Use of the IHI Global Trigger Tool for Detection of Adverse Events

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Objectives

• Discuss how the use of the GTT can inform the Senior Leadership Team
• Define ‘Harm’
• Describe the history of the IHI Trigger Tool methodology
• Learn how adverse event data can be used to support Patient Safety
An effective way to identify events causing harm

• Traditional efforts to detect Adverse Events have focused on voluntary reporting and tracking of errors
• Public health researchers have established that only 10 to 20 percent of errors are ever reported, and of these 90 to 95 percent cause no harm to patients
Justification for Trigger Tools

• Trigger Tool easily identifies events without complex technology.
• Cost effective method of providing high level information about harm

VGH: % of Admission with at least 1 Adverse Event

M = 35

Review Period
VCH/PHC Quality and Patient Safety Indicators

1. Hospital Standardized Mortality Ratio (HSMR)
2. Adverse Event Rates (using the GTT)
3. Safety Culture Survey (staff and patient)
4. Reported Events/Critical Incidents (SLS/Paper)
5. In-hospital fractures
6. Deaths in Low Mortality CMGs
7. Reported Falls
8. Pharmacy Indicators
9. Infection Control Surveillance Data
Harm Defined

IHI Trigger Tools detect;:

HARM = an adverse event where there is an injury or harm (any unintended consequence) related to the delivery of care

*Includes events of commission, not omission*

Terminology

Adverse Event vs. Error (Roger Resar)

– “Error” implies preventability, and is therefore process-focused

– “Adverse event” describes harm experienced by the patient, and is thus outcome focused
<table>
<thead>
<tr>
<th>Adverse Events (Harm)</th>
<th>Errors</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Concentrates less on people more on systems</td>
<td>• Errors are the focus of discussion and solutions</td>
</tr>
<tr>
<td>• Looks at all unintended results</td>
<td>• Tends to focus only on those results felt to be related to error, ignores other events</td>
</tr>
<tr>
<td>• Makes measurement easier</td>
<td>• Requires judgment</td>
</tr>
<tr>
<td>• Concentrates on harm and those errors that cause harm IHI.org</td>
<td>• Human found responsible for most of the errors</td>
</tr>
</tbody>
</table>
Trigger Tool Practical Use

- Establishes within an institution a baseline of adverse events
- Types of adverse events can be cataloged and prioritized
- Resources can be focused on those events causing the greatest harm
- Affect of interventions can be followed when adverse event rate is measured over time
Background

- Computerized triggers for ADE identification and concurrent intervention (Classen 1990)
- Adverse Drug event trigger tool IHI (1999)
- ICU Adverse event trigger tool plus other subsets (neonatal, perioperative and perinatal) (2002-2005)
- Outpatient trigger tool (2006)

Considered reliable and valid tool for the measurement of adverse events
## Event detection in validation site

<table>
<thead>
<tr>
<th>Tool</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confirmed events detected</td>
<td>171</td>
<td>100</td>
</tr>
<tr>
<td>IHI Global Trigger Tool</td>
<td>160</td>
<td>93.6</td>
</tr>
<tr>
<td>Utah-Missouri abstract code tool</td>
<td>72</td>
<td>42.1</td>
</tr>
<tr>
<td>AHRQ PSI tool</td>
<td>10</td>
<td>5.8</td>
</tr>
<tr>
<td>Voluntary incident reporting</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Indicators from GTT

1. # Adverse events/ 1,000 patient days

2. # Adverse events/100 patient admissions

3. % Admissions with at least one Adverse event
Methodology

**Step 1:** Random selection of records.

**Step 2:** Chart review using a list of “triggers” that have been tested over time e.g. Sudden drop in Hgb, use of Narcan.

**Step 3:** Determine if the positive trigger is an indicator of an adverse event.

**Step 4:** Categorize the adverse events into categories of harm.
Considerations

• 75% of all events will be picked up by both reviewers (the G, H and I events)
• 25% of events will be picked up by one reviewer or the other (E and F)
• Definitions of harm become more standard with two reviewers
Recommended Sequence

Set your timer for 20 minutes and review:
1. Coding summary
2. Discharge summary
3. Laboratory results
4. Medication Administration Record
5. Orders
6. X-ray reports
7. Procedure notes
8. Nurses notes (if time left over)
Modules

• Care
• Surgical
• Medication
• Intensive Care
• Perinatal
• Emergency
<table>
<thead>
<tr>
<th></th>
<th>Cares Module Triggers</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>Transfusion or use of blood products</td>
</tr>
<tr>
<td>C2</td>
<td>Any Code or arrest</td>
</tr>
<tr>
<td>C3</td>
<td>Dialysis</td>
</tr>
<tr>
<td>C4</td>
<td>Positive blood culture</td>
</tr>
<tr>
<td>C5</td>
<td>X-Ray or Doppler studies for emboli</td>
</tr>
<tr>
<td>C6</td>
<td>Abrupt drop of greater than 25% in Hg or Hematocrit</td>
</tr>
<tr>
<td>C7</td>
<td>Patient fall</td>
</tr>
<tr>
<td>C8</td>
<td>Decubiti</td>
</tr>
<tr>
<td>C9</td>
<td>Readmission within 30 days</td>
</tr>
<tr>
<td>C10</td>
<td>Restraint use</td>
</tr>
<tr>
<td>C11</td>
<td>Infection of any kind</td>
</tr>
<tr>
<td>C12</td>
<td>In hospital Stroke</td>
</tr>
<tr>
<td>C13</td>
<td>Transfer to higher level of care</td>
</tr>
<tr>
<td>C14</td>
<td>Any procedure complication</td>
</tr>
<tr>
<td>C15</td>
<td>Other</td>
</tr>
</tbody>
</table>
Category of Harm (from NCC MERP Index)

• E  Temporary harm, intervention required
• F  Temporary harm, initial or prolonged hospitalization
• G  Permanent patient harm
• H  Life sustaining intervention required
• I  Contributing to death
VGH: Adverse Events/ 100 Admissions

Review Period

M = 55
VGH: % of Admission with at least 1 Adverse Event

Review Period
Distribution of Harm

- **E - Temp. Harm & Req'd an Intervention**: 39
- **F - Temp. Harm & Req'd Initial or Prolonged Hospitalization**: 31
- **G - Permanent Patient Harm**: 0
- **H - Intervention Req'd to Sustain Life**: 4
- **I - Patient Death**: 2
- **TOTAL NUMBER**: 76

IHI - GLOBAL TRIGGER TOOL SEVERITY CODES

- Number
- Severity
- TOTAL NUMBER
Targeted Interventions

Targeted interventions based on results:
- eg. UTI/Urosepsis;
- Standards of practice identified
- Protocols developed/implemented

Reduction of sepsis rates also confirmed using Bacteremia database.
Reporting

• Regular reporting to HSDAs
• Regular reporting to SQPM (subcommittee of the Board)
• Next step: Balanced Scorecard for VCH
Comments / Questions