Monitoring for Preventable Harm from Medications

Purpose:

The purpose of this policy is to describe how monitoring the use of a small group of designated medications as well as specific clinical parameters will occur in order to identify when potential preventable drug-related harm has occurred to a resident. This process will assist the Home to identify situations where an adverse drug event may of occurred, including adverse drug reactions related to the pharmacologic properties of the medication or harm from medication errors. Further investigation will be undertaken to determine if the identified situation was potentially preventable.

The Institute for Healthcare Improvement (IHI) developed a series of medical record audit tools they called "trigger tools" to assist health care organizations to assess the level of harm occurring due to known event descriptors, including the use of specific medications.[1]

(See page 3 for Glossary of Key Terms)

Scope:

This policy is intended to assist the Home to track the use of rescue agents to:

- Alert practitioners to changes in resident clinical status that may require further intervention beyond the initial rescue;
- Support analysis of the events preceding the need for rescue (i.e., consideration of possible medication incidents);
- Support internal and external reporting requirements;
- Ensure timely restocking of medications; and,
- Monitor trends in use of rescue agents as an element of medication safety.

Secondly, this policy is intended to assist the Home in monitoring lab results and clinical changes that act as triggers to identifying preventable harm related to medications.

[1] Adapted from the IHI Trigger Tool for Measuring Adverse Drug Events. Institute for Healthcare Improvement, 2004. [Cited 2021 Sept 2]. Available from: http://www.ihi.org/resources/Pages/Tools/TriggerToolforMeasuringAerseDrugEvents.aspx

Overview of Process

A. Monitoring Use of Rescue Agents

Medication Safety Committee

Determines that the following list of rescue medications will be tracked and investigated by the Home (each Home defines the list of medications to be tracked).

Table A: Rescue Medications for Tracking and Investigation

Rescue Medication	Possible Adverse Drug Event
Prioritize:	
dextrose tablets	hypoglycemia
epinephrine	allergic reaction
glucagon	hypoglycemia
naloxone (Narcan®)	opioid-induced respiratory depression
vitamin K	overdose of warfarin
Consider:	
emergency use of oxygen	hypoxia, respiratory depression
loperamide (Imodium®)	antibiotic associated *clostridium difficile*
sodium polystyrene (Kayexalate®)	potassium overdose

Director of Care, Consultant Pharmacist, or Designate:

1. Develops a plan for tracking and reporting the use of the identified rescue medications. Some possible approaches are:
    a. A paper or digital form is completed and sent to the pharmacy service provider and/or Director of Care by the individual retrieving the rescue medication from the Emergency Medication Supply.
    b. A report generated by the pharmacy service provider (e.g., monthly) indicating medications retrieved from the Emergency Drug Box.

2. Ensures that the investigation and identification of the reason for accessing each medication is identified and documented ; for example, review of health record for recent evidence of change in status or other circumstances, recent changes to the resident orders, confirmation of replacement due to expiry, etc.

3. Prepares a report summarizing the number of doses of each rescue medication used and the clinical rationale, for review by the Medication Safety Committee at quarterly meetings.

4. Monitors the use of individual rescue agents to identify possible vulnerabilities and improvement opportunities.

5. Develops an action plan to address the identified improvement opportunities.

6. Monitors the effectiveness of the actions taken to reduce preventable harm related to medications.

B. Other Monitoring Considerations

Other triggers that will be implemented for monitoring related to potential preventable harm from medications include laboratory and point-of care testing results and specific clinical situations.

Medication Safety Committee

Determines that the following list of laboratory test results and significant changes in resident clinical status will be tracked and investigated by the Home (each Home defines the list of laboratory results and resident clinical status changes to be tracked).

Table B: Lab Results and Resident Clinical Status Changes for Tracking and Investigation

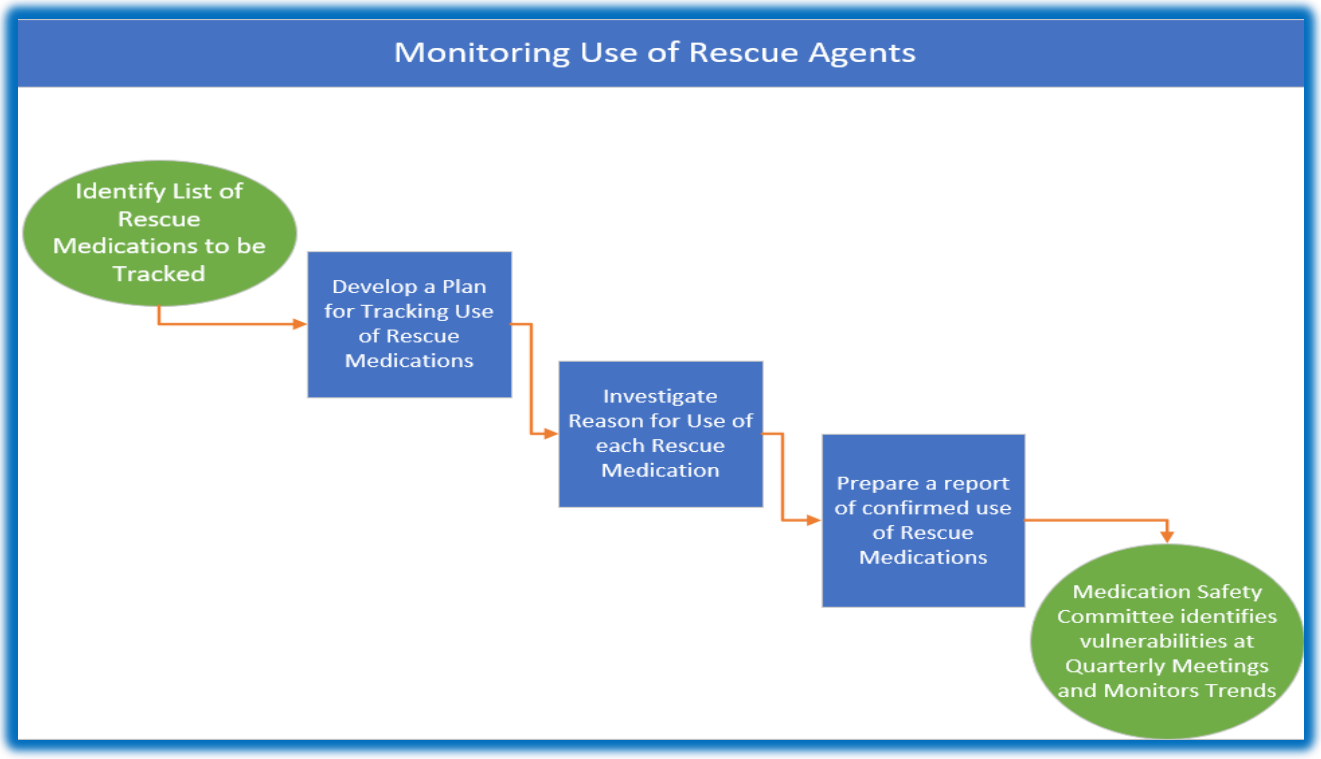
Laboratory Test Results	**Possible Adverse Drug Event**
hypoglycemia (blood glucose less than 2.5mmol/L)	overdose of insulin or oral hypoglycemic agent
digoxin level higher than 1.5 nmol/L	overdose of digoxin
International Normalized Ratio (INR) greater than 6	overdose of warfarin
rising serum creatinine levels (generally performed yearly in anticipation of influenza anti-viral treatment, but consider more frequently as indicated)	kidney-toxic medications
Significant Change to Resident Clinical Status	**Possible Adverse Drug Event**
abrupt cessation of medication	medication allergy, sensitivity or other adverse drug reaction
oversedation, lethargy, falls	use of sedatives, analgesics, or muscle relaxants
urgent transfer to a higher level of care	adverse drug reaction or medication incident

The Homes can develop similar processes to the ones described in Section A above for these triggers with respect to tracking, investigation, monitoring and reporting.

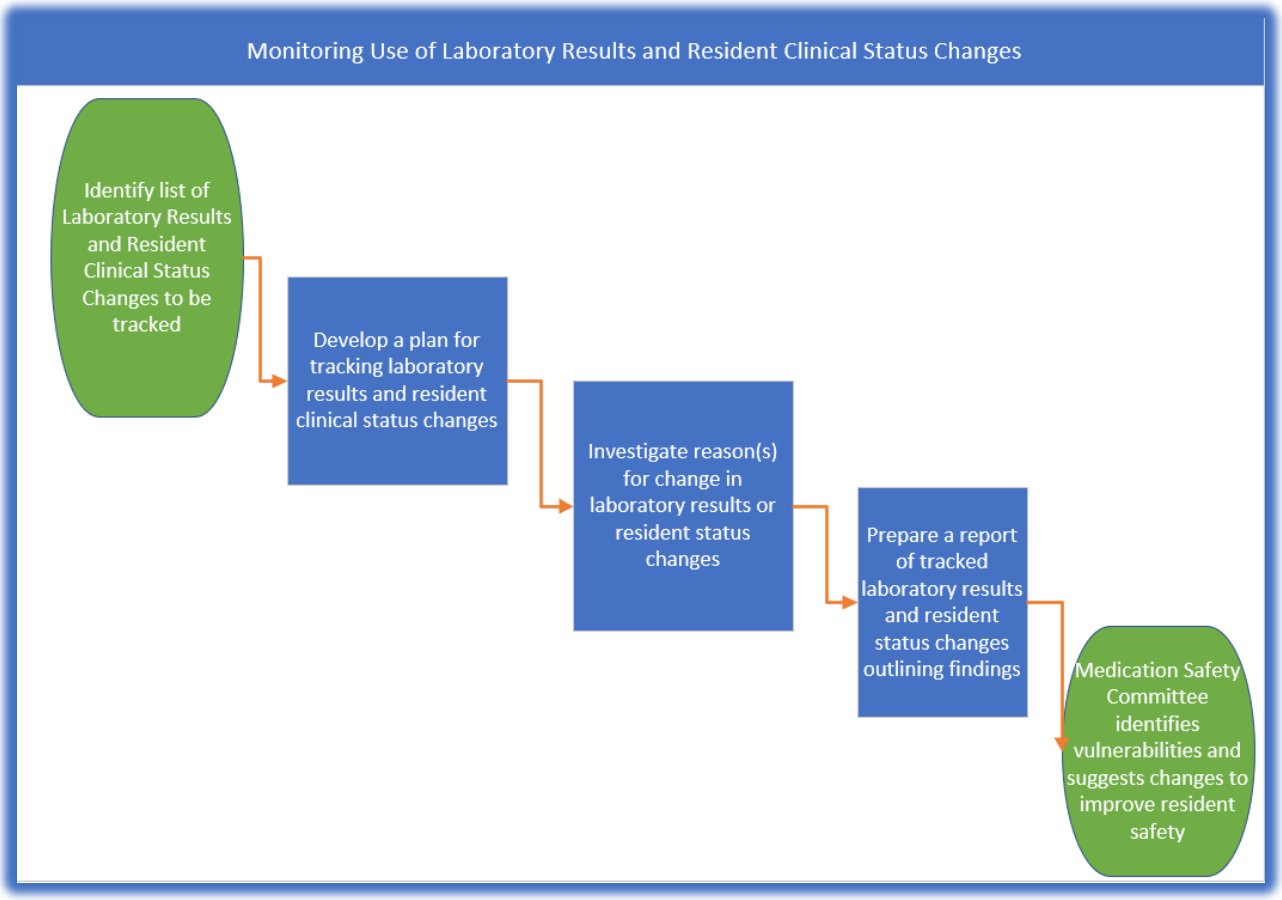
Glossary of Key Terms

Term	Definition
Adverse Drug Event	An injury from a medicine or lack of an intended medicine. Includes adverse drug reactions and harm from medication incidents.[1]
Rescue Agent	A medication used to mitigate an urgent clinical situation (e.g., hypoglycemia, respiratory depression, allergic reaction).
Trigger Tool	The Institute for Healthcare Improvement has developed a series of tools that identify flags that indicate possible patient safety incidents. These flags are referred to as triggers. An example would be a patient receiving warfarin who required administration of Vitamin K to treat serious bleeding. The order for Vitamin K would be a "trigger" to review the chart for possible missed INR testing, or overlooked results. For more information on trigger tools see: http://www.ihi.org/resources/Pages/Tools/IntrotoTriggerToolsforIdentifyingAEs.aspx

Process Map:



[1] ISMP Canada Definitions page: https://www.ismp-canada.org/definitions.htm


Monitoring Use of Laboratory Results and Resident Clinical Status Changes
Identify list of Laboratory Results and Resident Clinical Status Changes to be tracked
Develop a plan for tracking laboratory results and resident clinical status changes
Investigate reason(s) for change in laboratory results or resident status changes
Prepare a report of tracked laboratory results and resident status changes outlining findings
Medication Safety Committee identifies vulnerabilities and suggests changes to improve resident safety

References:

1. Trigger Tool for Measuring Adverse Drug Events. Institute for Healthcare Improvement, 2004. [Cited 2021 Sept 2]. Available from: http://www.ihi.org/resources/Pages/Tools/TriggerToolforMeasuringAdverseDrugEvents.aspx
2. Gillese EE. Public Inquiry into the Safety and Security of Residents in the Long-Term Care System Report, 2019 [Cited 2021 Sept 2] Available from: https://longtermcareinquiry.ca/en/final-report/.
3. Minister's Directive: Glucagon, Severe Hypoglycemia, and Unresponsive Hypoglycemia, 2020 [cited 2021 Sept 2] Available from: https://www.health.gov.on.ca/en/public/programs/ltc/ministers_directive.aspx.
4. https://journals.lww.com/journalpatientsafety/Abstract/2021/09000/Development_of_a_Trigger_Tool_to_Identify_Adverse.11.aspx

Revision History:

Revision Number	Effective Date	Reason for Change	Version Number
1			
2			