Culture of Safety PI Taxonomy

Kathleen D. Martin, MSN, RN
Trauma Program Manager
Lankenau Medical Center

STN TOPIC Committee
ATS Board of Directors

PI Taxonomy Objectives

▸ Discuss Implementation of a common terminology and classification for collecting and organizing trauma performance improvement data
▸ Review various methods for implementing taxonomy while on clinical rounds
▸ Explain the benefits of using the PI taxonomy concurrently

"The Joint Commission Taxonomy has been recommended by the ACS COT PIPS Committee and the ACS COT VRC as best practice and should be implemented in trauma performance improvement programs. This taxonomy should be implemented now and will be a criterion (required) in the next version of the Resources for Optimal Care of the Injured."

ACS COT   December 2013

Industry Status – Performance Improvement Taxonomy

▸ World Health Organization has developed 'Guidelines for trauma quality improvement programmers'

▸ Concepts taught in TOPIC™ Course

▸ No past Industry 'mandate' or 'guidance'

▸ Taxonomy 'data dictionary' is being defined by the ACS COT

▸ DI has developed software 'structure' for the new PI Taxonomy
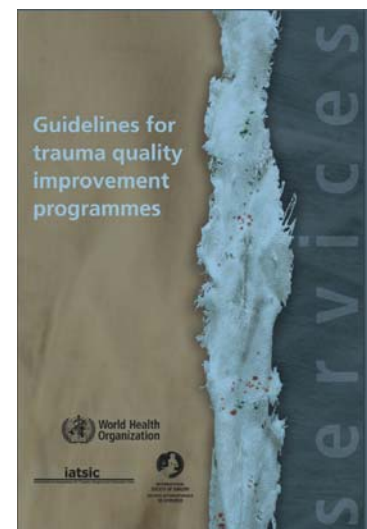
Guidelines for
trauma quality
improvement
programmes

World Health
Organization

iatsic

Traumafying
The Joint Commission Taxonomy

▸ Do PI the way you have always done PI
▸ Events act as triggers for case review:
  ◦ Deaths
  ◦ Other non-discretionary events (specific complications, NTDB)
  ◦ Classify the relevant factors for the event using the TJC taxonomy
  ◦ Define cut offs for Primary, Secondary and Tertiary Review
▸ Develop computerized application to enhance ease of use
  ◦ Import NTDS complications as baseline sentinel events
  ◦ Allow users to add additional sentinel event types

Background

▸ Traditional trauma PI programs have employed a peer review process in the evaluation of deaths and other adverse outcomes which have been classified as "preventable", "possibly preventable", or "non-preventable".
▸ This does not ensure that performance is improved as much as it tends to focus on the attribution of blame.
▸ Some states have started to open the peer review process to discoverability with the result that hospitals will restrict the determination of preventability by peer review committees.
▸ Most importantly, determining that a death was "non-preventable" often led to no further evaluation of the case
▸ Many opportunities for improvement (OFIs) were not investigated.

Reference: 'Chang' Paper

- The results suggest that the TJC *Patient Safety Event Taxonomy* could facilitate a common approach for patient safety information systems

- Having access to standardized data would make it easier to file patient safety event reports and to conduct root cause analyses in a consistent fashion

International Journal for Quality in Health Care 2005; Volume 17, Number 2: pp. 95–105   10.1093/intqhc/mzi021
Advance Access Publication: 21 February 2005

The JCAHO patient safety event taxonomy: a standardized terminology and classification schema for near misses and adverse events

ANDREW CHANG, PAUL M. SCHYVE, RICHARD J. CROTEAU, DENNIS S. O'LEARY AND JEROD M. LOEB

JCAHO, Division of Research, Oakbrook Terrace, Illinois, USA

Classifying PI Events

- **What: (Event)**
  - Events identification
    - Audit Filters
    - Complication/Occurrence
    - Practice Guideline Variation
- **Who: (Domain)**
  - Patient demographics
  - Provider information
  - Source of reported event
- **Where: (Domain)**
  - Location/Setting
  - Phase/Target

- **When:**
  - Date identified and/or Occurred
  - Date of loop closure
- **Why: (Cause, Impact, Type)**
  - Impact (Harm)
  - Type (Communication, Management, Performance)
  - Factors (System or Human)
- **How (to fix it): (Mitigation/Prevention)**
  - Corrective Actions
  - Levels of Review
  - Mitigation/Prevention
  - Scope
  - Loop Closure

Classifying PI Events

Domain: *Who, Where and When*
  ◦ the characteristics of the setting in which an incident occurred and the type of individuals involved.

Impact: *How Much*
  ◦ the outcomes or effects of medical error and systems failure, commonly referred to as harm to the patient.

Type: *What*
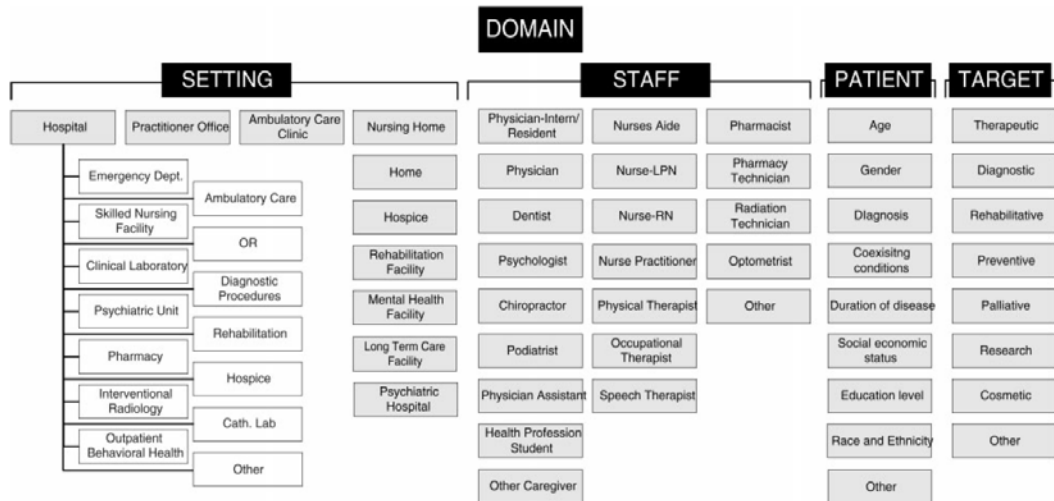 ◦ the implied or visible processes that were faulty or failed.

Factors: *Why*
  ◦ the contributing reasons and agents that led to an incident.
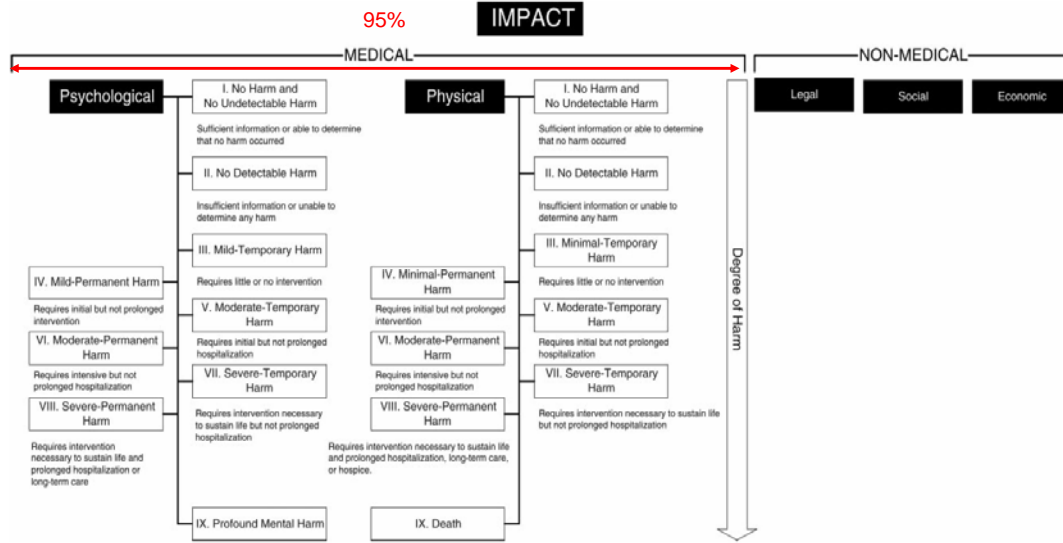
Prevention and Mitigation: *How to Fix*
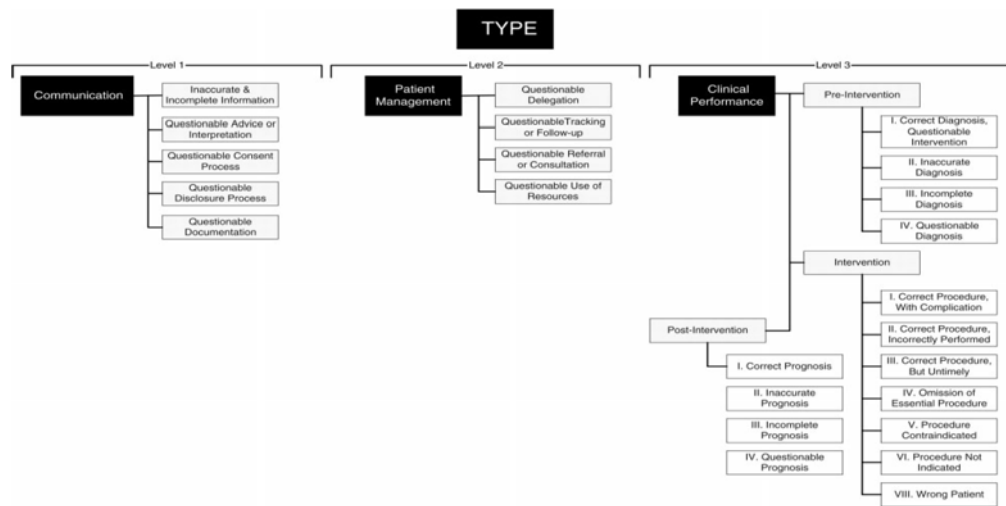 ◦ the corrective actions/measures taken or proposed to reduce the incidence and effects of adverse occurrences.
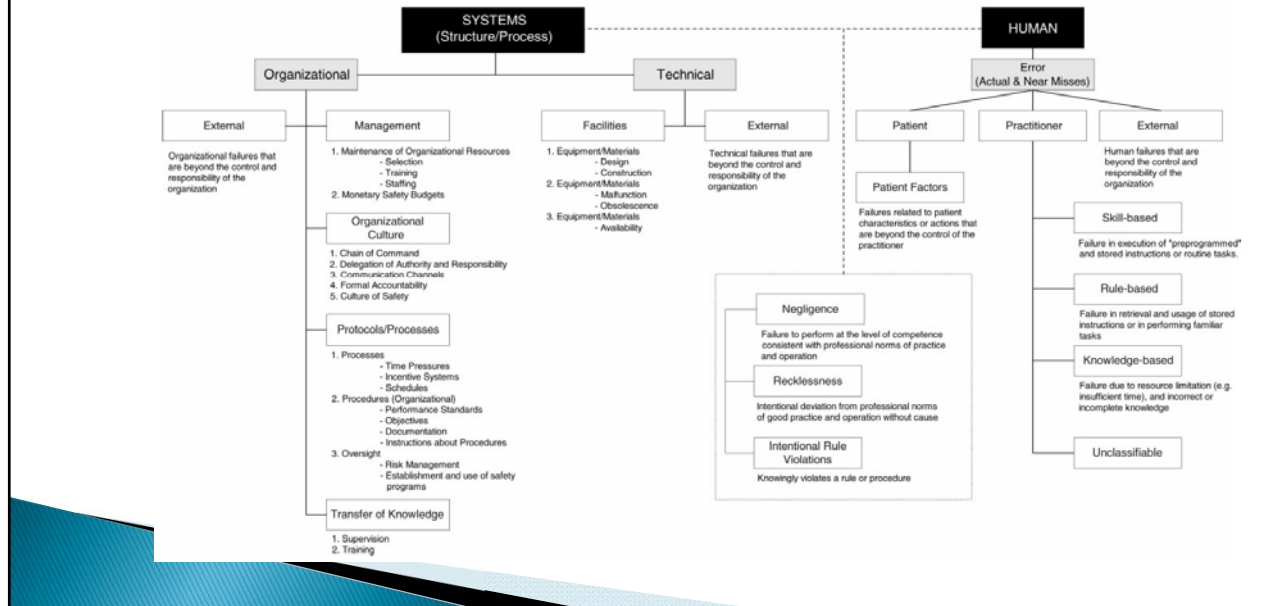
WHERE: Location/Setting (DOMAIN)
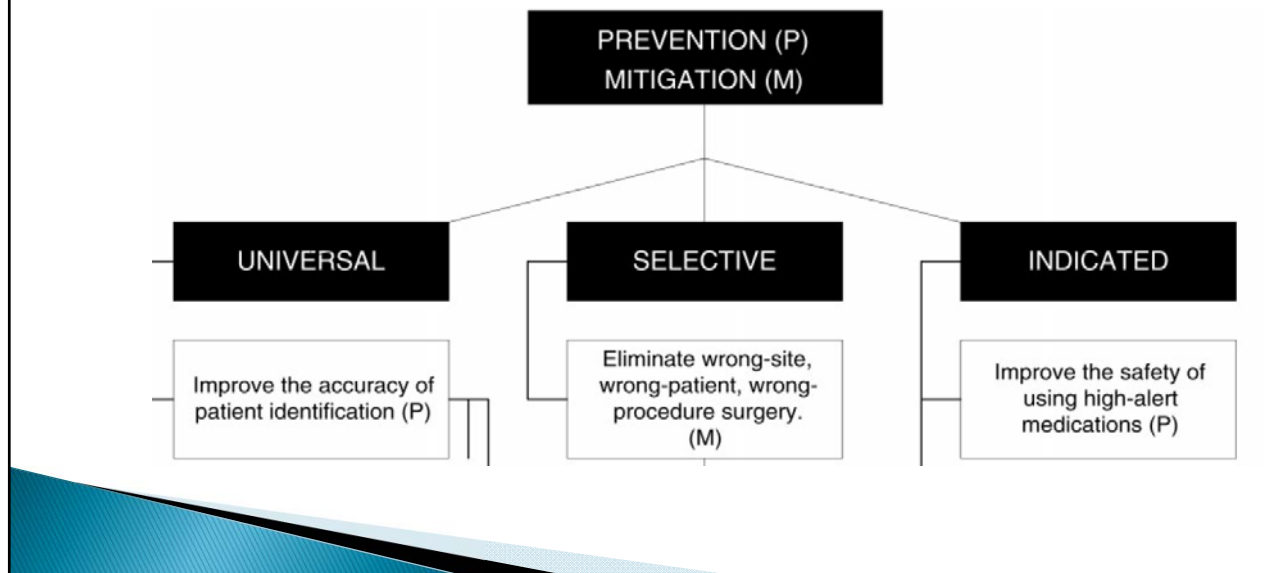
WHY: Harm of Event (IMPACT)

95%   IMPACT

MEDICAL ———————————————— NON-MEDICAL

Psychological | Physical | Legal | Social | Economic

I. No Harm and No Undetectable Harm
Sufficient information or able to determine that no harm occurred

II. No Detectable Harm
Insufficient information or unable to determine any harm

III. Mild-Temporary Harm
Requires little or no intervention

IV. Mild-Permanent Harm
Requires initial but not prolonged intervention

V. Moderate-Temporary Harm
Requires initial but not prolonged hospitalization

VI. Moderate-Permanent Harm
Requires intensive but not prolonged hospitalization

VII. Severe-Temporary Harm
Requires intervention necessary to sustain life but not prolonged hospitalization

VIII. Severe-Permanent Harm
Requires intervention necessary to sustain life and prolonged hospitalization or long-term care

IX. Profound Mental Harm

IX. Death

Degree of Harm

WHY: Communication, Patient Management, Clinical Performance (TYPE)

TYPE

Level 1 — Communication
- Inaccurate & Incomplete Information
- Questionable Advice or Interpretation
- Questionable Consent Process
- Questionable Disclosure Process
- Questionable Documentation

Level 2 — Patient Management
- Questionable Delegation
- Questionable Tracking or Follow-up
- Questionable Referral or Consultation
- Questionable Use of Resources

Level 3 — Clinical Performance

Pre-Intervention
- I. Correct Diagnosis, Questionable Intervention
- II. Inaccurate Diagnosis
- III. Incomplete Diagnosis
- IV. Questionable Diagnosis

Intervention
- I. Correct Procedure, With Complication
- II. Correct Procedure, Incorrectly Performed
- III. Correct Procedure, But Untimely
- IV. Omission of Essential Procedure
- V. Procedure Contraindicated
- VI. Procedure Not Indicated
- VIII. Wrong Patient

Post-Intervention
- I. Correct Prognosis
- II. Inaccurate Prognosis
- III. Incomplete Prognosis
- IV. Questionable Prognosis

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WHY: System or Human (FACTORS)

HOW (to fix it): Actions (MITIGATION/PREVENTION)

Traumafying
The Joint Commission Taxonomy

- Do PI the way you have always done PI
- Events act as triggers for case review:
  ◦ Deaths
  ◦ Other non-discretionary events (specific complications, NTDB)
  ◦ Classify the relevant factors for the event using the TJC taxonomy
  ◦ Define cut offs for Primary, Secondary and Tertiary Review
- Develop computerized application to enhance ease of use
  ◦ Import NTDS complications as baseline sentinel events
  ◦ Allow users to add additional sentinel event types

'Issue Evaluation Screen'

The Joint Commission Culture of Safety "Taxonomy"

- ‣ Terminology
- ‣ Science of classification

‣ Identification and classification of things that:
  - ➢ go wrong in trauma care
  - ➢ reasons why they occur
  - ➢ preventative strategies to minimize future occurrences

Taxonomy Building Blocks and Scope

- ‣ Building blocks
  - ◦ Common definitions and classifications
  - ◦ Unambiguous and translatable terminology
- ‣ Scope
  - ◦ Comprehensive classification tool
  - ◦ Applicable to all health care delivery settings
  - ◦ Includes multiple levels of patient harm
  - ◦ Addresses sentinel or serious events, adverse events, no-harm events, near misses or close calls, and potential events

Integrating Culture of Safety Taxonomy in Trauma Performance Improvement Software

Benefits

- Ease of Use
- Familiar format
- Consistent data dictionary
- Enhanced data collection
- Classification will better target actions

Risks

- 'Traumafying' data dictionary
- Software Development cycle
- Distribution
- Steep learning curve for users
- Training and Support

Implement PI Taxonomy for Discretionary Events

Events

- Deaths
- Sentinel events
- NTDB complications
- User defined filters

Triage Events: Based on Impact (Degree of Harm)

- 1º review and close
- 2º review
  - Review, close or triage to 3º review
  - Classify impact, type, and factors
  - Develop corrective actions
- 3º review
  - Review
  - Classify impact, type, and factors
  - Develop corrective actions
- 4º review
  - External
  - Hospital Quality

Integrating PI Taxonomy into your Trauma Performance Improvement Plan

➢ List your audit filters- adult filters, pediatric filters, CPG tracking filters and complications

➢ Each audit filter, complication, event should be graded with a degree of harm

➢ Based upon you plan, certain items are 'triaged' to a higher level of review

Pitfalls in Trauma Resuscitation : Pitfall # 2

Underdeveloped
Performance Improvement Plan

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Integrating PI Taxonomy into the Trauma Performance Improvement Plan

◦ PI plan should include guidance on
- Levels of review
- Who can close the loop at which level of review

- Definition of type of events that can be handled at lowest level of review
- Definition of type of events that must be taken to the highest level of review
- Which corrective actions are 'mitigation' versus 'preventive'

Trauma Performance Improvement Process Reports

▸ Trauma PI Process should be able to identify
  ◦ Highest incidence/rate of complications/events (top 5) in the program
  ◦ Factors which contributed to those events
  ◦ Highest (top 5) outlier (benchmarking report) complications/events

WHERE: Location/Setting (DOMAIN)

DOMAIN

Setting/Location	1	Resuscitation Room	Service/Staff	1	Trauma
				8	Emergency Medicine
Phase of Care	2	Resuscitation	Target/Goal of Care	2	Diagnostic

- Domain is simply:
  - Event setting in the hospital, pre-hospital, radiology
  - Service or staff member involved
  - Patient information is already captured in the trauma registry in other areas
  - Phase of care or Target in which the event occurred such as resuscitative, operative, acute care

DOMAIN

SETTING

Hospital	Practitioner Office	Ambulatory Care Clinic	Nursing Home

- Emergency Dept.
- Skilled Nursing Facility
- Clinical Laboratory
- Psychiatric Unit
- Pharmacy
- Interventional Radiology
- Outpatient Behavioral Health

- Ambulatory Care
- OR
- Diagnostic Procedures
- Rehabilitation
- Hospice
- Cath. Lab
- Other

- Home
- Hospice
- Rehabilitation Facility
- Mental Health Facility
- Long Term Care Facility
- Psychiatric Hospital

STAFF

Physician-Intern/ Resident	Nurses Aide	Pharmacist
Physician	Nurse-LPN	Pharmacy Technician
Dentist	Nurse-RN	Radiation Technician
Psychologist	Nurse Practitioner	Optometrist
Chiropractor	Physical Therapist	Other
Podiatrist	Occupational Therapist	
Physician Assistant	Speech Therapist	
Health Profession Student		
Other Caregiver		

PATIENT

- Age
- Gender
- Diagnosis
- Coexisting conditions
- Duration of disease
- Social economic status
- Education level
- Race and Ethnicity
- Other

TARGET

- Therapeutic
- Diagnostic
- Rehabilitative
- Preventive
- Palliative
- Research
- Cosmetic
- Other

Event Information

Record   Edit   Browse

		Legacy
Event		
Occurrence Date	Identified Date	Source of Information

DOMAIN

		Related Provider/Practitioner
Setting/Location		
Service/Staff		
Phase of Care		
Target/Goal of Care		

IMPACT   **TYPE**

		Type
Physical		
Psychological		
Social		
Economic		
Legal		

FACTORS

Factors	Meetings/Reviewed By	Level	Date

System   Provider/Practitioner   Patient   Comments

Determination   Acceptability   Grade

ACTIONS

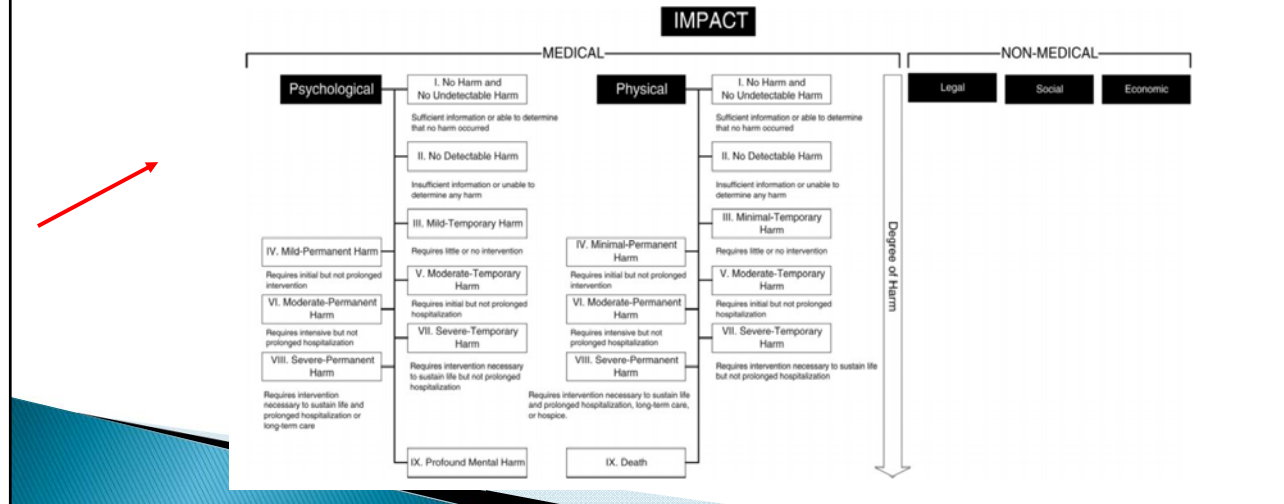| Corrective Action	Prevention/Mitigation	Scope	Status	Completed

Action Details   Loop Closure Status   Loop Closure Date   Add Reminder to Calendar

✓ Check   ✓ OK   ✗ Cancel

1 of 1

WHY: Impact (Harm) of Event

IMPACT
Physical	9	Death
Psychological		
Social		
Economic		
Legal	1	Referred To Risk Management

IMPACT

MEDICAL — NON-MEDICAL

Psychological

I. No Harm and No Undetectable Harm
Sufficient information or able to determine that no harm occurred

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IX. Profound Mental Harm

Physical

I. No Harm and No Undetectable Harm
Sufficient information or able to determine that no harm occurred

II. No Detectable Harm
Insufficient information or unable to determine any harm

III. Minimal-Temporary Harm
Requires little or no intervention

IV. Minimal-Permanent Harm
Requires initial but not prolonged intervention

V. Moderate-Temporary Harm
Requires initial but not prolonged hospitalization

VI. Moderate-Permanent Harm
Requires intensive but not prolonged hospitalization

VII. Severe-Temporary Harm
Requires intervention necessary to sustain life and prolonged hospitalization, long-term care, or hospice.

VIII. Severe-Permanent Harm

IX. Death

Degree of Harm

Legal   Social   Economic

Impact (Harm) of Event

- Harm is defined as *injury, suffering, disability or death*.
- The patient safety incident can have an impact on the patient at various levels, from **Mild** right through to the **Death** of one or more patients.

https://www.eforms.nrls.nhs.uk/staffreport/help/ALL/Dataset_Question_References/Patient_details/Individual_patient/Impact_on_patient/PD09.htm

Impact (Harm of Event)
Reduced Complications Mean Lower Cost

Reduced complications mean lower costs.

High Cost of Complications	
Acute Renal Failure	$28,359
Acute Respiratory Failure	$28,218
Blood Sugar Uncontrolled	$11,797
Cardiac Arrest	$15,079
DVT	$10,804
PE	$16,644
Pneumonia	$22,097
SSI	$27,631
Sepsis	$38,978
Unplanned Intubation	$21,025
Ventilator > 48 hours	$27,654

Complications can raise the median cost of hospitalization for major surgical procedures by up to five-fold.[2] On average, a major surgical complication generates $11,626 in extra costs, according to a study by the University of Michigan.[3] But the cost can be even higher – as this chart shows. As payers implement pay-for-performance programs and deny reimbursement for preventable complications and readmissions, these costs often fall on the hospital.

Preventing just 15 complications a year covers the full cost of participation in ACS NSQIP. For most hospitals, this can be achieved in just one month.

Differentiating Levels of Harm

1. <u>None</u> – Event occurred but did not reach patient
2. <u>None Detected</u> – patient outcome is not symptomatic or no symptoms detected and no treatment is required
3. <u>Mild Temporary</u> – patient outcome is symptomatic, symptoms are mild, loss of function or harm is minimal or intermediate but short term, and no or minimal intervention (e.g., extra observation, investigation, review or minor treatment) is required
4. <u>Mild Permanent</u> – requires initial but not prolonged intervention
5. <u>Moderate Temporary</u> – patient outcome is symptomatic, requiring intervention (e.g., additional operative procedure; additional therapeutic treatment), an increased length of stay, or causing permanent or long term harm or loss of function
6. <u>Moderate Permanent</u> – Requires intensive but not prolonged hospitalization
7. <u>Severe Temporary</u> – Requires intervention necessary to sustain life but not prolonged hospitalization
8. <u>Severe Permanent</u> – patient outcome is symptomatic, requiring life-saving intervention or major surgical/medical intervention, shortening life expectancy or causing major permanent or long term harm or loss of function
9. <u>Death</u> – on balance of probabilities, death was caused or brought forward in the short term by the incident

Impact: Degree of Harm
Mild

‣ Any unexpected or unintended incident that required extra observation or minor treatment and caused minimal harm to one or more persons.

‣ Examples

Perforation of the bowel during surgery, that was repaired at the time and the area was appropriately washed out. Only antibiotic treatment is required.

A patient is given someone else's medication. The medication is the same as they normally take, but at a slightly higher dose, and they need to go to bed earlier due to drowsiness.

Continuing treatment with warfarin without monitoring clotting levels, which results in prolonged clotting times, and in turn causes bruising.

An ambulance crew are called to a patient at home who has fallen and is SOB. On arrival they decide to administer oxygen, and are then told the patient has had a laryngectomy. There are no laryngectomy masks on the vehicle so the crew have to attempt to oxygenate the patient using a face mask over the stoma. On arrival in ED the patient's oxygen saturation levels have dropped from 92% to 85%.

Blood is given to the wrong patient and causes a minor rash and temporary rise in temperature.

WHY: Impact (Harm) of Event

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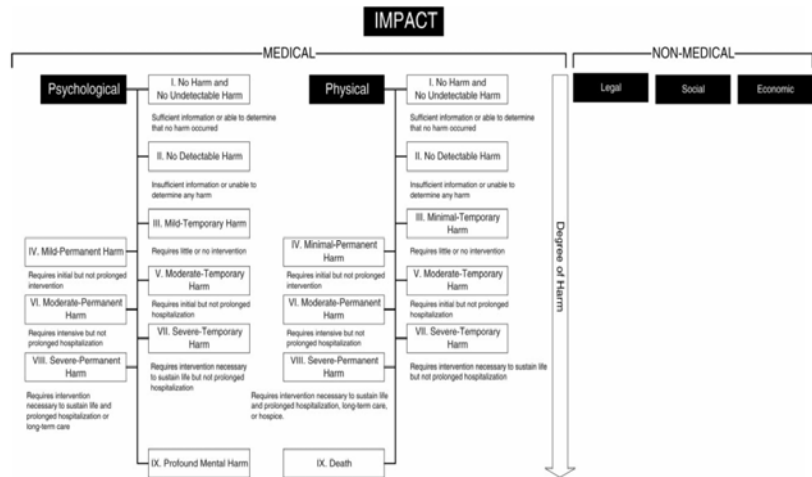
Impact: Degree of Harm
Moderate

▸ Any unexpected or unintended incident that resulted in further treatment, possible surgical intervention, cancelling of treatment, or transfer to another area, and which caused short-term harm to one or more persons.

▸ Examples

Perforation of the bowel during surgery was not picked up at the time. It results in septicemia and a return to OR for repair.

A patient is given someone else's medication. The medication is stronger than their own and they suffer prolonged drowsiness for a week. The patient needs frequent observation of their respiratory rate.

Continuing treatment with warfarin without monitoring clotting levels, which results in an overdose and bleeding problems.

An ambulance crew are conveying a patient from the ambulance to ED on stretcher. The patient is left unattended for a short period and the stretcher bed tips over. The patient suffers short-term loss of consciousness and needs to be admitted to hospital for observation. There is no longer-term head injury.

Wrong blood is given to a patient, resulting in temporary renal failure.

WHY: Impact (Harm) of Event

17
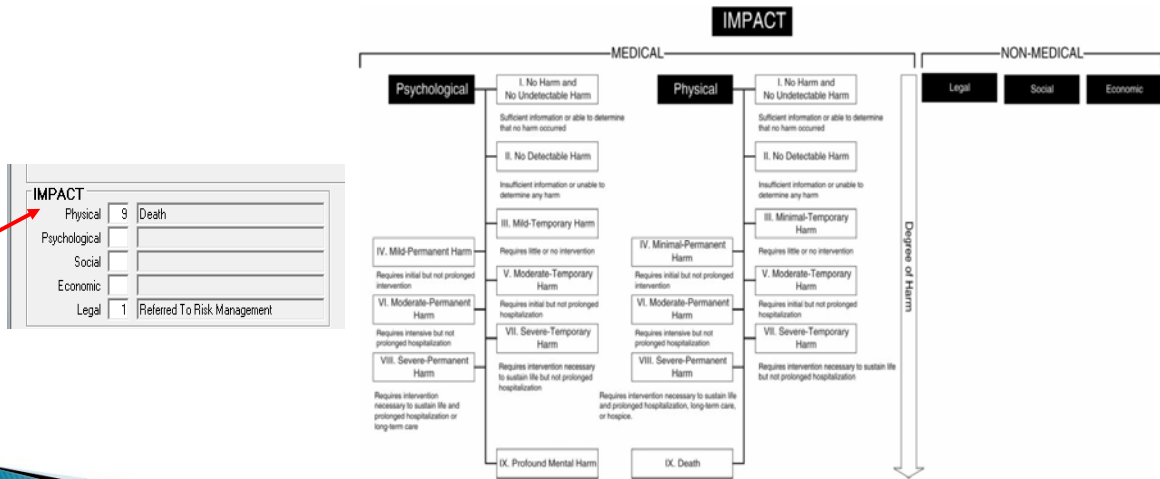
Impact: Degree of Harm
Severe

- Any unexpected or unintended incident that caused permanent or long-term harm to one or more persons.

▶ Examples

Perforation of the bowel during surgery, requiring a temporary colostomy and subsequent major operations.

A patient is given someone else's medication. They have an allergic reaction to it, have a cardiac arrest and suffer brain damage as a result of receiving the medication.

Continuing treatment with warfarin without monitoring clotting levels, which results in a brain hemorrhage and brain damage.

An ambulance is called to a patient who has fallen from scaffolding. On arrival the patient is conscious but lying awkwardly, with a leg that is clearly fractured and twisted. Before carrying out a full assessment or immobilizing the cervical spine, the crew reposition the patient to straighten the leg. After repositioning, the patient is unable to move any of their limbs, and later investigations identify that they have a cervical fracture and spinal cord damage. The spinal cord was, however, immobilized immediately after repositioning. The patient is left with long-term paralysis from the neck down.

Wrong blood is given to a young woman, who then develops anti-D antibodies that will affect any future pregnancy.

WHY: Impact (Harm) of Event
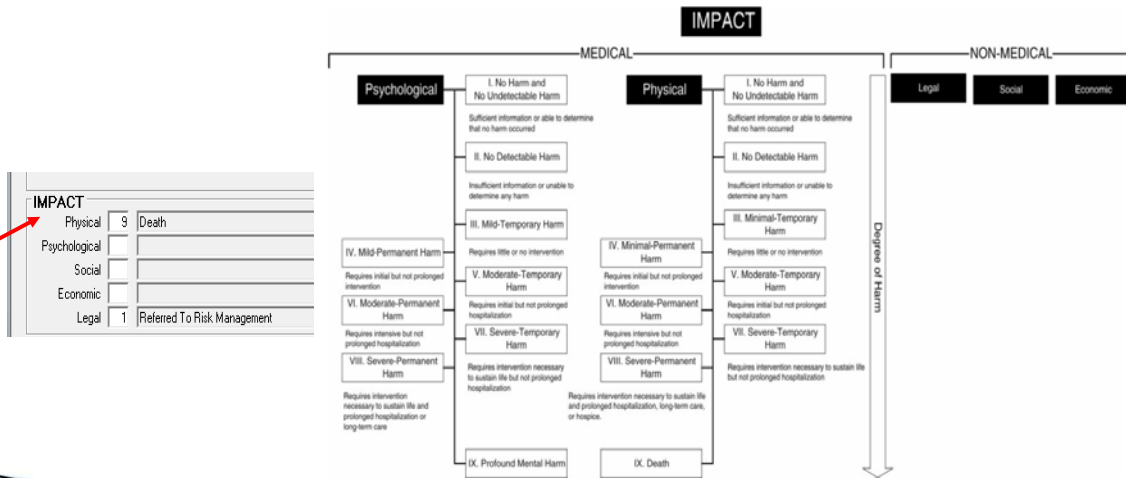
Impact: Degree of Harm
Death

- Any unexpected or unintended event that caused the death of one or more persons.

▸ Examples

Death as a direct consequence of perforation of the bowel during surgery.

A patient is given someone else's medication. They have an allergic reaction to it, have a cardiac arrest and die as a result of receiving the medication.

Continuing treatment with warfarin without monitoring clotting levels, which results in a brain hemorrhage and death.

An ambulance responding to an emergency call on blue lights goes through red traffic lights at an intersection. A car approaching the intersection has a green light, does not see the ambulance and attempts to cross. The ambulance is unable to stop and hits the car on the driver's side. The driver of the car suffers multiple injuries and later dies in hospital.

Wrong blood is given to a patient resulting in multi-organ failure and death.

Examples: Impact: Degree of Harm
Pneumonia ($22,097)

Degree	Example
Mild	short term antibiotic therapy required
Moderate	increase in oxygen requirement, prolongation of hospital stay, transfer to higher level of care, central line for longer term IV antibiotics needed, MRSA or other multi-drug resistant organism
Severe	intubation, death, invasive procedure needed (chest tube, thoracentesis, VATS)

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Examples: Impact: Degree of Harm
Deep Vein Thrombosis ($10,804)

Degree	Example
Mild	incidental diagnosis, line related/provoked
Moderate	symptomatic (pain, swelling), prolongs hospital stay, mid-term treatment duration
Severe	causes escalation of care, results in invasive procedure (including IVC filter placement), results in complication of anticoagulation, results in PE

Examples: Impact: Degree of Harm
ARDS ($26,218)

Degree	Example
Minimal	N/A
Moderate	increased oxygen requirement, non-invasive ventilation strategies (CPAP, BiPAP), prolongs hospital stay, admission to higher level of care, non-ICU (stepdown or progressive care unit)
Severe	increased oxygen requirement, non-invasive ventilation strategies (CPAP, BiPAP), prolongs hospital stay, admission to higher level of care, non-ICU (stepdown or progressive care unit)

Examples: Impact: Degree of Harm
Decubitus Ulcer ($37,800)

Degree	Example
Minimal	N/A (NTDB requires decubitus ulcers – pressure sores – reported at a minimum of stage 2. At stage 2 a decubitus ulcer has gone past the mild definition
Moderate	requires specialized wound management that increases hospital stay but does not require transfer to a higher level of care
Severe	systemic complications from wound including sepsis which requires transfer to a higher level of care. May include complication of sepsis which may lead to death.

Examples: Impact: Degree of Harm
UTI ($1,007)

Degree	Example
Minimal	mild or asymptomatic, does not prolong hospitalization
Moderate	results in complex urinary infection (pyleonephritis), prolongs hospital stay, catheter associated
Severe	urosepsis, change in level of care required, death

Examples: Impact: Degree of Harm
PE ($16,644)

Degree	Example
Minimal	incidental finding, asymptomatic, no change in status required
Moderate	increased oxygen requirement, prolongs hospital stay
Severe	associated with severe DVT, requires intervention (filter, embolectomy) or change in level of care, intubation, death

Examples: Impact: Degree of Harm
Acute Kidney Injury/Acute Renal Failure ($28,359)

Degree	Example
Minimal	asymptomatic elevation in creatinine, oliguria requiring IV fluid bolus, does not prolong hospital stay
Moderate	consultation with nephrology, close/serial monitoring of electrolytes, modification of medication dosing, dietary changes needed
Severe	escalation of care to ICU level, dialysis needed, treatment for hyperkalemia or uremia needed, associated with liver failure, death

Examples: Impact: Degree of Harm
Myocardial Infarction ($5,463)

Degree	Example
Minimal	Uncomplicated clinical course with resolution of symptoms with minimal therapy leading to full recovery and limited lifestyle changes.
Moderate	NSTEMI or other symptoms that require non-invasive intervention or invasive intervention but leads to good recovery with minimal lifestyle changes and return to previous functional status
Severe	STEMI that requires invasive intervention, results in cardiac arrest or other complications (i.e. stroke, anoxic brain injury, CHF, cardiogenic shock, etc...), or leads to long term debilitation or inability to return previous functional status.

Examples: Impact: Degree of Harm
Cardiac Arrest ($15,079)

Degree	Example
Minimal	N/A
Moderate	Were pulseless (PEA) requiring CPR or received defibrillation or other electrical/chemical intervention.
Severe	Required pacing to restore circulation or leads to death or other permanent complications (anoxic brain injury, stroke, etc...)

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Examples: Impact: Degree of Harm
Unplanned Intubation ($21,025)

Degree	Example
Minimal	N/A
Moderate	event occurs >24 hours after admission or >72 hours after extubation
Severe	event occurs after initial trauma resuscitation but <24 hours from admission, results in mechanical ventilation >72 hours, requires tracheostomy

Examples: Impact: Degree of Harm
Unplanned Return to OR

Degree	Example
Minimal	minimal procedure unrelated to primary operation (trach, PEG, line) or minimal procedure due to minimal complication (SSI superficial or deep), does not prolong hospitalization, no change in level of care
Moderate	extends length of hospital stay, organ space infection, opening of organ space due to bleeding without major change in post–operative plan of care or course, no change in level of care
Severe	major operation related to shock, missed injury, major alteration in post–operative care plan, change in level of care

Examples: Impact: Degree of Harm
Unplanned Return to ICU

Degree	Example
Minimal	
Moderate	upgrade to 'step down' or 'progressive care' type unit, event occurs >72 hours after ICU discharge, not requiring Clavien Grade 4 interventions
Severe	event occurs <72 hours after ICU discharge, requires Clavien Grade 4 intervention, prolongs hospitalization

Examples: Impact: Degree of Harm
Acute Alcohol Withdrawal

Degree	Example
Minimal	symptoms such as shaking, anxiety that require only oral medication (including alcoholic beverages) for management. Does not prolong hospital stay.
Moderate	requires IV medications for symptom management. Prolongs hospital stay.
Severe	Requires ICU management for conditions such as acute delirium tremens, electrolyte imbalance, seizures, death.

Payer Pay-For-Performance

- As payers implement pay-for-performance programs and deny reimbursement for preventable complications and readmissions, these costs often fall on the hospital
- Preventing just 15 complications a year covers the full cost of participation in ACS NSQIP
- For most hospitals, this can be achieved in just one month

WHY: Type-Communication, Patient Management, Clinical Performance
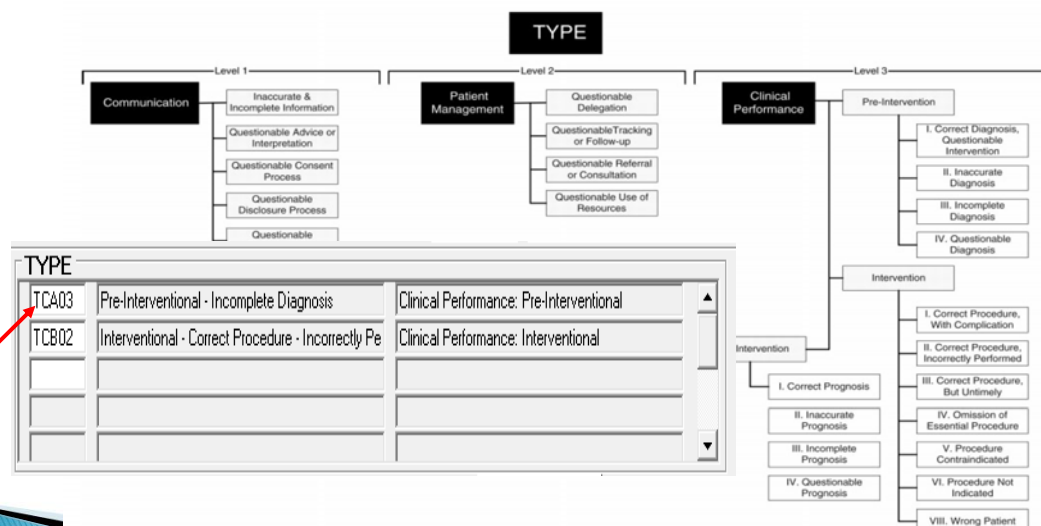
WHY: Factors
System or Human [patient or practitioner]
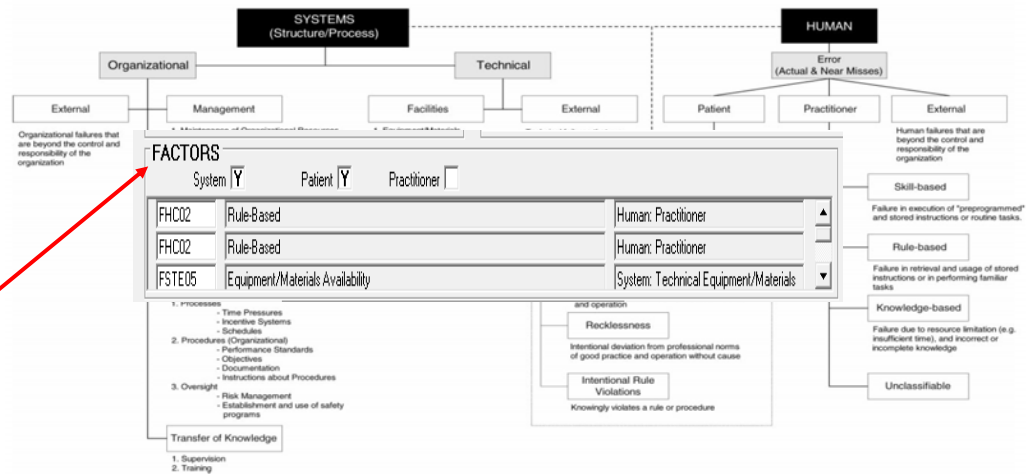
What: Event Identification

- On clinical rounds 'active listening'
- Forum for event identification
- Primary Review of PI events
- Audit Filters, Complications
- Track compliance with CPGs

What: Event Identification

- Plan of care discussed
- Capture events using laptop/tablet
- Summary of discussions
- System issues tackled immediately
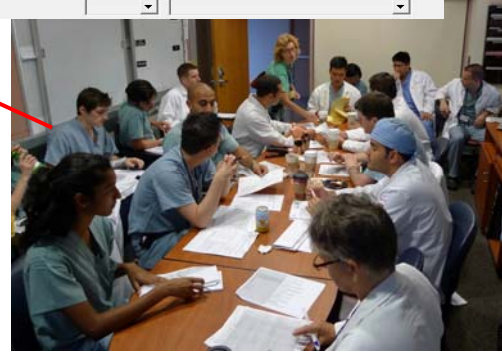
When: Date Identified and/or Date Occurred

—

WHERE: Location/Setting (DOMAIN)

Event Information
Record   Edit   Browse

Event   9003   Delay to Operating Room   Occurrence Date 04/24/2015   Identified Date 05/05/2015
                                                 Source of Information   5   Patient Safety Report

DOMAIN

					Related Provider/Practitioner	
Setting/Location	3	Operating Room	2	Emergency Department		
Service/Staff	1	Trauma	3	Orthopedics	1610	Blatt, Benjamin
Phase of Care	2	Resuscitation			20156	Lundergan, Conor
Target/Goal of Care	2	Diagnostic			8765432	Martin, K PA Neurosurgery

- Domain is simply:
  - Event setting in the hospital, pre-hospital, radiology
  - Service or staff member involved
  - Patient information is already captured in the trauma registry in other areas
  - Phase of care or Target in which the event occurred such as resuscitative, operative, acute care

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Where: Location/Setting (DOMAIN)

DOMAIN

Setting/Location	3	Operating Room	2	Emergency Department
Service/Staff	1	Trauma	3	Orthopedics
Phase of Care	2	Resuscitation		
Target/Goal of Care	2	Diagnostic		

▶ The characteristics of the setting in which an event occurred
▶ May be between to services
▶ May be between to settings
▶ May be between multiple providers

▶ Create queries to get the data out
  ◦ All events in ED
  ◦ All events with Radiology
  ◦ All events on weekends or nights

Who: Patient and Source of Event Identification (DOMAIN)

- Patient: You have entered the patient into your registry
- Unique identifiers in 'Demographics' sets the patient apart
- Source: who reported the event to you?

Event Information

Record   Edit   Browse

Event _____   Occurrence Date ___ 🗓   Identified Date ___ 🗓
Source of Information ___

Related Provider/Practitioner

WHY: Impact (Harm) of Event

IMPACT

Physical	5	Moderate-Temp Harm
Psychological	1	No Harm
Social	/	Not Applicable
Economic	/	Not Applicable
Legal	1	Referred To Risk Management
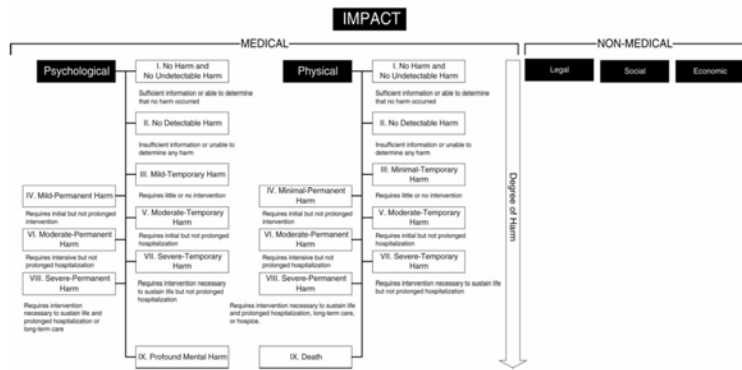
IMPACT

WHY: Type—Communication, Patient Management, Clinical Performance
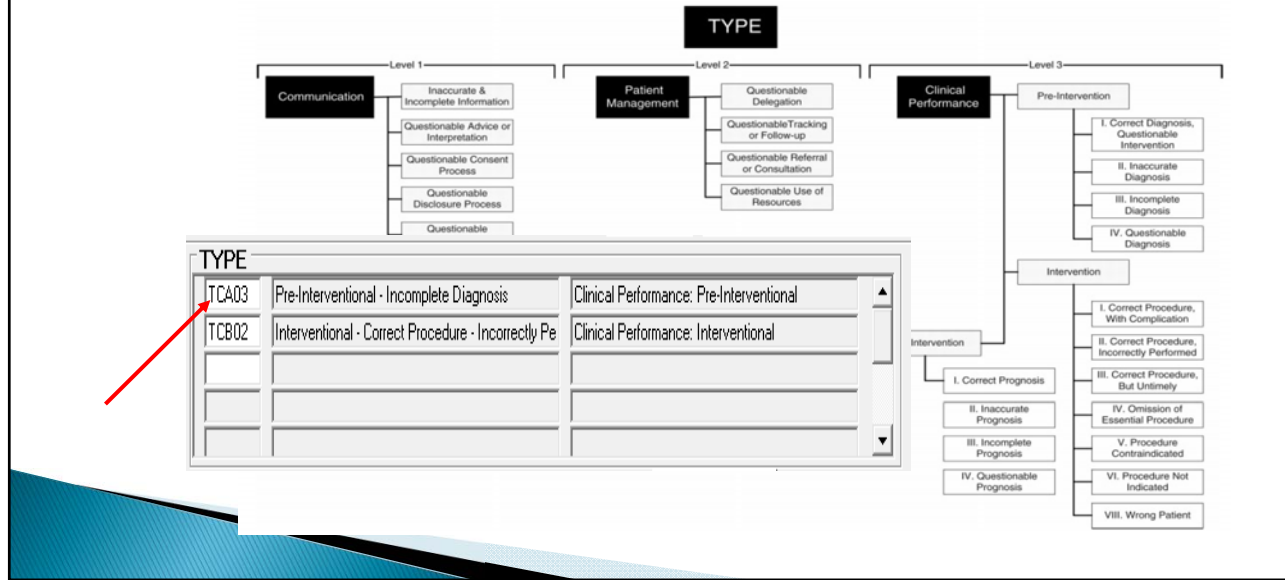
WHY: Factors
System or Human [patient or practitioner]
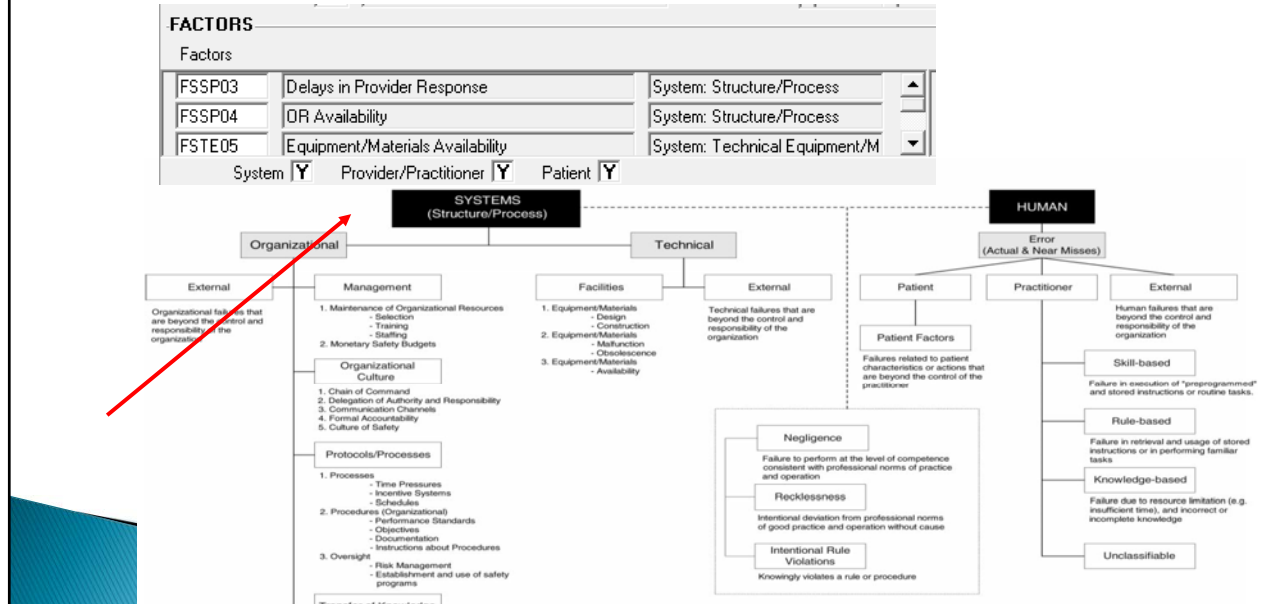
How (to fix it): Levels of Review

- Primary
  - TPM or designee
  - May give feedback and close
- Secondary
  - TMD or designee
  - May give feedback and close
- Tertiary
  - Must be multidisciplinary, Must be peer r...
  - Review efficacy, efficiency and safety of...
- Quaternary
  - Hospital Quality
  - External Peer Review

How (to fix it): Corrective Actions

How (to fix it): Corrective Actions

How (to fix it): Corrective Actions

- Continuous cycle of action
- Actions noted in minutes must h
  implementation and evaluation f
- Date of action must be noted
- Create report to view the 'status'
  - Active
  - Pending
  - Closed Tagged for follow up
  - Closed
- The report will keep you up to da
- Review at a weekly Secondary Re

HOW (to fix it): Actions (Mitigation/Prevention)

HOW (to fix it): Loop Closure and Follow up

DI Report Writer
Insert Taxonomy Fields into User Reports

- Add taxonomy fields to data table reports
- Use 'impact' (degree of harm) as a Query to find moderate to severe impact events
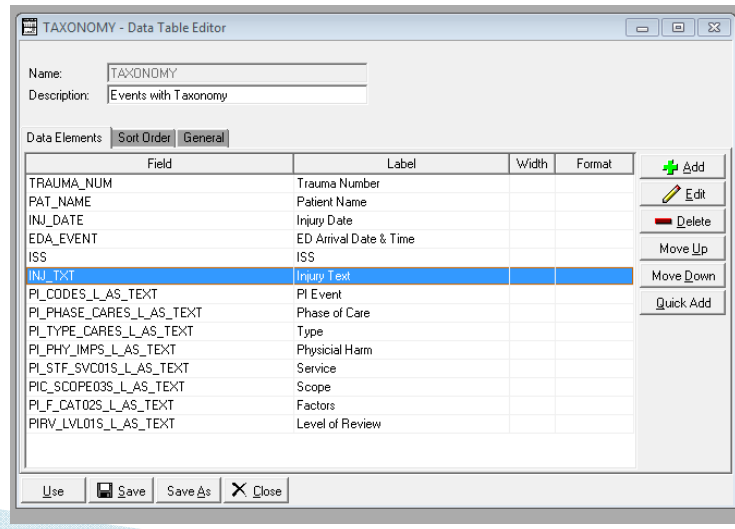
Let's practice

CASE #1

‣ **Elderly male with multiple medical problems and prolonged time in OR for fixation of fractures**
‣ 78-year-old-male who fell down stairs at home. History of atrial fib, on Coumadin, and COPD. Sustained fractures of radius and ulna, shoulder, and hip. Also had change in mental status with cerebral edema on CT.   Admitted to general surgery service. Taken by orthopedics to OR on night of admission. Had 5 hours in OR for multiple orthopaedic procedures. Intermittently unstable in OR. High blood loss, coagulopathic, required transfusions in OR. Postoperatively, developed pneumonia, sepsis and expired on post-operative day 5.

Event:_____

‣ **DOMAIN:**
‣ Setting:
‣ Service:
‣ Phase of Care:
‣ Target of Care:
‣ Provider/Practitioner

‣ **IMPACT:**
‣ Impact-Physical:
‣ Impact-Psychological:
‣ Impact Social:
‣ Impact Economic:
‣ Impact Legal:

‣ **TYPE:**
‣ Communication:
‣ Patient Management:
‣ Clinical Performance:
‣ **FACTORS:**
‣ **MEETING/LEVEL OF REVIEW:**
‣ Determination:
‣ Acceptability:
‣ Grade:

• **ACTIONS:**
• Corrective Action:
• Prevention/Mitigation:
• Scope:
• Status:

Case #2

- Multi-system organ failure after head and abdominal injury
- 56-year-old male. Motor vehicle crash. Approximately 45 minutes between event and arrival at ED. Arrival BP: 80/60; GCS 5. This patient was intubated in the ED upon arrival. He was administered crystalloid and blood for a systolic blood pressure of 60. A FAST was positive at approximately 20 minutes into his time in the ED. CT of the head showed subarachnoid hemorrhage. He underwent a laparotomy 11 hours after arrival in the ED. This revealed 300 cc of blood. He underwent a splenectomy and placement of a chest tube. There was also note of a pelvic haematoma. In the ICU, he subsequently developed liver failure, renal failure and ARDS. He expired on day 15.   An autopsy revealed 400 cc of serous pericardial effusion.

Event:_____

- DOMAIN:
- Setting:
- Service:
- Phase of Care:
- Target of Care:
- Provider/Practitioner
- IMPACT:
- Impact-Physical:
- Impact-Psychological:
- Impact Social:
- Impact Economic:
- Impact Legal:

- TYPE:
- Communication:
- Patient Management:
- Clinical Performance:
- FACTORS:
- MEETING/LEVEL OF REVIEW:
- Determination:
- Acceptability:
- Grade:

- ACTIONS:
- Corrective Action:
- Prevention/Mitigatio
- Scope:
- Status:

Clinical Science

Classifying errors in preventable and potentially preventable trauma deaths: a 9-year review using the Joint Commission's standardized methodology

CrossMark

Sandra M. Vioque, M.D.[a], Patrick K. Kim, M.D., F.A.C.S.[b], Janet McMaster, M.H.S.A., R.N.[b], John Gallagher, M.S.N., C.C.N.S., C.C.R.N.[b], Steven R. Allen, M.D., F.A.C.S.[b], Daniel N. Holena, M.D., F.A.C.S.[b], Patrick M. Reilly, M.D., F.A.C.S.[b], Jose L. Pascual, M.D., Ph.D., F.R.C.S(C)., F.A.C.S.[b,*]

[a]Department of Surgery, Parc Taulí Hospital, Sabadell, Barcelona, Spain; [b]Division of Traumatology, Surgical Critical Care & Emergency Surgery, University of Pennsylvania Perelman School of Medicine, Philadelphia, PA, USA

Abstract

BACKGROUND: Benchmarking and classification of avoidable errors in trauma care are difficult as most reports classify errors using variable locally derived schemes. We sought to classify errors in a large trauma population using standardized Joint Commission taxonomy.

METHODS: All preventable/potentially preventable deaths identified at an urban, level-1 trauma center (January 2002 to December 2010) were abstracted from the trauma registry. Errors deemed avoidable were classified within the 5-node (impact, type, domain, cause, and prevention) Joint Commission taxonomy.

RESULTS: Of the 377 deaths in 11,100 trauma contacts, 106 (7.7%) were preventable/potentially preventable deaths related to 142 avoidable errors. Most common error types were in clinical performance (inaccurate diagnosis). Error domain involved primarily the emergency department (therapeutic interventions), caused mostly by knowledge deficits. Communication improvement was the most common mitigation strategy.

CONCLUSION: Standardized classification of errors in preventable trauma deaths most often involve clinical performance in the early phases of care and can be mitigated with universal strategies.
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Summary

- **Do PI the way you have always done PI**
- Events act as triggers for case review:
  - Deaths
  - Other non-discretionary events (specific complications NTDB)
  - Classify the relevant factors for the event using the TJC taxonomy
  - Define cut offs for Primary, Secondary and Tertiary Review
- Develop computerized application to enhance ease of use
  - Import NTDS complications as baseline sentinel events
  - Allow users to add additional sentinel event types