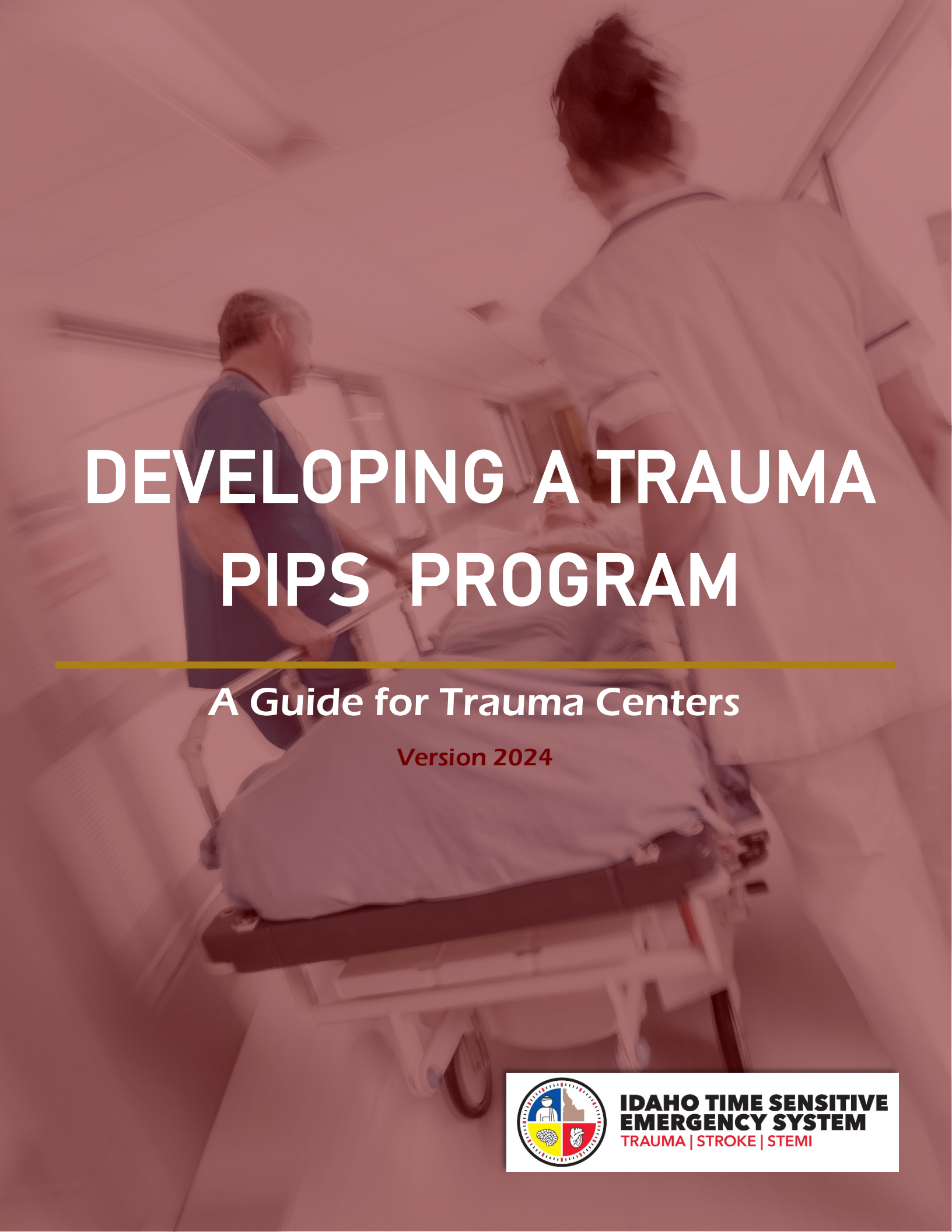


DEVELOPING A TRAUMA PIPS PROGRAM

A Guide for Trauma Centers

Version 2024

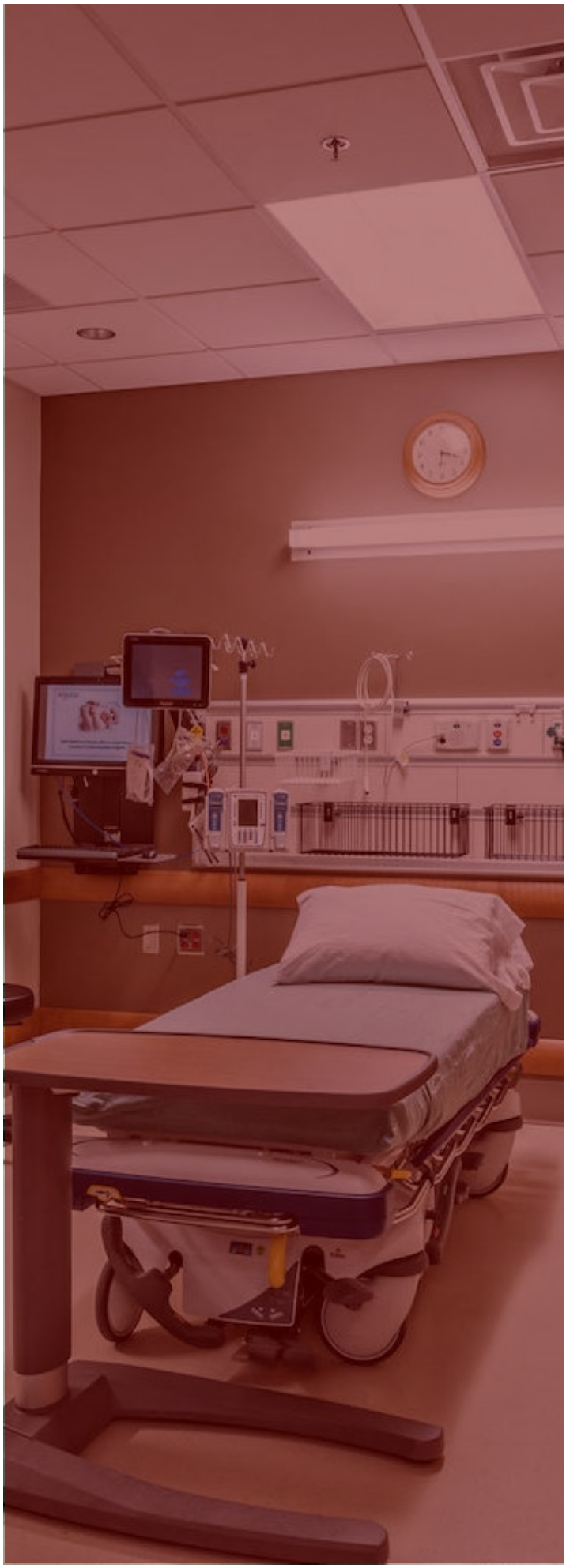
IDAHO TIME SENSITIVE EMERGENCY SYSTEM
TRAUMA | STROKE | STEMI

CONTACT

Please do not hesitate to contact us with any questions or concerns. We would be happy to help to assist you in developing a trauma PIPS program.

Idaho Time Sensitive Emergency Program
P.O. Box 83720
Boise, ID 83720-0036
tse@dhw.idaho.gov
https://tse.idaho.gov

Program Manager Melissa Ball
Melissa.Ball@dhw.idaho.gov
(208) 334-2124



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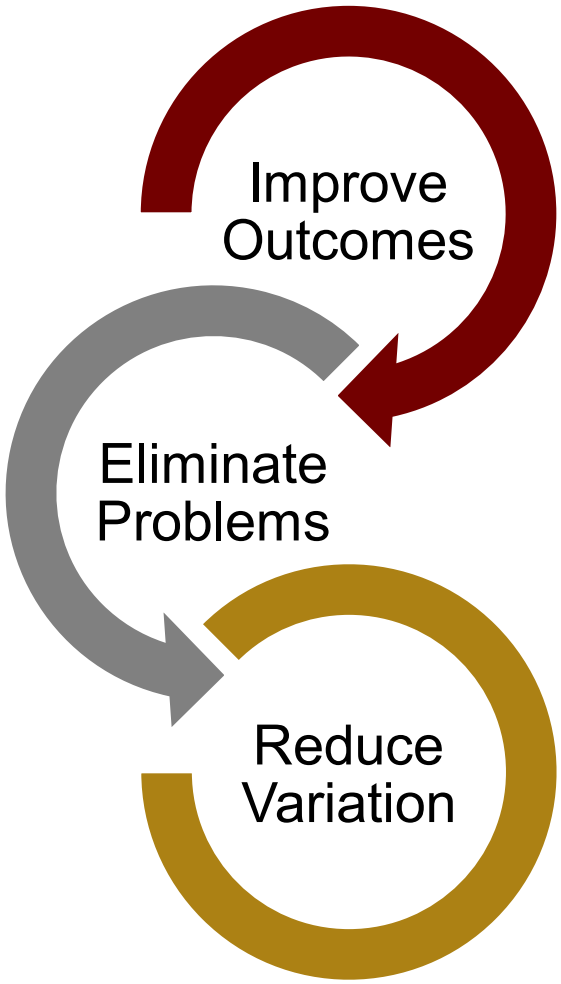
OBJECTIVE

The objective of a Trauma Process Improvement and Patient Safety (PIPS) program is to improve patient outcomes, eliminate problems, and reduce variation in patient care.

All trauma centers should systematically and critically evaluate their trauma care using performance measurements. Doing so fosters current, competent clinicians and validates care.

While there is no precise prescription for a trauma PIPS program, the process should demonstrate a continuous process of monitoring, evaluating, and improving the performance of the trauma program.



STRUCTURE

TRAUMA PIPS PROGRAM

A trauma center should provide safe, efficient, and effective care to the injured patient. Doing so requires the trauma program to continuously measure, evaluate, and improve care. These essential elements are commonly known as the trauma PIPS program. It should be data-driven, systematic, have measurable goals, span the continuum of care, and directly impact care at the bedside.

A written and clearly defined PIPS plan that is updated annually. The program must ensure optimal care through continuous clinical review and is supported by a reliable method of internal data collection. As well, operational procedures and must:

- Outline the organizational structure of the PIPS process;
- Specify the processes of event identification;
- Include audit filters;
- Define levels of review; and
- Specify the members of the PIPS Committee.

TWO COMMITTEES

The trauma PIPS program is, at minimum, comprised of two committees: Trauma Performance Improvement (PI) and Trauma Operations.

> ***Remember…the Trauma PI Committee is patient care focused. The Trauma Operations Committee is system and process focused.***

Trauma PI Committee has the authority to

- Conduct trauma peer review to evaluate cases or problems;
- Develop standards of quality trauma care for adult and pediatric trauma care;
- Monitor compliance;
- Change trauma care policies, procedures, guidelines, and protocols;

- Correct problems or deficiencies; and
- Analyze and evaluate the effect of corrective actions.

Trauma Operations Committee has the authority to

- Follow up with provider-related issues;
- Communicates issues and changes to their associates;
- Refer cases that have potential privileges or credentialing issues to the hospital executive committee;
- Identify opportunities to implement evidence-based guidelines;
- Identify the need to change or create a policy or procedure.

Some examples of Trauma Operations outcomes

- Additional in-house hours for CT technicians improves door-to-CT times.
- New paging system improves response times.
- Delay to OR at night prompts in-house staffing for OR and anesthesia.
- Improved DVT prophylaxis after development of an order set.

OCCURANCE

The process of multidisciplinary review and analysis occurs at regularly intervals to meet the needs of the program, takes attendance, and records minutes.

It is recommended that the committees meet monthly, but the frequency should be based on your trauma patient volume and the facility's need for improvement.

ADDITIONAL CONSIDERATION

The Trauma Operations Committee has the potential to integrate into other hospital committees, and in smaller facilities, may be combined with the Trauma PI Committee. If Trauma Operations is combine with Trauma PI, it is important that administrative staff leave during the PI portion of the meetings so that clinical personnel may discuss cases freely.

MEMBERSHIP

PARTICIPATION

The following members should participate in both the Trauma PI and Trauma Operations Committees:

- Trauma Program Manager;
- Emergency Department liaison;
- Radiology liaison;
- Laboratory liaison; and
- Pre-hospital (EMS) liaison.
- If surgical services are available, include a General Surgery liaison.

For Level I-III Centers

The following members should also participate in both the Trauma PI and Trauma Operations Committees and attend 50% of these meetings:

- All Trauma Surgeons;
- Orthopedic Surgery PIPS liaison or designee;
- Anesthesiologist PIPS liaison or designee;
- Neurosurgeon PIPS liaison or designee (Level I & II Centers only);

LEADERSHIP'S RESPONSIBILITY

Leadership sets the tone and defines expectations. The Trauma PI and Trauma Operations Committees are chaired by the Trauma Medical Director (TMD) or designee. If the TMD is absent, a designee must be identified. TMD must present the cases and support a "solution-oriented" focus.

The Trauma Program Manager (TPM) works with the TMD to address the multidisciplinary needs of the trauma PIPS program.

RESPONSIBILITY

Trauma PI Committee are responsible for the following

- Be open to a candid review of each case;
- Identify opportunities for improvement in diagnosis, decision making, interpretation, and technique;
- Look for opportunities for improvement; delay in recognition, delay in transfer decision, and inadequate protocols;
- Reduce variability of care;
- Recommend action plans and program goals; and
- Keep comprehensive minutes that capture the essence of the discussion and a general consensus of the participants.

Trauma Operations Committee are responsible for the following

- Correct program deficiencies and optimize patient care;
- Addresses system and processes issues; and
- Includes all program-related services.

SECURITY

- All participants must sign a confidentiality statement/agreement.
- Place a sign on the door indicating that it is a closed meeting.
- Have all participants sign in.
- Do not distribute documents. Use a projector.
- If you must distribute copies, number the copies, collect, inventory and properly dispose of copies at the end of the meeting.
- Avoid using email to disseminate confidential information.

COMMON PITFALLS

- Waiting for problems to affect patient care before taking action.
- Looking directly for complications or only looking at the outcomes rather than seeking opportunities.
- Accepting the 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 the program.
- Lack of provider involvement in PIPS activities.

REVIEW PROCESS

The trauma PIPS program must be able to identify trauma patients, use internal registry data, and have appropriate audit filters.

Important Elements

- Focus on the performance of the trauma service and trauma processes.
- Focus on opportunities for improvement.
- Use best practices when designing or redesigning processes.
- Identify potential safety risks.
- Eliminate barriers between departments and improve communication.
- Track findings to detect trends.
- Use results of review to determine educational needs.

Information Sources

- EMS run sheets.
- Medical records.
- Autopsies.
- Patient/family comments or complaints.
- Staff concerns.

Suggested Indicators for Review

- Deaths.
- Transfers.
- Unexpected outcomes.
- Sentinel events.

- Trauma team activations: over-triage and under-triage.
- Cervical spine clearance.
- Alcohol screening and intervention.
- Pain assessment and reassessment after intervention.
- Delays in treatment.

Data Points to Track

- Over-triage and under-triage.
- Number of activations: number of priority one activations, number of priority two activations, and number of priority three activations.
- Trauma team assembly time.
- Emergency provider response time.
- Transfers (ED dwell time and door to transfer time).
- CT time frames: time-to-CT; and CT read time.
- Deaths.

PRIMARY REVIEW

The primary review is performed by the Trauma Program Manager (TPM) who should review EVERY trauma chart on a daily or weekly basis depending on the volume of trauma patients. Reviews should be assigned to one of three categories:

1. No action required;
2. Resolved by the TPM; or
3. Requires further review.

Even if the TPM is able to resolve the issue, the activity should be documented for ongoing monitoring and trend analysis. See page 15 for the *Primary PIPS Review – Trauma Program Manager* form and page 16 for the *Trauma Medical Record Review* form.

SECONDARY REVIEW

The secondary review is performed by the Trauma Medical Director (TMD) and Trauma Program Manager (TPM) on a weekly to monthly basis depending on the volume of trauma patients. After review, cases should be assigned to one of two categories:

1. Resolved by the TMD and/or the TPM; or
2. Requires further review.

The secondary review should include a review of the pertinent portions of the medical record; confirmation of all individuals involved; development of a timeline of the event; and review of any other pertinent documentation. See page 19 for the *Secondary PIPS Review – Trauma Medical Director* form.

TERTIARY REVIEW

The tertiary review is performed by the Trauma PI Committee. The committee should review all cases that cannot be resolved by the Trauma Medical Director (TMD) and Trauma Program Manager (TPM). See page 20 for the *Tertiary PIPS Review – Trauma PI Committee* form.

CORRECTIVE ACTION

Corrective action must be measurable and patient focused. It should also consist of education, resource enhancement, protocol revision, and/or clinical practice guidelines.

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 staff, in order to improve clinician and system performance.

CLOSING THE LOOP

Loop closure is essential.

Loop closure should be integrated throughout the institution and should be reported to the facility's quality improvement program. A common mistake is labeling your corrective action *plan* as loop closure. The problem, of course, is that having a plan is not the same as "closing the loop." Your plan is simply what you intend to do. During an on-site visit, reviewers want to see what you have already done, not what you anticipate.

In order to demonstrate loop closure, you should always be able to answer the following statement, "Future similar patients are less likely to have this problem because_____." It is recommended to have this sentence included and answered for all you PIPS reviews.

STRATEGIES

1. De-identify cases.
    - Focus on the care and the process, not the provider.
    - No need to discuss who was assigned to the case.
    - Attempt to turn any issue about a provider into a discussion about the system.
2. Attendees should be peers.
    - Providers are often more comfortable to be candid with their peers.
3. If possible, refrain from one-on-one counseling/discussions.
    - If one provider will benefit from the knowledge, it is likely that all providers will benefit. Education should be presented to all appropriate staff by the Trauma PI Committee.
4. Use reference material for best practice and evidence-based guidelines (i.e. American College of Surgeons, ATLS, or EAST).
5. If there is concern about the ability to provide objective, impartial review.
    - Consult your higher Level II or III referral center.
        - Ask for advice about specific cases and request outreach.
        - Ask for advice regarding current standards of care, best practices, or regional guidelines.
    - Discuss with your Regional TSE Committee.
        - This may be a region-wide problem.

FORMS

The review forms – Primary, Secondary, and Tertiary – have been provided as examples. You may use these forms or create your own. The forms can be found at the end of this guide.

EXAMPLE OF A PIPS REVIEW

Step 1. Issue Identification.

- What "issue" was out of line with your goals or was caught by an audit filter?
- Trauma patient's length-of-stay in ED was 150 minutes. Delayed transfer due to radiological studies performed before transfer.

Step 2. Compare the Specific Goals set by the Trauma Program.

- Trauma patients should transfer out of the ED within 120 minutes with an 80% achievement rate.

Step 3. Analyze.

- Look at the same data point for the last month, 6 months, or year depending on volume.
- Your data shows that 8 of 15 cases (53%) met the 120-minute standard. You have now identified this is an issue that needs to be addressed by the Trauma PI Committee.
- Research the 15 cases: Can you determine what the reason for delay was? Are most of the delays related to obtaining tests?

Step 4. Develop & Implement Action Plan.

- Send case to peer review (Trauma PI Committee).
- Review trauma transfer protocol. Is it clear that the goal is 120 minutes? Are there guidelines on when and how to call for transfer? Does the protocol outline what tests should be obtained or not obtained?
- Discuss rationale for changes (i.e. refrain from obtaining studies that do not impact the resuscitation, etc.).
- Update transfer plan (if needed), educate staff, and/or set up mechanism to track.

Step 5. Continuous Evaluation.

- Trend and measure performance. Evaluate each case. Are times improving? Continue to educate staff, refine the process, and celebrate improvement.

- Evaluate cases over an established time frame. For example: 6 months later, now 10 out of 12 new cases (83%) met the 120-minute standard. Your intervention worked! Or, if your program is still not meeting the metric, do you need a new action plan?
- Continue to trend and measure performance.

Step 6. Loop Closure.

- Document your loop closure. Was the goal attained and what action(s) resulted in goal attainment?
- Describe the action plan, the protocol changes, and the education that was provided. Then show the data: Over a 12 months period, 18 out of 22 cases (82%) met the goal.
- Once goal is attained, the Trauma PI Committee can close the loop or continue to trend in order to verify continued success.

APPENDIX A: FORMS

SEE NEXT PAGE

Trauma Medical Record Review Form

MRN: _____ Age: _____ Gender: _____

Admit	Transfer	Expired	Mode of Arrival
○ Yes	○ Yes	○ Yes	○ EMS ○ POV
○ Observation	○ No	○ No	ED Arrival Date:
○ No	Facility:	Funeral Home:	ED Arrival Time:
Unit/Room #			ED Discharge Time:
			LOS: 0

Mechanism of Injury: _____

Pre Hospital Information

Provider: _____ EMS Scene Time: _____ minutes Run Sheet Present? ○ Yes ○ No

BP _____ HR _____ Resp _____ GCS _____ BGL _____ Temp _____ Intubated? ○ Yes Size: _____ ○ No

Extrication? ○ Yes ○ No Spinal Immobilization? ○ Yes ○ No C-Collar? ○ Yes ○ No

Oxygen? ○ Yes ○ No Method? _____ IV: _____

Notes/Comments:

Clinical Information

Trauma Team activation? ○ Yes ○ No Appropriate? ○ Yes ○ No Why? _____

ED provider notified @ _____ ED provider arrived @ _____

Transfer to: ○ Level I ○ Level II ○ Level III ○ Level IV ○ Not designated

Time transfer initiated: _____ Mode: ○ Air ○ EMS ○ POV Provider: _____

Notes/Comments:

Documentation

Initial VS @ _____ ☐ BP ☐ HR ☐ Resp ☐ GCS ☐ SpO2 ☐ BGL ☐ Temp

Final VS @ _____ ☐ BP ☐ HR ☐ Resp ☐ GCS ☐ SpO2 ☐ BGL ☐ Temp

Serial Vital Signs? ○ Yes ○ No

Notes/Comments:

Treatment

IV x _____ Central Line? ○ Yes ○ No Chest Tube? ○ Yes ○ No Foley? ○ Yes ○ No

Crystalloid infused _____ cc Blood T&C? ○ Yes ○ No Units Transfused: _____

Oxygen? ○ Yes ○ No NG/OG? ○ Yes ○ No Other Tx: _____

Notes/Comments:

Diagnostics

Lab Labs drawn @ _____ H/H _____ ☐ CBC ☐ CMP/BMP ☐ PT/PTT ☐ ETOH ☐ UDS

X ray Done @ _____ ☐ Chest ☐ Pelvis ☐ C-spine ☐ Extremities

Other x-rays: _____

CT Done @ _____ ☐ Head ☐ Facial Bones ☐ Chest ☐ Abdomen ☐ Pelvis ○ C-spine

Notes/Comments:

PI Process

Level of Review: _____

Problems Identified:

Loop Closure Activities:

_____ _____

Trauma Program Manager / Trauma Medical Director Signature Date

Primary PIPS Review - Trauma Program Manager

Name:		MR#:	
Acct #:		Admit Date:	

System Related
○ Trauma related death
○ Transfer
○ Requested review
○ Other:

Patient Care Related
○ Delay in diagnosis of injury
○ Missed diagnosis of injury
○ Requested review
○ Other:

Notes/Issues:

Conclusion	Action	Date Complete
○ No system or patient care	None	
○ Trend/Track	TPM add to trend database	
○ Trauma Medical Director	Submit chart to TMD for review	
○ Other:		

Signature: _____ Date: _____

Trauma Program Manager

Secondary PIPS Review - Trauma Medical Director

Name:		MR#:	
Acct #:		Admit Date:	

System Related
○ Trauma related death
○ Transfer
○ Requested review
○ Other:

Patient Care Related
○ Delay in diagnosis of injury
○ Missed diagnosis of injury
○ Requested review
○ Other:

Trauma Medical Director Review:

Conclusion	Action	Date Complete
○ No system or patient care problem	None	
○ Trend/Track	TPM add to trend database	
○ PIPS Committee review	Submit chart to PIPS Committee for review	
○ Other:		

Signature: _____ Date: _____

Trauma Medical Director

Teriary PIPS Review - Trauma PI Committee

Name:		MR#:	
Acct #:		Admit Date:	

System Related
☐ Trauma related death
☐ Transfer
☐ Requested review
☐ Other:

Patient Care Related
☐ Delay in diagnosis of injury
☐ Missed diagnosis of injury
☐ Requested review
☐ Other:

Mortality was:
☐ Mortality without opportunity for improvement (non-preventable)
☐ Anticipated mortality with opportunity for improvement (potentially preventable)
☐ Unanticipated mortality with opportunity for improvement (preventable)

Notes/Issues:

Conclusion	Action	Person Responsible	Date Complete
☐ No system or patient care problem	None		
☐ Trend/Track	TPM add to trend database		
☐ More information needed	Request information		
☐ Problem Identified:			
☐ Other:			

Signature: _____ Date: _____

Trauma Program Manager

PIPS Flowchart

Primary Review

Performed by the Trauma Program Manager on a daily to weekly basis.

No Deficiencies

No further action needed.

Minor Deficiencies

Document resolution for ongoing monitoring and trend analysis.

Further Review Needed

Secondary Review

Performed by the Trauma Medical Director and Trauma Program Manager on a weekly to monthly basis.

Deficiencies Resolved

Document resolution for ongoing monitoring and trend analysis.

Further Review Needed

Tertiary Review

Performed by the multidisciplinary PI Committee on a monthly to quarterly basis.

Possible Actions

- Education
- Counseling
- Guideline Development
- Track/Trend
- PIPS Team Project