HOSTA LEG

SUDBURY HOSPITALIST LOCAL EDUCATION GROUP

Dr. Jennifer Zymantas

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Disclosure

Relationships with commercial interests:

- **Honoraria:** Moderator for Pfizer

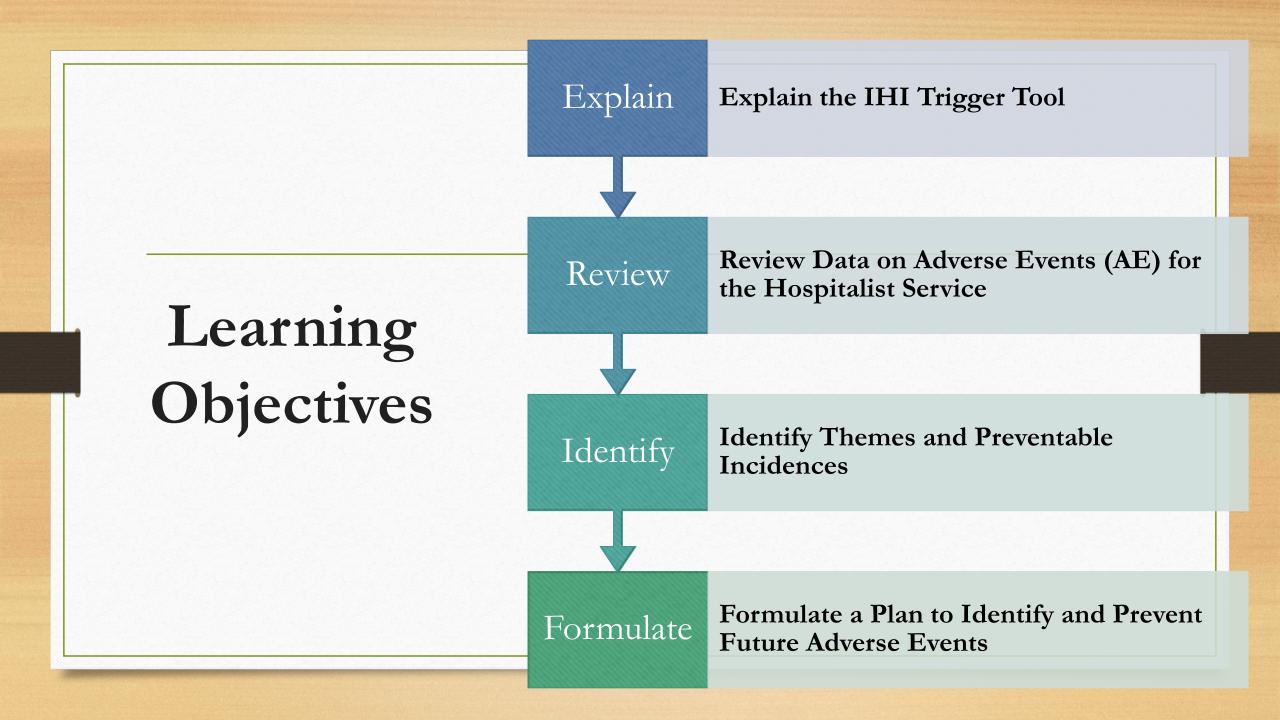- February 2020 and September 2022

Learning from our Trigger Tool:
Adverse Events

Trigger Tool

- Retrospective review of a random sample of patient records using "triggers" (or clues) to identify possible adverse events.

- Find cases to present at our Morbidity and Mortality Rounds (M&M Rounds)

Learning Objectives

Explain — Explain the IHI Trigger Tool

Review — Review Data on Adverse Events (AE) for the Hospitalist Service

Identify — Identify Themes and Preventable Incidences

Formulate — Formulate a Plan to Identify and Prevent Future Adverse Events
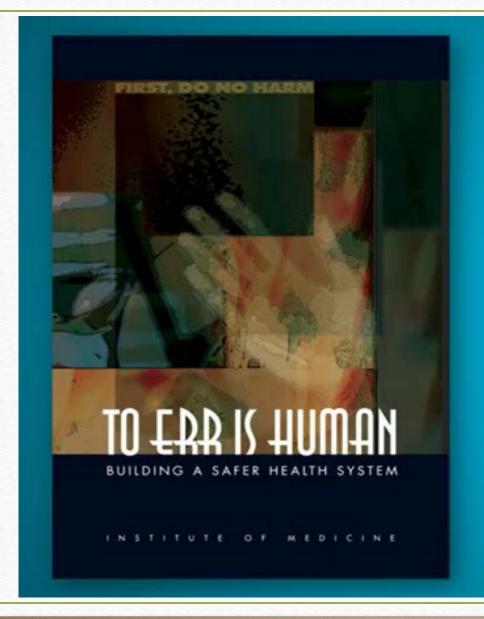
Detecting Adverse Events (AE)

Traditionally

- Voluntary reporting
- Tracking of errors
- Coding Systems

Public Health Researchers

- only 10 - 20% errors reported
- 90 - 95 % → cause no harm to patients

Hospitals → more effective

- Identify events cause harm to patients
- Quantify the degree and severity of harm
- Select and test changes to reduce harm

"At least 44,000 people, and perhaps as many as 98,000 people, die in hospitals each year as a result of medical errors that could have been prevented ..."

Boston, Massachusetts

IHI Global Trigger Tool (GTT) for Measuring Adverse Events

- Developed in 2003
- Globally used (multiple countries)
- Translated into many languages
- Hospital based tool
- Adjunct to voluntary reporting
- Address gaps in measuring harm

IHI Global Trigger Tool (GTT) for Measuring Adverse Events

- Stepwise approach
- Screening criteria to guide review of medical record
- Trigger flag → method to further examine details of chart
- Adverse Event found → category of harm

IHI White Papers

IHI Global Trigger Tool (GTT) for Measuring Adverse Events

- Focusses on and includes only those adverse events related to the active delivery of care (commission)

- Includes ALL adverse events:
  - Unintended consequences of medical care
  - Preventable or not

- Adverse events present on admission to the hospital are included

IHI Global Trigger Tool for Measuring Adverse Events Worksheet

Care Module Triggers		+	Event Description and Harm Category (E-I)
C1	Transfusion or use of blood products†		
C2	Code/arrest/rapid response team		
C3	Acute dialysis		
C4	Positive blood culture		
C5	X-ray or Doppler studies for emboli or DVT		
C6	Decrease of greater than 25% in hemoglobin or hematocrit		
C7	Patient fall††		
C8	Pressure ulcers		
C9	Readmission within 30 days		
C10	Restraint use		
C11	Healthcare-associated infection		
C12	In-hospital stroke		
C13	Transfer to higher level of care		
C14	Any procedure complication		
C15	Other†††		

Medication Module Triggers		+	Event Description and Harm Category (E-I)
M1	*Clostridium difficile* positive stool		
M2	Partial thromboplastin time greater than 100 seconds		
M3	International Normalized Ratio (INR) greater than 6		
M4	Glucose less than 2.8 mmol/L		
M5	Rising BUN or serum creatinine > 2 times baseline		
M6	Vitamin K administration		
M7	Benadryl (Diphenhydramine) use		
M8	Romazicon (Flumazenil) use		
M9	Naloxone (Narcan) use		
M10	Anti-emetic use††††		
M11	Over-sedation/hypotension		
M12	Abrupt medication stop		
M13	Other†††		

Surgical Module Triggers		+	Event Description and Harm Category (E-I)
S1	Return to surgery		
S2	Change in procedure		
S3	Admission to intensive care post-op		
S4	Intubation/reintubation/BiPap in Post Anesthesia Care Unit		
S5	X-ray intra-op or in PACU		
S6	Intra-op or post-op death		
S7	Mechanical ventilation greater than 24 hours post-op		
S8	Intra-op epinephrine, norepinephrine, naloxone, or romazicon		
S9	Post-op troponin level greater than 1.5 microgram/L		
S10	Injury, repair, or removal of organ		
S11	Any operative complication		

Intensive Care Module Triggers		+	Event Description and Harm Category (E-I)
I1	Pneumonia onset		
I2	Readmission to intensive care		
I3	In-unit procedure		
I4	Intubation/reintubation		

Adverse Events (brief description)	Category

Emergency Department Module Triggers		+	Event Description and Harm Category (E-I)
E1	Readmission to ED within 48 hours		
E2	Time in ED greater than 6 hours		

† > 6 units considered life saving intervention
†† fall within healthcare facility (no injury = no AE)
††† Adverse event without a trigger
†††† Nausea >24 hours=AE

Patient Identifier: SH#

Total Adverse Events:

Total LOS:

Date of Discharge:

Reviewer Name | Review Date

LEARNING POINTS:

Patient had Foley ☐ Y ☐ N

☐ Goals of Care ☐ Antiplatelet/Anticoagulant ☐ Antibiotic ☐ Med Error

☐ Other _____

Care Module Triggers

- Transfuse or use of blood products
- Code/Arrest/Rapid Response Team
- Positive Blood Culture
- X-ray or Doppler studies for Emboli or DVT
- Patient Fall
- Pressure ulcers
- Restraint use

Medication Module Triggers

- Vitamin K
- Benadryl
- Naloxone (Narcan)
- Anti-emetic use

HOSTA MODIFIED TRIGGER TOOL WORKSHEET
(Based on IHI Global Trigger Tool for Measuring Adverse Events)

Reviewer Name:		Patient ID: SH#:
Reviewer Date:		Discharge Date:
		Total LOS:

	Care Module Triggers	+	Event Description and Harm Category (E-I)		Medication Module Triggers	+	Event Description and Harm Category (E-I)
C1	Transfusion or use of blood products†			M1	*Clostridium difficile* positive stool		
C2	Code/arrest/rapid response team			M2	Partial thromboplastin time greater than 100 seconds		
C3	Acute dialysis			M3	International Normalized Ratio (INR) greater than 6		
C4	Positive blood culture			M4	Glucose less than 2.8 mmol/L		
C5	X-ray or Doppler studies for emboli or DVT			M5	Rising BUN or serum creatinine > 2 times baseline		
C6	Decrease of greater than 25% in hemoglobin or hematocrit			M6	Vitamin K administration		
C7	Patient fall††			M7	Benadryl (Diphenhydramine) use		
C8	Pressure ulcers			M8	Romazicon (Flumazenil) use		
C9	Readmission within 30 days			M9	Naloxone (Narcan) use		
C10	Restraint use			M10	Anti-emetic use††††		
C11	Healthcare-associated infection			M11	Over-sedation/hypotension		
C12	In-hospital stroke			M12	Abrupt medication stop		
C13	Transfer to higher level of care			M13	Other†††		
C14	Any procedure complication						
C15	Other†††						
				Adverse Events (brief description)			**Category**

		LEARNING POINTS:
†	> 6 units considered life saving intervention	
††	fall within healthcare facility (no injury = no AE)	
†††	Adverse event without a trigger	
††††	Nausea >24 hours = AE	

Total Adverse Events: | Patient had Foley ☐ Y ☐ N

☐ Goals of Care   ☐ Antiplatelet/Anticoagulant   ☐ Antibiotic   ☐ Med Error

☐ Other _____

Recommended Review Pattern (20 Min)

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┌────────────────────────────────────────────────┐
│ Discharge codes, particularly infections,       │
│ complications, or certain diagnoses             │
└────────────────────────────────────────────────┘
                      ↓
┌────────────────────────────────────────────────┐
│ Discharge summary (look for the specifics of    │
│ assessment and treatment during the hospital    │
│ stay)                                            │
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│ Medications administration record               │
└────────────────────────────────────────────────┘
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┌────────────────────────────────────────────────┐
│ Laboratory results                              │
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┌────────────────────────────────────────────────┐
│ Prescriber orders                               │
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┌────────────────────────────────────────────────┐
│ Operative record (operative report and          │
│ anesthesia record, if applicable)               │
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┌────────────────────────────────────────────────┐
│ Nursing notes                                   │
└────────────────────────────────────────────────┘
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│ Physician progress notes                        │
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┌────────────────────────────────────────────────┐
│ If time permits, any other areas of the record  │
│ (such as History & Physical, Consult notes, or  │
│ Emergency Department notes)                      │
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Found Something?

Identify and Catergorize

Harm degree index (adapted from NCC MERP, 2001)

Errors not damaging the patient

Category A	Circumstances or events that have the capacity to cause error
Category B	An error occurred but the error did not reach the patient (An "error of omission" does reach the patient)
Category C	An error occurred that reached the patient but did not cause patient harm
Category D	An error occurred that reached the patient and required monitoring to confirm that it resulted in no harm to the patient and/or required intervention to preclude harm

Errors damaging the patient (GTT considers the following categories)

Category E	An error occurred that may have contributed to or resulted in temporary harm to the patient and required intervention
Category F	An error occurred that may have contributed to or resulted in temporary harm to the patient and required initial or prolonged hospitalization
Category G	An error occurred that may have contributed to or resulted in permanent patient harm
Category H	An error occurred that required intervention necessary to sustain life
Category I	An error occurred that may have contributed to or resulted in the patient's death

National Coordinating Council for Medication Error Reporting and Prevention (NCC MERP)

Adverse Event Category of Harm

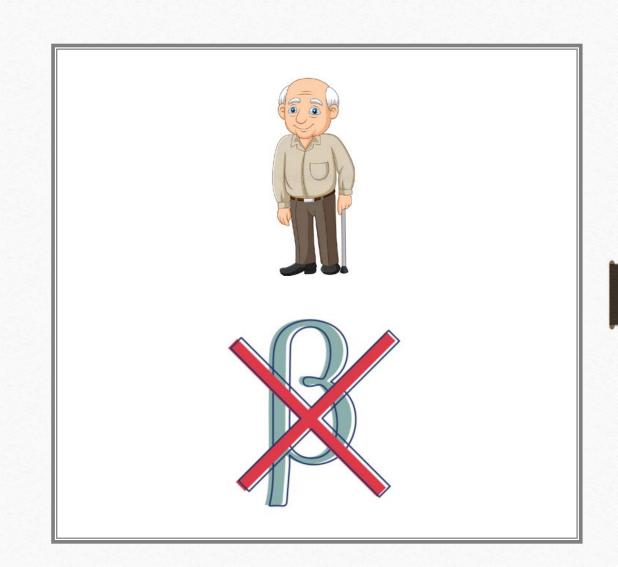| Category	Description
E	Temporary harm to patient and required intervention
F	Temporary harm to patient and required initial or prolonged hospitalization
G	Permanent patient harm
H	Intervention required to sustain life within 1 hour
I	Patient death

M & M Rounds

A Variety of Cases….

Case 1:
Mrs. Back Pain

Case 2: Mr. Beta Blocker

Adverse events in hospitalized patients: a retrospective chart review

Family Medicine Resident

Research Project

Health Care or Medication Associated (61%)	Health Care Associated Infections (19%)	Procedure Related (11%)	Patient Accidents or Falls (9%)

- Opioid induced constipation
- Hypotension
- Hypoglycemia
- AKI

- UTI
- C. diff (CDAD)
- HAP

- AVN
- Wound Infection
- Hematuria → foley insertion req CBI

- Falls

QUESTIONS ?

THANK YOU FOR YOUR TIME