Strengthening
Med Safety in
Long-Term Care

ismp CANADA

Trailblazer Home

Medication Safety Indicator Instruction Book

November 2022

"It's a marathon, not a sprint!"

Overview

Measurement allows us to know to what degree we are meeting our targets for safety and quality, helps identify elements of care we do well, and highlights areas of care where more work needs to be done. Indicators are the items or elements of a process that we measure. Being a Trailblazer Home involves the measurement and interpretation of data and this Instruction Book and the accompanying Worksheets are designed to help you with this process.

Core Med Safety Indicator Worksheet #1 (Example – Appendix C)

Worksheet #1 (available at https://ismpcanada.ca/resource/ltc/measuring-and-evaluating/) is intended to assist a Home in reporting and recording the number of medication incidents for a specified quarter. The worksheet will also help a Home understand any trends. A completed example worksheet is available in Appendix C.

For more information on using run charts in quality improvement, please see the e-learning quality improvement module "Use data to take action – Run Charts, the basics", available at Use data to take action – Run Charts, the basics.

To use Worksheet #1, obtain the following data:

Indicator	Additional Information
Medication incident data from October 1, 2021, to September 30, 2022 a. The levels of harm [see Appendix A] i. Near miss ii. No harm iii. Harm iv. Death	• Incident data can be obtained from your incident records or reporting platform, your Pharmacy Service Provider, and from leadership of the Home
b. The types of contributing factors [see Appendix B] i. Task ii. Environment iii. Organization iv. Care Team v. Resident vi. Equipment vii. Other	• More than one contributing factor may apply to any incident. • Adding information about contributing factors helps a Home reach a more thorough understanding of the issues that led to an incident and assists in better identifying system-based strategies for improvement.

Number of Medication incidents that altered the resident's health status or required enhanced monitoring	• These are incidents that result in some physiologic or psychologic harm to a resident, or that require a resident to undergo more intensive monitoring (e.g., more frequent blood glucose checks, or more frequent blood pressure assessments), irrespective of any actual harm
Number of incidents that involved high-alert medications (refer to your organization's high alert medication list).	• High-Alert Medications are those that carry an increased risk of resident harm when used incorrectly • Typical High-Alert Medications are those referred to in the High-Alert Medications Model Policy, available at: Model Policy 2 for Testing: High-Alert Medications • Monitoring trends in these medications may identify vulnerabilities in the Home's medication management system
Number of resident transfers to emergency department	• Although estimates vary, up to 20% of emergency department transfers of residents may be due to harm from medications[1]
Number of usages of glucagon/or number of cases of severe unresponsive hypoglycemia	• Monitoring this core indicator may assist a home in improving the management and monitoring of residents with diabetes.
Number of Beds in your Home	

[1]Nymoen, L.D., Björk, M., Flatebø, T.E. *et al.* Drug-related emergency department visits: prevalence and risk factors. *Intern Emerg Med* **17**, 1453–1462 (2022). https://doi.org/10.1007/s11739-022-02935-9

The results of a sample Resident and Family Engagement Survey are to be reported separately by January 31st, 2023.

Note: If data is unobtainable, please use what you have available to complete the worksheet.

Instructions for Completion of Worksheet #1

1. Insert the name of your Home, the number of resident beds, and the dates.
2. Do not identify any residents/family/staff in the worksheets submitted to ISMP Canada.
3. In column 2, "Raw Number in quarter", insert the raw number of events or counts for each category
4. In column 3, "Multiply by 100", multiply the raw number by 100
5. In column 4, "Divide by the number of beds" divide the resulting number by the number of resident beds.
6. Transfer the answer obtained in column 4 to column 5, "This is your rate per 100 beds for the quarter".
7. A pre-programmed Excel spreadsheet is available from https://ismpcanada.ca/resource/ltc/measuring-and-evaluating/
8. Complete the worksheets for the timeframes:
    a. For the preceding year, to be submitted as soon as possible:
        i. Quarter 4 2021: Oct, Nov, Dec, 2021
        ii. Quarter 1 2022: Jan, Feb, Mar, 2022
        iii. Quarter 2 2022: Apr, May, Jun, 2022
        iv. Quarter 3 2022: Jul, Aug, Sep, 2022
    b. For the upcoming half year, to be submitted quarterly as available:
        i. Quarter 4, 2022: Oct, Nov, Dec, 2022
        ii. Quarter 1, 2023: Jan, Feb, Mar, 2023
        iii. Quarter 2, 2023: Apr, May, Jun, 2023 – optional but encouraged
9. These worksheets can be submitted confidentially to LTC@ismpcanada.ca
10. Blank (printable) worksheets are available here: https://ismpcanada.ca/resource/ltc/measuring-and-evaluating/

Optional Med Safety Indicator Worksheet #2 (Example – Appendix D)

Worksheet #2 (available at https://ismpcanada.ca/resource/ltc/measuring-and-evaluating/) is intended to assist a Home in reporting and recording the Optional Indicators for a specified quarter. One or more Optional Medication Safety Indicators can be used to provide information on more focused areas of medication use and safety, to examine an area of interest to your Home, or to monitor and evaluate one of your safety initiatives. Do not identify any residents/family/staff in the worksheets submitted to ISMP Canada.

Resident and Family Engagement Survey (Tracker – Appendix E)

The survey is accessible here: https://ismpcanada.ca/wp-content/uploads/Resident-and-Family-Engagement-Survey-2022.pdf.

The resident and family survey has been designed to be used as a baseline and an ongoing assessment tool for homes to hear directly from residents and families the way they see their own (or their loved one's) role in their medication journey. It is very important for residents and families to use their voice in their medication management to share what matters most to them with regards to their health. This survey gives you a starting point to gather the information you need to assess the way this looks in your home. One of the Core Med Safety indicators that we ask that you collect is a sample resident and family engagement survey of 20 residents or families by January 31, 2023. After this time, it is encouraged that you share the survey with the rest of your community. In Appendix E, you will find a tracker to help you with data collection. **Please do not include any identifiable details (e.g., name of resident)**.

Understanding Data

Graphing indicator results

- Graphing results over time helps to indicate trends

Comparing Indicator Results with Other Homes

- Where possible, comparing indicator results with other Homes, or the average of other Homes, gives an indication of incident reporting levels, or areas of difference in resident outcome

Questions to Consider When Using Indicator Data

A. Are there any significant differences in the results between quarters? If so, what are the possible reasons for this variation?
B. Following a medication incident, what insights can be learned about the contributing factors involved and therefore help to explain the indicator results?
C. Based on the indicator results, would a quality improvement project be useful?
D. If a medication management quality improvement project has been implemented in the Home, is there any improvement in the indicator results?
E. Graphing results over time helps to identify trends that may not be appreciated by simply looking at numbers.

For more information, please contact LTC@ismpcanada.ca

Appendix A - Levels of Harm

Adapted from Incident Analysis Collaborating Parties. Canadian Incident Analysis Framework. Edmonton, AB: 2012 and National Coordinating Council for Medication Error Reporting and Prevention.

1. *Near Miss:*

   A patient safety incident that did not reach the patient.

   Also referred to as a "good catch" or "close call".

   > Example: A resident received another person's medications in a cup, but the resident recognized that the pill colours and shapes were unfamiliar, and alerted a staff member who confirmed that these medications were intended for another resident

2. *No Harm:*

   A patient safety incident that reached a patient, but no discernible harm resulted.

   > Example: A resident received a 500 mg tablet of acetaminophen, rather than the intended 325 mg tablet. No harm was noted.

3. *Harmful Incident:*

   A patient safety incident that resulted in harm to the patient. Harm can be broadly defined as physiologic (e.g., significantly decreased blood pressure), psychologic (e.g., decompensation of dementia), or emotional (e.g., causing distrust in staff or medications).

4. *Death:*

   A patient safety incident that contributes to the death of the resident

Appendix B - Selected high-level guiding questions to identify contributing factors

Adapted from Incident Analysis Collaborating Parties. Canadian Incident Analysis Framework. Edmonton, AB: 2012.

Task (care/work process):

- Were there previous or predicted failures for this task or process?
- Were specialized skills required to perform the task?
- Was a fixed process or sequence of steps required (e.g., order sets, checklists)?
    - Did it exist and was it followed?
- Was a protocol available, was it up-to-date, and was it followed in this case?
- Were there constraints or pressures (e.g., time, resources) when performing the task?
- Was the information required to make care decisions available and up to date
    - (e.g., test results, documentation, patient identification)?
- Was there a risk assessment/audit/quality control program in place for the task/process?
- Other?

Equipment (including information and communication systems):

- Were the displays and controls understandable?
- Did the equipment automatically detect and display problems?
- Was the display functional?
- Were the warning labels, reference guide and safety mechanisms functional and readily visible/accessible?
- Were the maintenance and upgrades up to date?
- Was the equipment standardized?
- Would the users describe this equipment as “easy-to-use”?
- Were the communication systems (phone, pager, software, hardware, etc.) available and operational?

Work environment:

- Did noise levels interfere with the alarms?
- Was the lighting adequate for the task?
- Was the work area adequate for the task(s) being performed
- (e.g., space, layout, location, and accessibility of resources)?

Resident characteristics:

- Did the resident have the information to assist in avoiding the incident?
    - If not, what would have supported the resident in assisting their care team?

- Did factors like age, sex, medications, allergies, diagnosis, other medical conditions, contribute to the incident? How did they contribute?
- Did any social or cultural factors contribute to the incident?
    - What factors? In which way?
- Was language a barrier?

Appendix B - Selected high-level guiding questions to identify contributing factors (continued)

Care team:

- Caregiver(s):
    - Were the education, experience, training, and skill level appropriate?
    - Was fatigue, stressors, health or other factors an issue?
    - Was the workload appropriate?
    - Were appropriate and timely help or supervision available?
- Supporting team (all involved in care process):
    - Was there a clear understanding of roles and responsibilities?
    - Was the quality and quantity of communication (verbal and/or written) between team members appropriate (clear, accurate, free of jargon, relevant, complete and timely)?
    - Were there regular team briefings/debriefings about important care issues?
    - Was team morale good? Do team members support each other?
    - Were the communication channels available and appropriate to support the needs of the team (e.g., email, pager, and phone)?

Organization:

- Policies and priorities:
    - Were the relevant policies and procedures available, known, accessible, and did they meet the needs of users?
    - Were there work-arounds to the documented policy/procedure?
    - Was there a mechanism in place to identify and resolve gaps between
    - policy and practice?
    - Were the strategic priorities of the organization clear to all?

- Culture:
    - Was everyone (patients, clinicians, other staff) comfortable to speak-up about safety concerns?
    - Was there visible support from leadership and board for safe patient care?
    - Was communication between staff and management supportive of day-to-day safe patient care?
    - Were incidents considered system failures with people not blamed?
- Capacity (resources):
    - Did scheduling influence the staffing level, or cause stress, fatigue?
    - Was there sufficient capacity in the system to perform effectively (e.g. access to resources)?
    - Were formal compensation and/or incentives appropriate?

Appendix B - Selected high-level guiding questions to identify contributing factors (continued)

Other:

- Were there any local conditions or circumstances that may have influenced the incident and/or an outcome?
- Were there any sector specific conditions or circumstances that may have influenced the incident and/or outcome?

Privacy Notice:

Do not identify any residents/family/staff in the worksheets submitted to ISMP Canada.

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Appendix C – Worksheet # 1 EXAMPLE

Home: *North Hammermill Care Centre* Number of beds: *192*

Quarter: *2* Year: *2021* Months: *April, May, June*

Compare these numbers with previous quarters or other homes.
Is anything significantly different?
Does anything need further investigation?

		Raw Number in quarter	Multiply by 100	Divide by the number of beds	This is your rate per 100 beds for the quarter
Number of near-misses		*17*	X 100 = 1700	÷ beds	*8.9*
Number of incidents causing no harm (reached resident but did not cause harm)		*8*	X 100 = 800	÷ beds	*4.2*
Number of incidents causing harm		*3*	X 100 = 300	÷ beds	*1.6*
Number of incidents causing death		*0*	X 100 = 0	÷ beds	*0*
Total of above		***28***	**X 100 = 2800**	**÷ beds**	***14.6***
Number of incidents above related to contributing factor category:					
	Task	*11*	X 100 = 1100	÷ beds	*5.7*
	Environment	*12*	X 100 = 1200	÷ beds	*6.3*
	Organization	*6*	X 100 = 600	÷ beds	*3.1*
	Care Team	*8*	X 100 = 800	÷ beds	*4.2*
	Resident	*6*	X 100 = 600	÷ beds	*3.1*
	Equipment	*14*	X 100 = 1400	÷ beds	*7.3*
	Other	*7*	X 100 = 700	÷ beds	*3.6*
Number of Medication incidents that altered the resident's health status or required enhanced monitoring		*10*	X 100 = 1000	÷ beds	*5.2*
Number of incidents that involved high-alert medications (refer to your organization's high alert medication list)		*9*	X 100 = 900	÷ beds	*4.7*
Number of resident transfers to emergency department		*13*	X 100 = 1300	÷ beds	*6.8*
Number of usages of glucagon/or number of cases of severe unresponsive hypoglycemia		*1*	X 100 = 100	÷ beds	*0.5*

Appendix D - Worksheet #2 - Optional Indicators - EXAMPLE

	21Q4	22Q1	22Q2	22Q3	22Q4	23Q1	23Q2	Notes
Number of Adverse Medication Reactions per 100 beds per quarter	*5.2*	*1.8*	*4.6*	*2.5*	*3.0*	*7.4*	*4.1*	
Number of Usages of Rescue Medication per 100 beds per quarter	*0.8*	*0.8*	*1.6*	*0*	*0*	*0.8*	*0*	
Number of Emergency Box Medication dispenses per 100 beds per quarter	*7.2*	*5.2*	*14.7*	*18.4*	*20.1*	*12.3*	*10.4*	
Number of missing or unaccounted for controlled or targeted substances per 100 beds per quarter	*1*	*0.5*	*1.2*	*0.25*	*0.25*	*0.66*	*1.2*	
Other								
Other								
Other								
Other								

To calculate rate per 100 beds per quarter, take the number of events in the quarter, multiply by 100, then divide by the number of beds. Number per 100 beds per quarter = number in quarter X 100 ÷ beds

APPENDIX E

Resident and Family Survey Results Tracker

Survey Question:									
1. How involved are you in decisions about your medications?	a)	b)	c)	d)	e)				
2. Do you know what your medications are? Do you know what they are used for?	a)	b)	c)	d)					
3. Are you involved as much as you want to be in decisions about your medications?	a)	b)	c)	d)					
4. Are you comfortable with your medications?	a)	b)							
5. How do you feel after taking your medications?	a)	b)	c)	d)	e)	f) Describe:			
6. On a scale of 1-5, how sure do you feel that the medication management system in your home is safe?	a)	b)	c)	d)	e)				
7. Do you feel you are kept informed of your medications and changes?	a)	b)	c)	d)					
8. When you raise a concern about your medication to any staff, what happens?	a)	b)	c)	d)	e)	f)			
9. How much do you know about your medications?	a)	b)	c)	d)	e)