**Objective**

Identify three medication safety indicators in acute care settings for public reporting in Ontario.

**Methodology**

1. Literature Review
   - Broad search of patient safety literature (Medline, Embase, Patient Safety organization websites)

2. Development of selection criteria for indicators:
   - Alignment with current patient safety initiatives in Ontario/Canada
   - Burden of data collection/feasibility
   - Validity/Data quality
   - Actionable
   - Understandable
   - Evidence-based

3. Identification of medication safety indicators
   - 2 analysts independently identified more than 300 medication safety indicators within the documents found from literature search; each indicator was independently assessed according to the selection criteria and ranked
   - List of 300 indicators was narrowed down to 49 indicators

4. Selection of candidate indicators
   - Extensive iterative discussions between the two analysts
   - 12 candidate indicators selected, classified into 3 groups of 4 indicators according to the indicator type (structure, process, outcome indicators)

5. Selection of 3 indicators by an expert focus group and key stakeholders
   - Consensus generation process (modified nominal group technique) involving a group of 17 Ontario healthcare experts from various disciplines
   - Selection of 3 final indicators from the list of 12 candidate indicators after two rounds of discussion and voting

**Results**

The 12 Candidate Indicators (3 selected medication safety indicators highlighted)

<table>
<thead>
<tr>
<th>Structure Indicator Candidates</th>
<th>Process Indicator Candidates</th>
<th>Outcome Indicator Candidates</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Concentrated electrolytes</td>
<td>1. AMI (Acute Myocardial Infarction) discharge medications</td>
<td>1. Top 10 medications</td>
</tr>
<tr>
<td>3. Incident reporting &amp; analysis</td>
<td>3. Antibiotic prophylaxis for surgery</td>
<td>3. Medication Incident Rate</td>
</tr>
<tr>
<td>4. Prospective analysis</td>
<td>4. VTE prophylaxis</td>
<td>4. Deaths associated with medication errors</td>
</tr>
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</table>

**Description of the 3 selected indicators**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Description</th>
<th>Rationale</th>
<th>Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. AMI Discharge Medications</td>
<td>Proportion of patients who have suffered an AMI and were prescribed appropriate medications at discharge (ASA, beta blocker, ACEI/ARB, statin)</td>
<td>Multiple randomized controlled trials establishing the efficacy of ASA, beta blockers, ACEI/ARB and statins for secondary prevention of MI; however, data suggests many patients with AMI were discharged on inappropriate medications</td>
<td>Does not apply to long-term care settings</td>
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<tr>
<td>2. Medication Reconciliation</td>
<td>Proportion of (eligible) patients admitted to hospital with medication reconciliation performed on admission</td>
<td>Errors at patient transition points identified as a significant source of medication incidents; multiple studies showing medication reconciliation reduces unintended medication discrepancies with potential for harm</td>
<td>Does not provide information regarding the quality of the best possible medication history and medication reconciliation</td>
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<tr>
<td>3. VTE Prophylaxis</td>
<td>Proportion of (eligible)** patients who received appropriate VTE prophylaxis (ASA, beta blocker, ACEI/ARB, statin)</td>
<td>Thromboprophylaxis has unequivocally been shown to reduce symptomatic and fatal VTE as well as all-cause mortality, while at the same time, reduce health care costs</td>
<td>May not be applicable to long-term care settings</td>
</tr>
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</table>

**Conclusion**

- There is a need for indicators focused on medication safety. The selected indicators are evidence-based and can be derived from existing and reliable hospital data. They point to important areas in the healthcare system in which deficiencies can result in significant patient harm.

- Medication safety indicators can potentially provide hospitals and healthcare providers with tangible and realistic mechanisms for measuring performance and, ultimately, improving quality of care.

- If clearly defined and communicated with appropriate explanations, they should be understandable by the public, thereby increasing public awareness of the importance of medication safety.

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