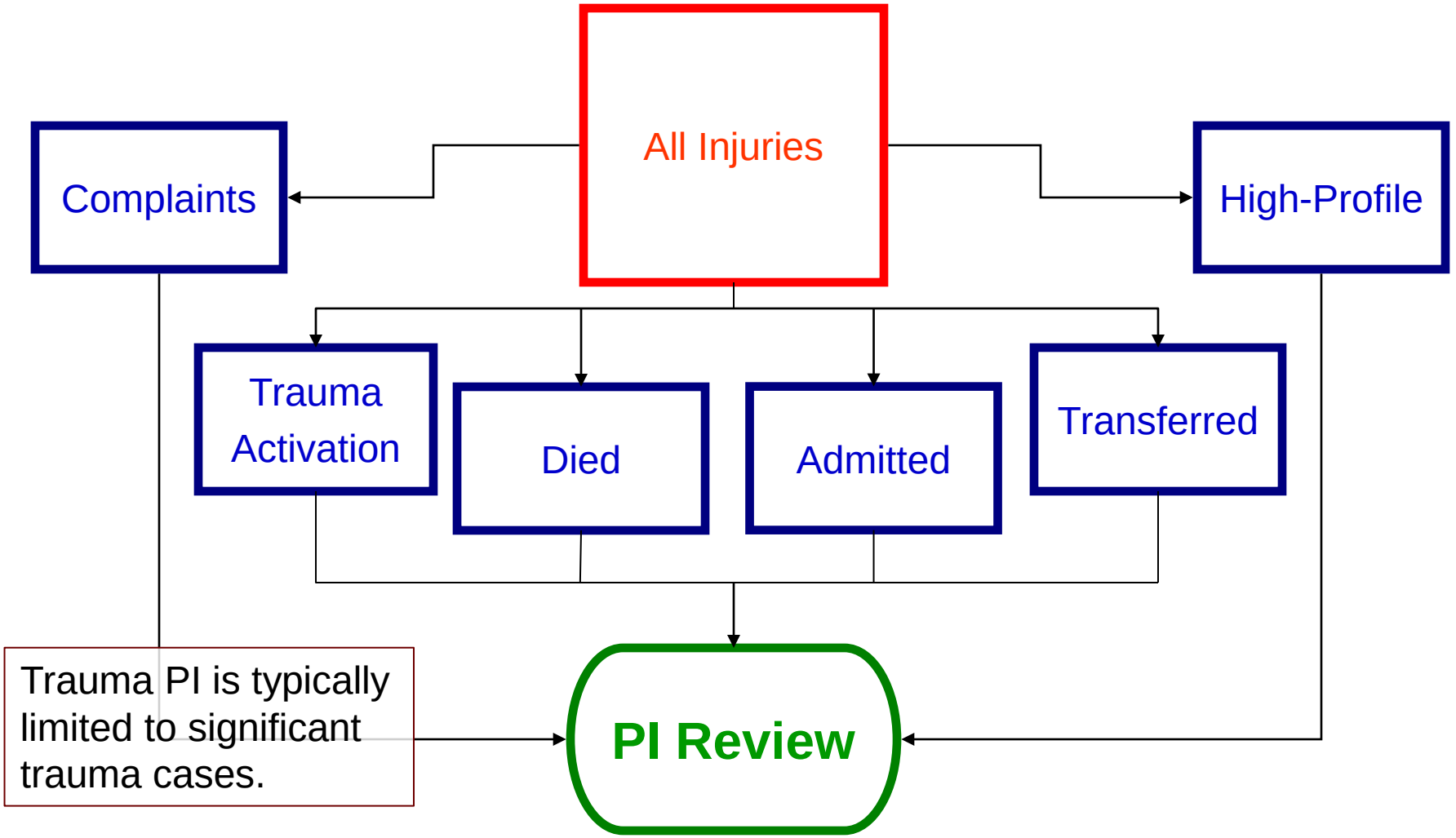
1. Define the trauma patient



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 weren't missed

3. Establish Standards (PI Filters)

- Local, regional, state or national standards of care and performance
- Filters
  - Non-discretionary performance standards
    - State or regional
      - Ex: “Trauma patient admitted to non-surgeon”
  - 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?” and “Is there an opportunity for improvement here?”
  - Deviation is either acceptable or unacceptable

Filters should make sense for your facility. They should represent circumstances that are likely to be encountered at your hospital and they should represent 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
  - Often allied health issue, hospital policy issue
  - Close or refer to next level
- Secondary
  - Trauma program team: TPM + TMD + others?
  - Often clinical in nature or involve provider judgment
  - 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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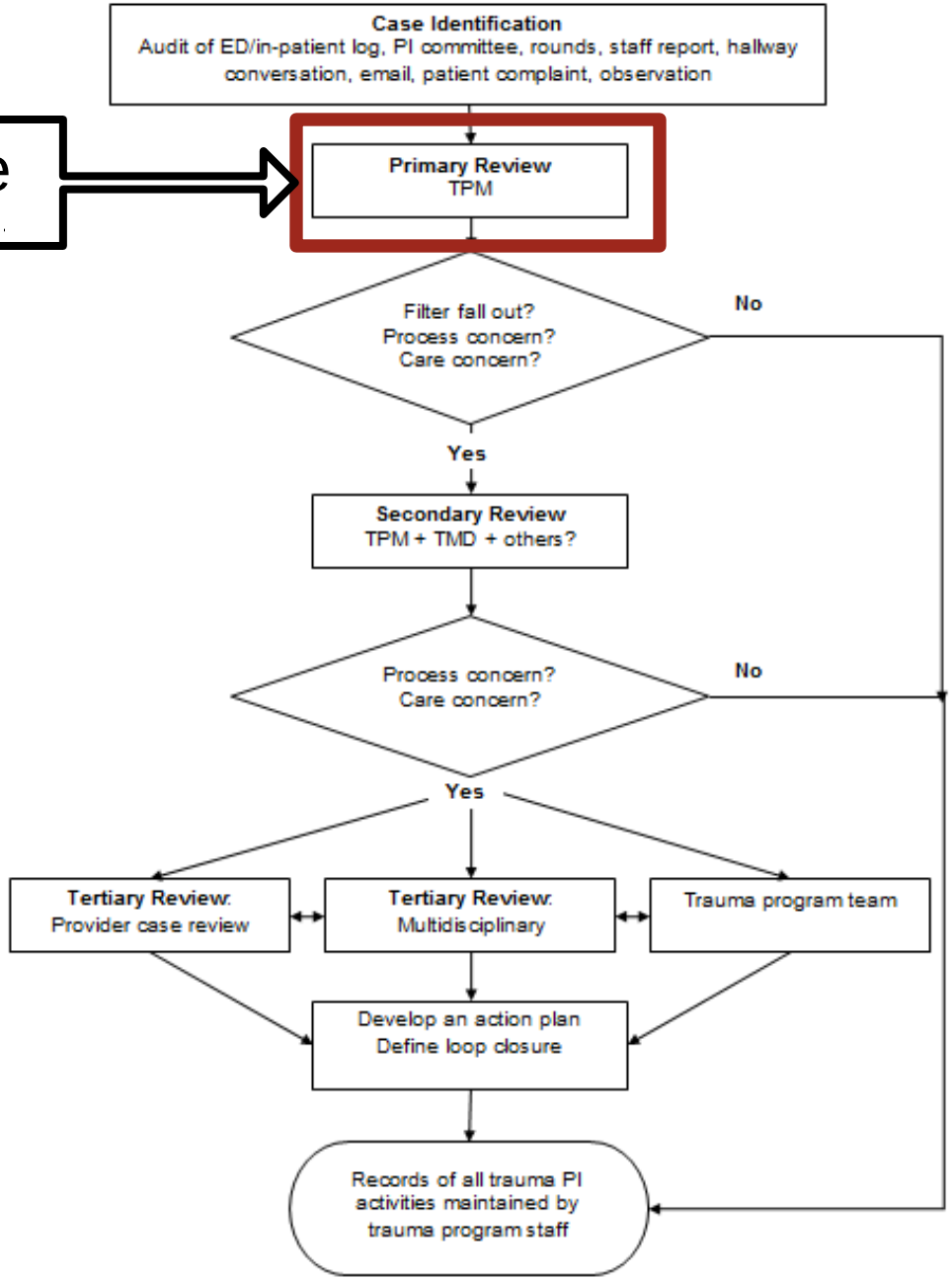

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Complete some form of documentation on every case reviewed

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 #: _____

Data Point	Yes	No	N/A
*†General surgeon arrival >30 minutes after patient arrival			
*Emergency department provider arrival >†15/30 minutes after EMS notification			
*Admitted by non-surgeon			
*Care provided by NP/PA			
*Trauma care provided by physicians who did not meet the educational requirement (e.g., ATLS or CALS)			
*Death			
*Transferred			
Transfer out after > 60 minutes			
Under-triaged/trauma team not activated when criteria met			
IV lines smaller than 16 Ga.			
GCS ≤8 and no endotracheal tube or surgical airway w/in 15 minutes			
IV fluids not warmed			

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, CALS)?
- Examine the circumstances surrounding the event (multiple, simultaneous patients)

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

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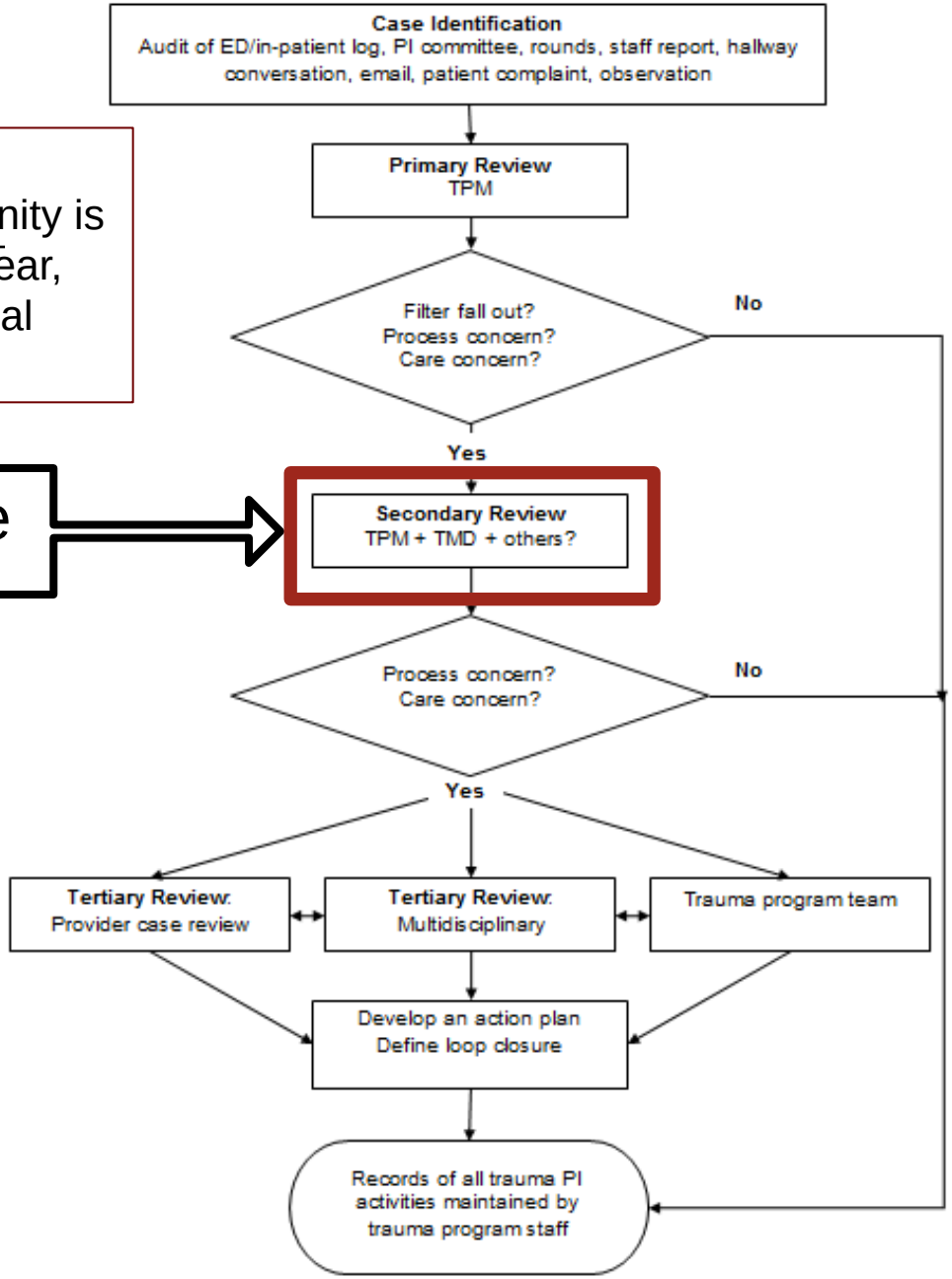

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If after secondary review the TPM and TMD agree that a performance improvement opportunity exists, decide how it should be addressed and who should address it.

- Refer to a committee (e.g., provider case 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.

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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 ☐	☐ EMS ☐ ED ☐ OR ☐ ICU/PACU ☐ Floor ☐ Radiology ☐ Lab ☐ Rehab ☐

Complication, problem or complaint:

Date of review: **Reviewed by:**

Determination:	Preventability:
☐ system-related	☐ non-preventable
☐ disease-related	☐ potentially preventable
☐ provider-related	☐ preventable
☐ unable to determine	☐ unable to determine

Corrective action:

☐ not necessary	☐ guideline/protocol	☐ resource enhancement
☐ trend/track similar occurrences	☐ counseling	☐ privilege/credentialing review
☐ education	☐ peer review	☐

Action Plan:

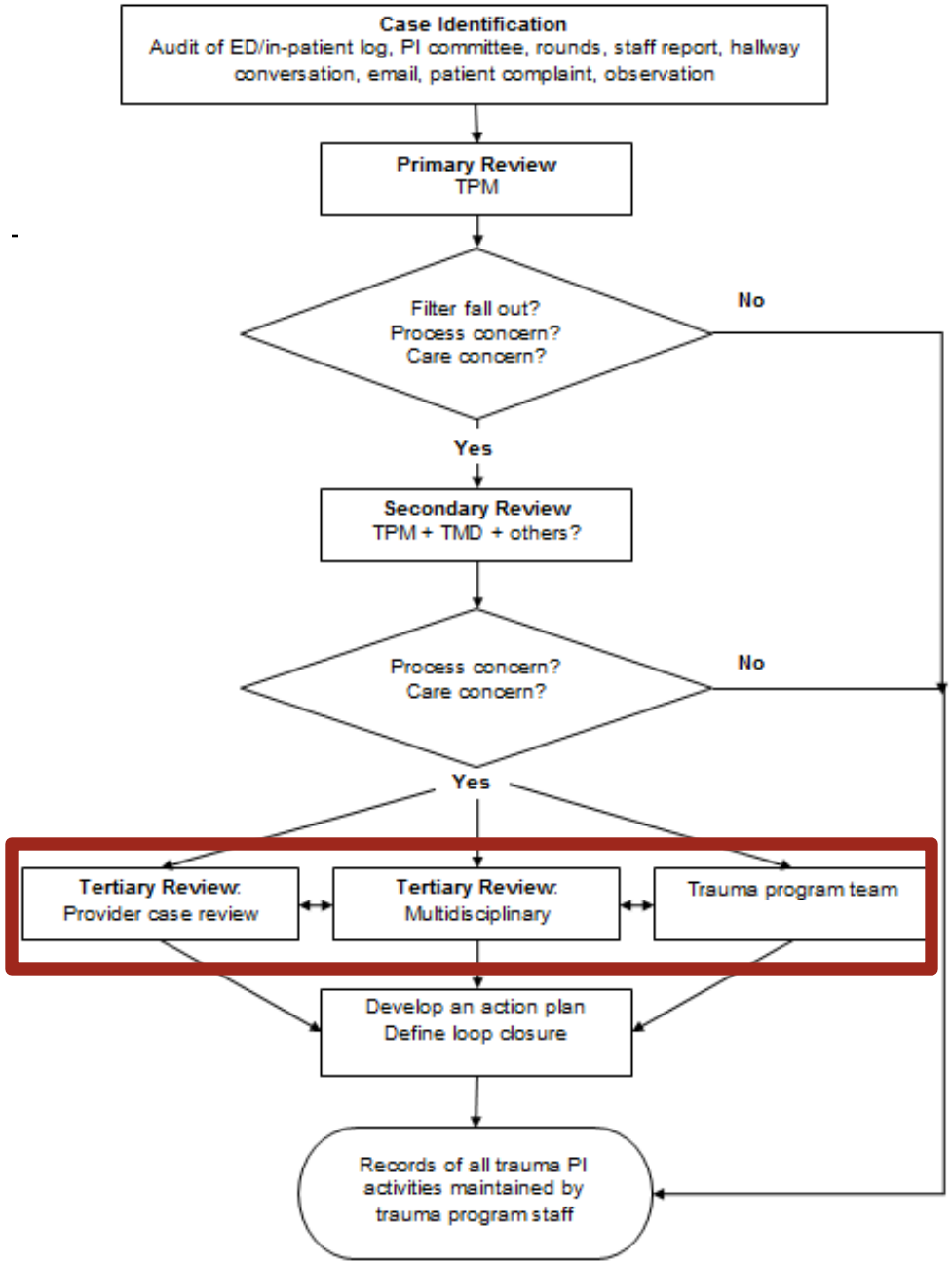
Signature: **Date:**

Adapted from American College of Surgeons, *Resources for Optimal Care of the Injured Patient: 1999*, p. 72.

Automatic Secondary Review (suggested)

- Admits
- Trauma team activations
- Direct to OR
- *Care by mid-levels

*required



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Automatic Tertiary Review (suggested)

- Complications
  - Ex: DVT, nosocomial pneumonia, missed injury
- Unexpected outcomes
- Sentinel events
- *Deaths

*required

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 patients require 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 provider case 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 or 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.

Provider Case 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 the case reviews how to better care for trauma patients.

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"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

Strategies

- De-identify cases
  - Focus on the care and the process, not the provider
  - No need to discuss who's 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 provider case review meeting.
- Consult reference material
  - ATLS, TNCC, CALS manuals
  - EAST (http://www.ruraltrauma.com and http://www.east.org/research/treatment-guidelines)

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 provider case review
  - Consult your level 1 or 2 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

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Provider Case Review

Old	vs.	New
Who did it?		How did the system allowed it?
Punishment		Collaborative learning
Errors are rare		Errors are everywhere!
A few chosen ones sit on the committee		All providers sit on the committee

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Leadership's Responsibility in Facilitating Provider Case 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

MN State Statute 145.61-145.67 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 MN Statute 145.64; 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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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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Action Plan:

Signature: **Date:**

Adapted from American College of Surgeons, *Resources for Optimal Care of the Injured Patient: 1999*, p. 72.

Committee Minutes

- Have minutes available for review by the site visit team
  - Provider case 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 1 or 2 referral center
- Engender a blameless culture or no one will show up
- STAY PATIENT FOCUSED!!