

A Guide for Level IV & V Trauma Centers

# Developing a PIPS Program

Process Improvement &  
Patient Safety

Idaho Time Sensitive Emergency Program

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# Performance Improvement and Patient Safety

## Objective

The objective of a 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 scrutinize their trauma care using performance measurements. Doing so fosters competent, current clinicians and validates care.

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



## Structure

### Who?

The PIPS committee must be chaired by the Trauma Medical Director, and include the Trauma Program Manager, an emergency medicine representative, a radiology representative, a laboratory representative, and a prehospital services (EMS) representative. If surgical services are available, the committee must also include a general surgery representative.

The PIPS 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.

### What?

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 of a trauma program are commonly known as the Trauma PIPS Program. The PIPS program should be data-driven, systematic, have measurable goals, span the continuum of care, and directly impact care at the bedside.

### When?

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



*Be better  
than you were  
yesterday*

## Review Process

The 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 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 sheet
- Medical Record
- Autopsies
- Patient/family comments or complaints
- Staff concerns

### *Suggested Indicators for Review*

- Deaths
- Transfers
- Unexpected outcomes
- Sentinel events
- Trauma team activation: 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/under triage
- # of activations (# of priority one activations, # of priority two activations, # of priority three activations)
- Trauma team assembly time
- Emergency provider response time
- Transfers (ED dwell times)
- CT times (time to CT, CT read time)
- Deaths

## **Primary Review**

The Trauma Program Manager (TPM) should review every trauma chart. Reviews should be assigned to one of three categories:

- 1) No action required;
- 2) Resolved by the TPM; or
- 3) Require further review.

Primary reviews should be done on a daily to weekly basis, depending on the volume of trauma patients. Even if the TPM is able to resolve the issue, the activity should be documented for ongoing monitoring and trend analysis. See page 10 for the Primary PIPS Review - Trauma Program Manager form, and page 11 for the Trauma Medical Record Review Form.

## **Secondary Review**

The secondary review is performed by the Trauma Medical Director (TMD) and Trauma Program Manager. After review, cases should be assigned to one of two categories:

- 1) Resolved by the TMD and/or the TPM; or
- 2) Require further review.

Secondary reviews should be conducted on a weekly to monthly basis, depending on the volume of trauma patients. 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 14 for the Secondary PIPS Review - Trauma Medical Director form.

## Tertiary Review

The Tertiary Review is performed by the PIPS committee. The PIPS Committee should review all cases that could not be resolved by the TMD or the TPM. See page 15 for the Tertiary PIPS Review – PIPS Committee form.

### Review Example

#### *Step 1. Issue Identification*

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

#### *Step 2. Specific Goal & Measurement of Achievement*

- Trauma patient transfer out of ED within 60 minutes 90% of the time.

#### *Step 3. Analysis with Date (when available)*

- Eight of 15 cases (53%) met 60-minutes standard.

#### *Step 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.

#### *Step 5. Evaluation, Re-evaluation, Re-re-evaluation*

- Trend, measure performance and strategize solutions
- 6 months later, 10 out of 12 new cases (83%) met 60-minute standard
- New action plan, continue to trend and measure performance

#### *Step 6. Loop Closure*

- Goal attained; action(s) resulted in goal attainment
- 8 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

Corrective action must be measurable; patient focused; and consist of education, resource enhancement, protocol revision, and practice guidelines.

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

## 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

## 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 about 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.
- If at all possible, refrain from one-to-one counseling/discussions
  - If one provider will benefit from the knowledge, all providers will likely benefit from the knowledge. Take it to the PIPS committee.
- Consult reference material
- 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 PIPS
  - Consult your Level II referral center
    - For advice about specific cases
    - For advice about current standards of care or best practices
  - Discuss with your Regional TSE Committee
    - This may be a region-wide problem

## Responsibilities

### *Leadership's Responsibility*

The leadership of the PIPS committee should set the tone and define expectations. The Trauma Medical Director should present the cases and must support a “solution-oriented” focus.

### *Committee Member's Responsibility*

PIPS committee members should:

- 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 in delays in recognition, delays in transfer decision, and inadequate or a need for protocols;
- Recommend action plans and goals; and
- Document by keeping comprehensive minutes that capture the essence of the discussion and general consensus of the participants.



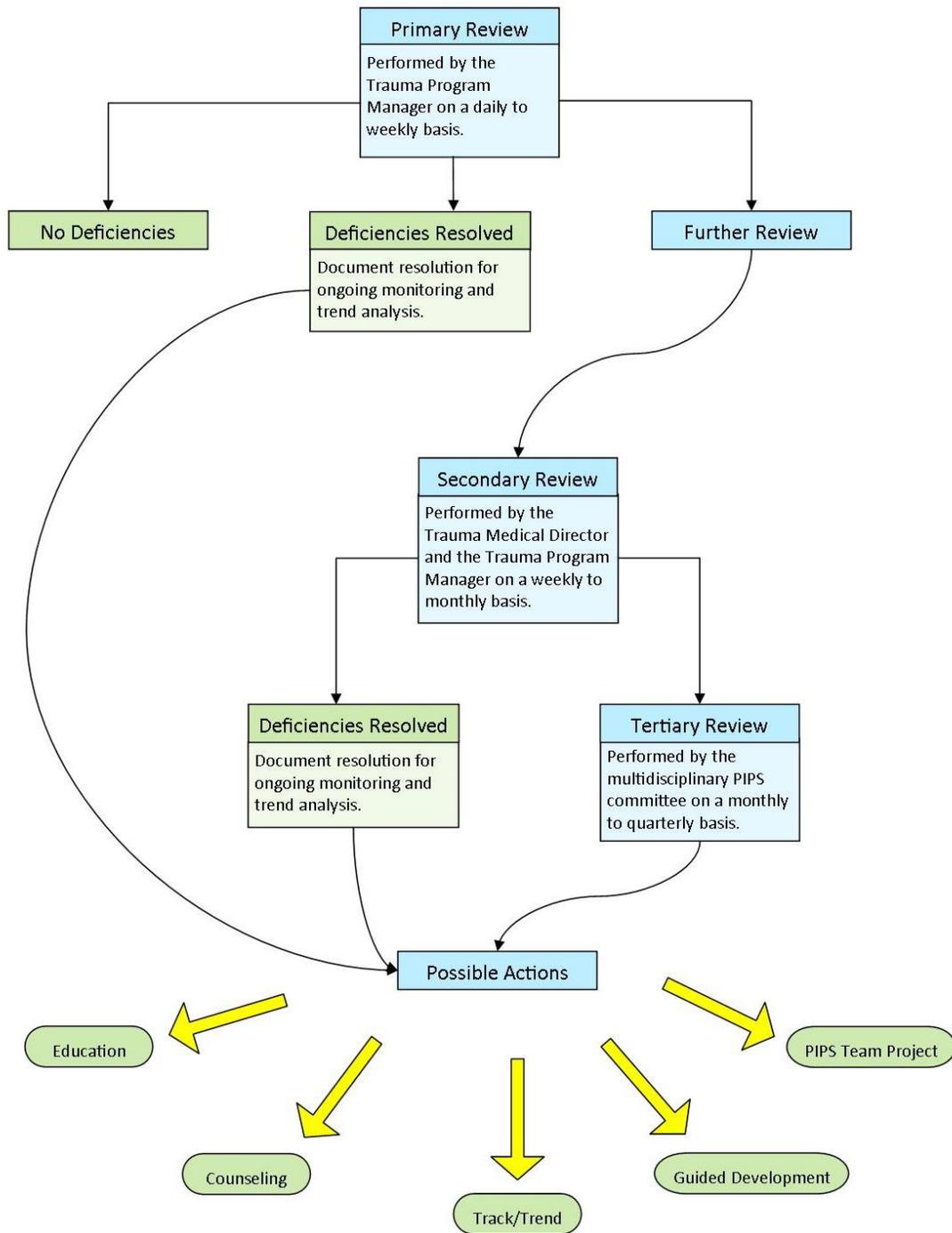
**Continuous improvement causes us to think about upstream process not downstream damage control.**

## Security

- Have all participants 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 and collect & inventory 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 only for complications or looking only at outcomes rather than seeking opportunities.
- 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 the program.
- Lack of provider involvement in PIPS activities.



## Primary PIPS Review - Trauma Program Manager

Name:		MR#:	
Acct #:		Admit Date:	

System Related
<input type="radio"/> Trauma related death <input type="radio"/> Transfer <input type="radio"/> Requested review <input type="radio"/> Other:

Patient Care Related
<input type="radio"/> Delay in diagnosis of injury <input type="radio"/> Missed diagnosis of injury <input type="radio"/> Requested review <input type="radio"/> Other:

Notes/Issues:

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Conclusion	Action	Date Complete
<input type="radio"/> No system or patient care	None	
<input type="radio"/> Trend/Track	TPM add to trend database	
<input type="radio"/> Trauma Medical Director	Submit chart to TMD for review	
<input type="radio"/> Other:		

Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Trauma Program Manager

# Trauma Medical Record Review Form

MRN: \_\_\_\_\_ Age: \_\_\_\_\_ Gender: \_\_\_\_\_

Admit	Transfer	Expired	Mode of Arrival
<input type="radio"/> Yes <input type="radio"/> Observation <input type="radio"/> No Unit/Room # _____	<input type="radio"/> Yes <input type="radio"/> No Facility: _____	<input type="radio"/> Yes <input type="radio"/> No Funeral Home: _____	<input type="radio"/> EMS <input type="radio"/> POV ED Arrival Date: _____ ED Arrival Time: _____ ED Discharge Time: _____ LOS: _____

Mechanism of Injury: \_\_\_\_\_

## Pre-Hospital Information

Provider: \_\_\_\_\_ EMS Scene Time: \_\_\_\_\_ minutes Run Sheet Present?  Yes  No  
 BP \_\_\_\_\_ HR \_\_\_\_\_ Resp \_\_\_\_\_ GCS \_\_\_\_\_ Intubation?  Yes  No 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  
Final VS @ \_\_\_\_\_  BP  HR  Resp  GCS  SpO2

Serial Vital Signs?  Yes  No

Notes/Comments:

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**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:

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**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:

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## Tertiary PIPS Review - PIPS Committee

Name:		MR#:	
Acct #:		Admit Date:	

System Related	Patient Care Related	Mortality was:
<input type="radio"/> Trauma related death <input type="radio"/> Transfer <input type="radio"/> Requested review <input type="radio"/> Other:	<input type="radio"/> Delay in diagnosis of injury <input type="radio"/> Missed diagnosis of injury <input type="radio"/> Requested review <input type="radio"/> Other:	<input type="radio"/> Mortality without opportunity for improvement (non-preventable) <input type="radio"/> Anticipated mortality with opportunity for improvement (potentially preventable) <input type="radio"/> Unanticipated mortality with opportunity for improvement (preventable)

Notes/Issues:

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Conclusion	Action	Person Responsible	Date Complete
<input type="radio"/> No system or patient care problem	None		
<input type="radio"/> Trend/Track	TPM add to trend database		
<input type="radio"/> More information needed	Request information		
<input type="radio"/> Problem Identified:			
<input type="radio"/> Other:			

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Trauma Program Manager