

# Identification of Medication Safety Indicators in Acute Care Settings for Public Reporting in Ontario

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## Objective

- Indicators are useful tools:
  - To assess the structure, process, and outcomes of patient care in healthcare settings
  - To offer transparency of the healthcare system when used for public reporting
  - To inform practitioners of general areas that warrant additional attention and improvement
- Monitoring performance over time, benchmarking and prioritization of activities are some of the ways indicators allow for continuous quality improvement.
- There is a large number of indicators in patient safety, but the majority are not focused on medication safety
- Objective of this project: to identify three medication safety indicators in acute care settings for public reporting in Ontario

## Methodology

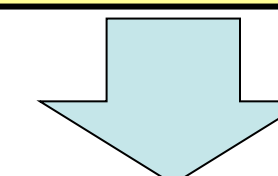
- Literature Review
  - Broad search of patient safety literature (Medline, Embase, Patient Safety organization websites)
- Development of selection criteria for indicators:
  - Alignment with current patient safety initiatives in Ontario/Canada
  - Burden of data collection/feasibility
  - Validity/Data quality
  - Actionable
  - Understandable
  - Evidence-based
- 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
- 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)
- 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

**Support from the Ontario Ministry of Health & Long Term Care (Medication Safety Support Service) and participation from the members of the focus group is gratefully acknowledged**

## Results

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

Structure Indicator Candidates	Process Indicator Candidates	Outcome Indicator Candidates
1. Concentrated electrolytes	1. AMI (Acute Myocardial Infarction) discharge medications	1. Top 10 medications
2. Narcotic safety	2. Medication reconciliation	2. Medication incident types
3. Incident reporting & analysis	3. Antibiotic prophylaxis for surgery	3. Medication Incident Rate
4. Prospective analysis	4. VTE prophylaxis	4. Deaths associated with medication errors



Description of the 3 selected indicators

Indicator	Description	Rationale	Limitations
1. AMI Discharge Medications	Proportion of patients who have suffered an AMI and were prescribed appropriate medications* at discharge *ASA, beta blocker, ACEI/ARB, statin	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 not discharged on appropriate medications	Does not apply to long-term care settings
2. Medication Reconciliation	Proportion of (eligible) patients admitted to hospital with medication reconciliation performed on admission	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	Does not provide information regarding the quality of the best possible medication history and medication reconciliation
3. VTE Prophylaxis	Proportion of (eligible)** patients who received appropriate VTE prophylaxis **Eligible patients: Patients undergoing major general and hip fracture surgery	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	May not be applicable to long-term care settings

## 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.