



USER GUIDE

Medication Safety Self-Assessment[®] for Hospital

Canadian Version IV (2026)



Institute for Safe Medication Practices Canada
Institut pour la sécurité des médicaments
aux patients du Canada

MEDICATION SAFETY SELF-ASSESSMENT® (MSSA) FOR HOSPITAL, CANADIAN VERSION IV (2026) – USER GUIDE

TABLE OF CONTENTS

- Section 1: Facilitator Guide 1**
 - Facilitator Checklist..... 1
 - MSSA Overview 2
 - Instructions to Complete MSSA..... 3

- Section 2: Interpreting Results 10**
 - Compare Data to the Aggregate Dataset 10
 - Share the Learning 13

- Section 3: Principles Supporting Patient Safety 15**
 - Understanding Human Factors 15
 - A Systems Approach 15
 - Hierarchy of Effectiveness 15
 - Just Culture 16

SECTION 1: FACILITATOR GUIDE

Facilitator Checklist

Preparing for the Self-Assessment:

- Review the Introduction, Instructions, and FAQs sections of the MSSA-Hospital (p.1-5).
- Review the Facilitator Guide (Section 1 of this MSSA-Hospital User Guide).
- Identify and invite the members of the self-assessment team. Consider including a patient/caregiver representative.
- Schedule meeting(s). Most teams can complete the assessment in 3-5 hours.
- Register to complete the MSSA-Hospital at: <https://mssa2.ismp-canada.org/hospital-iv>.
Note: It may take 3-5 business days to create user account and enable online access.
- Send a copy of the MSSA-Hospital to each team member and ask them to review and score each self-assessment item according to their knowledge and experience.
- Print a copy of the MSSA-Hospital for reference during the team meeting(s).

During the Self-Assessment Meeting:

- Log into the MSSA online access portal: <https://mssa2.ismp-canada.org/hospital-iv>
- Complete the Demographic Information.
- Review the scoring algorithm with the team.
- Review each self-assessment item and use consensus decision-making to evaluate it. If there is disagreement, use the lowest score, as the goal of the assessment is to identify potential medication safety risks. Enter each score into the online system.
- Document notes on the rationale behind selected scores and additional issues/considerations that come up during meetings. Record these on your hard copy because the online system does not have a section for notes.
- Save each Key Element section as you complete it. Save
If you leave the Key Element page without saving, your data will be lost. If you cannot enter all data at one time, you can log out and return to the assessment at a later time.
- Once you have completed all the Key Element sections, you will be prompted to Check MSSA For Errors. This step will identify any missing data fields.
- Next you will be prompted to select Submit MSSA Results. You cannot change any data entries once you have finalized the MSSA.
- Review your results and compare them with the aggregate dataset.
- Discuss opportunities to share the learning to support continuous quality improvement.

MSSA Overview

Purpose

The MSSA-Hospital is designed to facilitate evaluation of the safety of hospital medication management systems by:

- Heightening awareness of the core characteristics of a safe medication system
- Identifying vulnerabilities and opportunities for improvement related to medication system safety
- Creating a baseline measurement of the current level of implementation of recommended strategies for medication safety
- Monitoring progress over time through periodic repeated measurement to see where improvements have been achieved and where challenges remain.

Structure

The self-assessment is divided into 7 key elements related to safe medication use in hospital. Each key element is defined by one or more of 17 core characteristics of a safe medication system. There are 216 self-assessment items to help hospital teams evaluate the level of implementation of recommended strategies for medication safety.

Development

Topics and content for this MSSA have been derived from a variety of sources, including

- Published literature on medication safety initiatives/strategies in the hospital setting
- ISMP Canada resources and learning from analysis (e.g., Safety Bulletins, MSSA: Focus on "Never Events" in Hospitals and Ambulatory Care Centres)
- Health Standards Organization (HSO) CAN/HSO 3001:2026 Medication Management*
- ISMP(US) resources (e.g., ISMP Targeted Medication Safety Best Practices for Hospitals)

**Note: ISMP Canada, HSO, and Accreditation Canada have complementary mandates to strengthen patient safety. ISMP Canada has worked with HSO to indicate where medication safety self-assessment items within the MSSA-Hospital are aligned with the CAN/HSO 3001:2026 Medication Management. These items are identified with this accreditation symbol.*



ISMP Canada is not a standard-setting organization and the self-assessment items in this document are not meant to represent a minimum standard of practice. Some of the practices described represent innovative practices and system enhancements that are not yet widely implemented; however, their value in reducing incidents is grounded in research and expert analysis of medication incidents and their causes.

Instructions to Complete MSSA

Self-Assessment Team

The MSSA-Hospital is best completed in a series of short meetings by an interdisciplinary self-assessment team that includes care team members representing all disciplines involved in the medication-use process, hospital leadership, and a patient/caregiver representative.

Because medication use is a complex, interdisciplinary process, the value and accuracy of the self-assessment is significantly reduced if it is completed by a single individual or discipline involved in medication use. Attendance by an individual from the organization's leadership team is valuable because the assessment contains many items that relate to your organization's overall commitment to patient safety.

Establish an assessment team consisting of, or similar to, the following:

- Senior leadership representative
- Patient safety, quality improvement, and/or risk management representative
- Nursing director/manager
- Pharmacy director/manager
- Physician leader (e.g., chief of service)
- Informatics/information technology
- Patient/caregiver representative
- Health care providers (at least one of each of the following):
 - Registered nurse/registered practical nurse
 - Pharmacist
 - Pharmacy technician
 - Nurse practitioner
 - Physician

Allow sufficient time to complete the self-assessment. Most teams are able to complete the assessment in 3-5 hours. It is recommended to schedule 3 meetings of 1-2 hours in length.

Self-Assessment Scoring

Support teams to accurately and honestly evaluate the current status of the medication practices in your hospital and select the most appropriate score for each self-assessment item.

Possible responses and corresponding scores are as follows:

N = 0	Not Implemented – Items that are not in use at this time.
R = 1	Rarely – Items that are implemented and in practice less than 25% of the time.
S = 2	Sometimes – Items that are implemented and in practice 25%-50% of the time.
O = 3	Often – Items that are implemented and in practice 51%-75% of the time.
A = 4	Always – Items that are implemented and in practice more than 75% of the time.
NA = 0	Not Applicable – For selected items only, with criteria as described.

❖ N – Not Implemented

The MSSA-Hospital is intended to guide hospitals to recognize opportunities to improve safe medication management.

If an item describes a service, practice, or technology that you do not currently have implemented, select a score of **N-Not Implemented**.

For example, use of smart pumps is a recognized safety strategy; if your organization administers intravenous medications without the benefit of smart pumps, the patients served are at higher risk of harm related to incorrect or inappropriate infusion rates. Thus, “not implemented” (and a score of 0) would most appropriately reflect that practice.

If an item has been discussed or considered for implementation, or is planned to be implemented soon, it should still be scored as **N-Not Implemented** because it is not in practice at the time of completing the MSSA-Hospital.

❖ R – Rarely, S – Sometimes, or O – Often

An item may be scored as **R-Rarely**, **S-Sometimes**, or **O-Often** if it describes a practice that is partially, but not fully, implemented.

For example, item **3.12** states, “*Pharmacists regularly work in inpatient and outpatient care units, where they perform clinical activities.*” If pharmacists perform clinical activities in some inpatient care units and some outpatient care units, you would determine the score depending on the proportion of the hospital's care units where this practice is in place (**R** if less than 25%, **S** if 25-50%, or **O** if 51-75%).

❖ A – Always (Multiple Components)

Some assessment items have multiple components. To score **A-Always**, all components must be present. If one or some of the components has been partially implemented, self-assessment scores should consider the most appropriate response (according to the proportion of the organization), which could include, **R-Rarely**, **S-Sometimes** or **O-Often**.

❖ NA – Not Applicable

The MSSA-Hospital is intended for acute care hospitals providing general medical and surgical services for both inpatients and outpatients. Not all self-assessment items may be applicable at all types of hospital sites.

Generally, **NA-Not Applicable** is available for circumstances that do not exist and therefore do not impact safety in that area.

For example, a hospital that does not provide chemotherapy cannot respond to items related to this therapy, such as **3.8** which states, “*Verbal (in-person) or telephone orders are never accepted for oral or parenteral chemotherapy, including chemotherapeutic agents used for non-oncological indications.*”

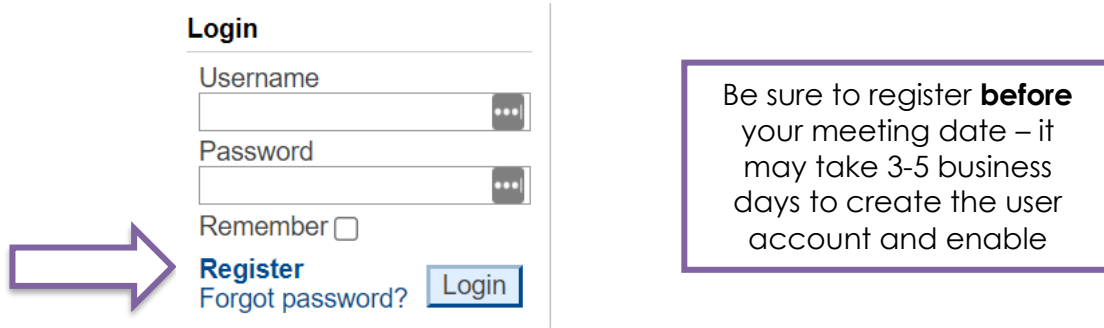
As another example, if the item is related to care of pediatric patients and your organization does not treat children, this item will not present a risk to the organization or the population served, and will have the **NA-Not Applicable** scoring option.

Online Self-Assessment Tool

Pre-registration

Pre-registration is required to enter your data into the online self-assessment tool.

Go to: <https://mssa2.ismp-canada.org/hospital-iv>. The Login panel is on the left side.



The image shows a screenshot of a web application's login panel. The panel is titled "Login" and contains the following elements: a "Username" input field, a "Password" input field, a "Remember" checkbox, a "Register" link, a "Forgot password?" link, and a "Login" button. A purple arrow points from the left towards the "Register" link. To the right of the login panel is a purple-bordered callout box containing the text: "Be sure to register **before** your meeting date – it may take 3-5 business days to create the user account and enable".

To request registration, please email mssa@ismpcanada.ca with the following information:

- First Name
- Last Name
- Email
- Organization Name
- Organization Address
- Organization Phone Number
- Organization Fax Number

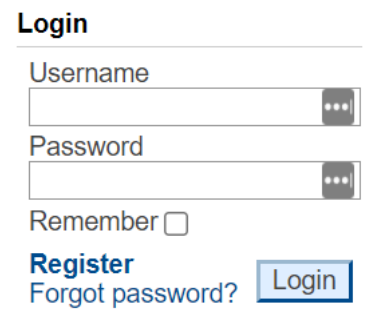
The registration process may take 3-5 business days, so you will need to register several days before the first scheduled meeting with the Self-Assessment Team. You will receive an email from ISMP Canada with login information.

Confidentiality and Security

The web-based survey tool will immediately download the information into a secure database maintained solely by ISMP Canada. No data will be maintained on the web-based survey tool after it has been submitted. Confidentiality is assured. Your hospital's results can be viewed or accessed only by the organization submitting them. The aggregate findings will be available for viewing by others once a minimum of 3 organizations have submitted results and may be used by ISMP Canada for research and education purposes only.

Data Entry

1. Go to: <https://mssa2.ismp-canada.org/hospital-iv>.
2. Enter your hospital's unique username and confidential password into the designated fields.



The image shows a screenshot of the login panel, identical to the one in the previous image. It includes the "Login" title, "Username" and "Password" input fields, a "Remember" checkbox, and "Register", "Forgot password?", and "Login" links/buttons.

3. Click **Begin a new assessment** in the panel on the left side. Review the End User License Agreement and select the box to accept the agreement. Click **Submit**.

4. Complete the Demographics section and **Save** your results.

5. Complete each "Key Element" page and **Save** your results before moving to the next page. At the top of the page, you will see a checkmark for each completed section.

6. If you cannot complete the assessment in one session, save the last page of responses you entered.
7. When you have completed all the Key Element sections, you will be prompted to **Check MSSA For Errors**. This will identify any incomplete sections.
8. Once data entry is complete, the option to **Submit MSSA Results** will appear at the bottom of the page. No changes can be made to your entries once you have submitted the assessment.

- Once your data has been submitted, you can immediately compare your results to the aggregate dataset.

Frequency of Self-Assessment

Completion of your first MSSA-Hospital will provide you with a baseline, and subsequent self-assessments will enable you to monitor your progress over time. All assessments will be stored in ISMP Canada's secure database and can be accessed at any time.

The frequency of completion will be influenced by regulatory requirements as well as your local quality improvement plan.

ISMP Canada recommends completing the MSSA-Hospital annually.

Note: ISMP Canada will authorize one online survey credit at a time. If you want to repeat your assessment, you will need to email ISMP Canada at mssa@ismpcanada.ca to request a new survey credit.

Viewing or Printing Results

Once you have submitted your MSSA-Hospital scores, you can view and/or print your results.

Go to the toolbar on the left side of the screen and select the date of the self-assessment you wish to view or print.

Click **View Assessment** to view a PDF copy of the assessment as you submitted it. Below is an example of Core Characteristic 1.

Hospital IV

- [Introduction](#)
- [Instructions](#)
- [FAQs](#)
- [Printable Version](#)

Assessments

May 2021 ▾

[View Assessment](#)

[Print Results](#)

[Export Own Results](#)

[Graph Results](#)

Institute for Safe Medication Practices Canada
Medication Safety Self-Assessment®
ismpbika
Account Settings | Logout

Medication Safety Self-Assessment for Hospital, Canadian Version IV (2026)

Key Section I

Demographics ✓
I ✓
II
III
IV
V
VI
VII
VIII

I. PATIENT ENGAGEMENT AND PARTNERSHIP

N (Not Implemented) - Items that are not in use at this time.

R (Rarely) - Items that are implemented and in practice less than 25% of the time.

S (Sometimes) - Items that are implemented and in practice 25%-50% of the time.

O (Often) - Items that are implemented and in practice 51%-75% of the time.

A (Always) - Items that are implemented and in practice more than 75% of the time.

NA (Not Applicable) - For selected items only, with criteria as described.

	N	R	S	O	A	NA
<p>Core Characteristic #1: Patient Engagement- <i>The care team works to actively engage patients/caregivers as partners in their own care.</i></p> <p>1.1 Care team members actively engage patients/caregivers in conversations about their medications using patient-centred tools, encourage them to ask questions, and involve them in shared decision-making, where possible.</p> <p><i>[Examples] Patient-centred tools may include the best possible medication history [BPMH] interview guide at admission, and the teach-back method during education at discharge.</i></p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	

Click **Print Results** to print the results as a PDF document.

The report will include the date when the MSSA-Hospital was finalized, the demographic data entered, a summary of the scores for each of the Key Elements (expressed as a fraction of the total score possible and as a percentage of the total score), and your responses and scores for all of the items; examples are shown below.



Demographics

1. Province
Ontario
2. Hospital size (number of beds currently set up and staffed for use):
300 to 499
3. Hospital type:
Community - urban (local population greater than 50,000)
4. Previous completion of a Medication Safety Self-Assessment (MSSA):
Yes
5. Representation on the team completing this assessment (check all that apply):
Pharmacy staff (e.g., pharmacist, pharmacy technician)

I: I. PATIENT ENGAGEMENT AND PARTNERSHIP

- N** (Not Implemented) - Items that are not in use at this time.
R (Rarely) - Items that are implemented and in practice less than 25% of the time.
S (Sometimes) - Items that are implemented and in practice 25%-50% of the time.
O (Often) - Items that are implemented and in practice 51%-75% of the time.
A (Always) - Items that are implemented and in practice more than 75% of the time.
NA (Not Applicable) - For selected items only, with criteria as described.

Core Characteristic #1: Patient Engagement: <i>The care team works to actively engage patients/caregivers as partners in their own care.</i>	Response	Score
1.1 Care team members actively engage patients/caregivers in conversations about their medications using patient-centred tools, encourage them to ask questions, and involve them in shared decision-making, where possible. <i>[Examples] Patient-centred tools may include the best possible medication history [BPMH] interview guide at admission, and the teach-back method during education at discharge. [Resources] 5 Questions to Ask About Your Medications tool, available from: https://ismpcanada.ca/resource/5-questions-to-ask-about-your-medications/</i>	O	3/4
1.2 Health care providers address patient/caregiver concerns or questions about medications before they are prescribed, dispensed, or administered, with respect, empathy, humility, and non-judgmental active listening, when clinically feasible.	S	2/4
1.3 A contact is directly provided to patients/caregivers in a timely manner for situations when they communicate that their expressed care concerns have not been addressed, with consideration for health literacy, cultural beliefs, and language comprehension. <i>[Examples] Contacts may include a rapid-response team, a patient experience team, a designated patient advocate, or another individual responsible for optimizing patient relations.</i>	S	2/4
1.4 Care team members encourage and engage patients/caregivers to participate in the identification process by showing staff their identification wristband (or other form[s] of identification) and stating their name and date of birth before medications (and other treatments) are administered.	S	2/4
1.5 Care team members encourage and engage patients/caregivers to participate in the medication administration process whereby a health care provider communicates the name of the medication, the general purpose of the medication, the prescribed dose, and (during initial administration) information about important side effects.	S	2/4
1.6 Patients are reminded not to use their own supply of medications (including prescription drugs, non-prescription drugs, and natural health products) while in hospital, unless directed to do so by a health care provider.	S	2/4
1.7 Consultation with a pharmacist, for the purpose of patient education, is triggered according to defined criteria. <i>[Examples] Criteria may include selected high-risk medications, high-risk patient populations, patients at high risk for non-adherence, or patients discharged with prescriptions for 5 or more medications.</i>	S	2/4
1.8 Health care providers consider the patient's preferences and concerns as a way to improve adherence and optimize health outcomes. <i>[Examples] Adherence may be improved by minimizing the number of times per day that medications must be taken, recommending the use of adherence aids such as blister packs, and creating a medication-use calendar.</i>	S	2/4
1.9 Resources for patients about medications they are receiving in the hospital and those prescribed at discharge, including when and where to seek medical attention for concerns (e.g., written material and online videos at a grade 6 level or lower) are routinely provided, and are available in the primary languages spoken in the community.	S	2/4
Core Characteristic #1: Patient Engagement - Total	53%	19/36

At the bottom of the report, you will see a total score.

Medication Safety Self-Assessment for Hospital, Canadian Version IV (2026) - Total	59%	523/884
---	------------	----------------

Saving Results

If you wish to save the PDF file, right-click anywhere on the report page, select "Print" and then choose the option to "Save as PDF". We suggest that you rename the file, including the date of the results, to make it easier to retrieve the file.

Exporting Results

You will also see an option on the toolbar to **Export Own Results**, which allows your hospital to generate an Excel spreadsheet of the information entered into the online program.

Below is a sample of the numerical data extracted from the Excel spreadsheet for a single hospital.

1.1	1.2	1.3	1.4	1.5	1.6
0	3	3	4	4	1

Hospital IV

[Introduction](#)
[Instructions](#)
[FAQs](#)
[Printable Version](#)

Assessments

May 2021 ▾
[View Assessment](#)
[Print Results](#)
[Export Own Results](#)
[Graph Results](#)

SECTION 2: INTERPRETING RESULTS

Compare Data to the Aggregate Dataset

A key feature of the MSSA-Hospital online program is the ability to compare an individual hospital's results to the aggregate dataset. This feature supports hospitals to prioritize opportunities for improvement.

Note: Since the MSSA-Hospital, version IV is a new update with no current data, the following graphs use long-term care datasets as examples.

Single Hospitals

Accessing Comparative Graphs

To access comparative graphs of your assessment results, go to the toolbar on the left side of the screen and select the date of the assessment.

Select the **Graph Results** option. This option will allow you to generate graphs comparing your hospital's results with the aggregate scores of all the hospitals that have completed and entered their MSSA-Hospital results.

When you generate a graph, at the top of the graph you will see "n ="; this is the number of hospitals in the aggregate grouping. Your hospital's score is represented by the yellow bar (expressed as a percent of the available maximum score for that section). The blue bar is the average aggregate result and the red lines on the graph represent the standard deviation for the data for all the hospitals represented by "n". Your total score for all the Key Element sections is shown in the last bar on the right side of the graph, along with the total aggregate score.

The aggregate score will help you to see areas where you may be ahead or behind your peer group. The standard deviation will help you to understand the range of responses for a particular item.

For example, in this graph, the User scored 50% in Key Element I as compared to the average of 73%. The red line indicates that most User scores for Key Element I fall between 63 – 81%.

In the lower right corner of the graph, there is an option to **Save Graph** as an image file.

Hospital IV

[Introduction](#)

[Instructions](#)

[FAQs](#)

[Printable Version](#)

Assessments

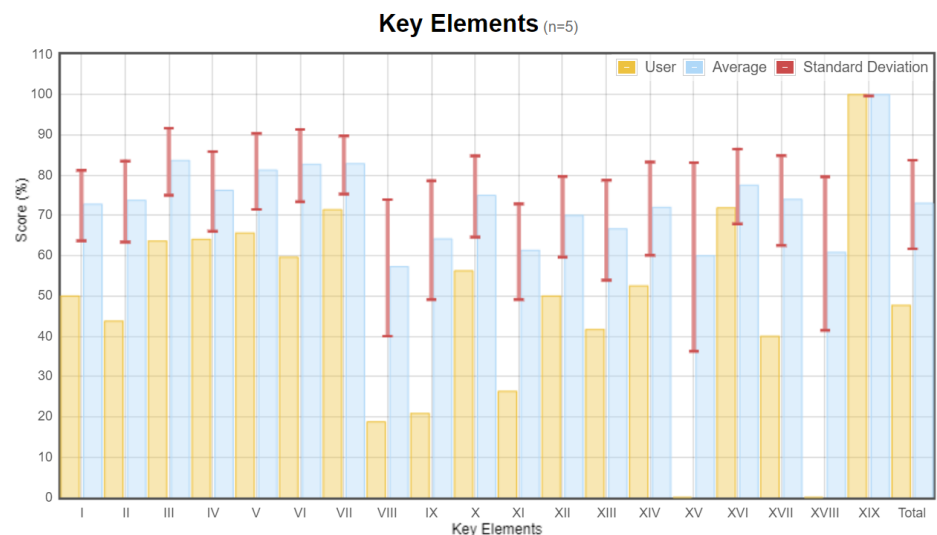
May 2021 ▾

[View Assessment](#)

[Print Results](#)

[Export Own Results](#)

[Graph Results](#)

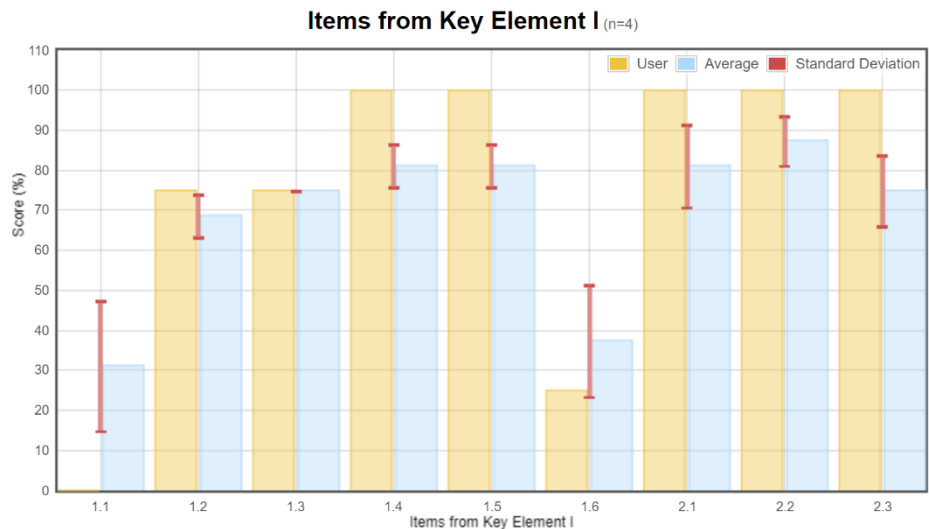


Analysis of the Findings/Results

Begin by reviewing the graphs for “highs” and “lows”. Look for assessment items where your scores are above or below the aggregate. In the sample graph for Key Element I below, you can see that items 1.2, 1.4, 1.5, 2.1, 2.2 and 2.3 are all above the aggregate, 1.3 is the same as the aggregate and 1.1 and 1.6 are below the aggregate.

When you hover over the item number in the online program, the text for the assessment item will appear, so you will immediately know which items the bars represent.

If your hospital entered an **N-Not Implemented** response, the graph will not show a yellow bar, since the score for the item is “0”. It will still show the blue bar signifying the average score of the aggregate as well as the standard deviation for that item.



Developing a Quality Improvement Plan

The key purpose of completing the MSSA-Hospital is to identify possible system vulnerabilities and opportunities for improvement. Using the “lows” you find, you may consider the next steps to develop a quality improvement plan. A suggested approach is described below.

Items with a score of N-Not Implemented

- Identify if there are formal plans to implement any of these items in the near future or if they are aligned with current quality improvement plans.
- Consider the level of risk represented by the item.

Items that are implemented but scores are below the aggregate

- Consider the level of risk represented by the item.
- For items that represent a high level of patient risk, for which there are no plans for implementation or the level of implementation is below organizational expectations, an improvement plan should be developed.

Considerations for prioritization

- Which items are most critical for patient safety? These should receive top priority for implementation.
- Are any quick fixes possible? Such changes can create momentum and show the value of the MSSA-Hospital in the short term.

- Are some items interconnected? If you are working in one area, will it help you to address another opportunity?
- Is there a sequence requirement? Are there activities that must be implemented in a particular order? For example, electronic medication administration records are needed before bar coding for medication administration can be implemented.
- Which items require a longer-term strategy (e.g., medication safety technologies)?

Considerations for a project plan

- Who should be involved in planning and testing the change?
- Is the change feasible? Can the change be sustained, if implemented?
- What is the estimated cost?
- How long will it take to implement the change?
- Will the change affect other processes or care team members?
- Is it possible that the change could have unexpected negative consequences?
 - The Failure Mode and Effects Analysis (FMEA) is a proactive risk assessment technique that can help to proactively identify risks in new processes.

You will not be able to address all the identified vulnerabilities/opportunities at once – it is important to prioritize the highest risks and consider which items will be the easiest to implement as well as which ones will have the greatest impact on patient safety.

It is important to establish reasonable timelines for implementing changes and look for opportunities to tie in medication safety improvements with other hospital initiatives.

Multiple Sites - Collaborative Groups

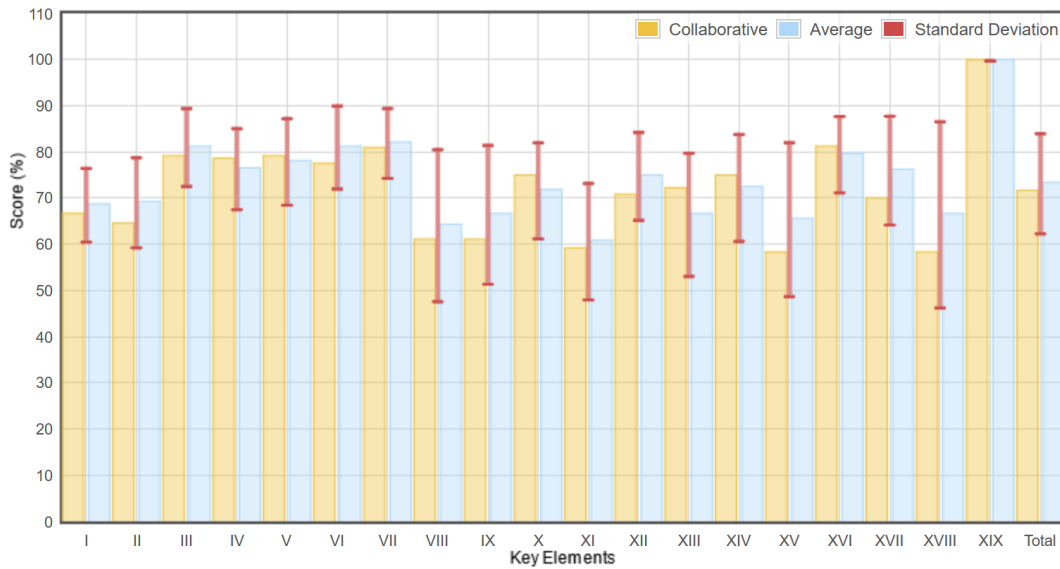
For organizations with multiple hospitals, collaborative groups can be established. This feature allows enhanced comparisons for individual hospitals and for organizational leadership.

Once responses have been entered online, individual hospitals within a collaborative group can compare their results to the aggregate dataset for their organization (collaborative group) as well as to the total aggregate.

Organizational leadership can compare the aggregate results from their hospitals to the total aggregate and can also view individual site level results. This functionality can be used to develop organization-wide improvement plans as well as provide support to hospitals that may be struggling in particular areas. Best practices can also be identified to support organizational learning.

In the sample graph below, the yellow bar represents the collaborative group, and the blue bar represents the total aggregate.

Key Elements (n=4)



Results from the collaborative can be exported in an Excel file, allowing organizational leadership to assess the variation in scores among the hospitals in the organization. In this example there are 3 sites in the collaborative.

Code	1.1	1.2	1.3	1.4	1.5	1.6	2.1	2.2	2.3
ltc1	0	2	3	3	3	0	2	3	2
ltc2	2	4	4	4	4	3	4	4	3
ltc3	2	3	3	3	3	2	4	4	3

Organizations interested in setting up a collaborative group will be required to provide ISMP Canada with a list of the hospitals, a key contact for each one, and the name and contact information for the collaborative lead. A collaborative group can be set up at any time, even if some hospitals have already completed the MSSA-Hospital.

However, if the organization plans to work as a collaborative group, ISMP Canada can set up a consistent approach to usernames for the group if all sites are registered in advance.

For more information, email mssa@ismpcanada.ca.

Share the Learning

After analyzing the findings from the MSSA-Hospital with your team, consider how you can share the results and associated learning within your hospital and organization. Sharing your learning is another way to support the development/enhancement of a culture of safety in your hospital and organization.

One way to share learning is through presentations to the senior leaders, staff and patients/caregivers. In an organization with multiple hospitals, there may be opportunity to share your findings in group education sessions.

Your presentation can highlight the strengths in your medication-use system and can also describe real or potential safety vulnerabilities and how you plan to address them. You can include updates and additional information, such as medication safety problems that staff have encountered and reported, medication incidents or near misses, issues and accomplishments in preparing for accreditation, or medication system reviews and plans for change.

Note:

Graphed data comparing your data to the aggregate dataset can be shared within your hospital and organization.

If you would like to share this data externally (e.g., through a presentation or publication) permission is required from ISMP Canada - please email mssa@ismpcanada.ca.

SECTION 3: PRINCIPLES SUPPORTING PATIENT SAFETY

Understanding Human Factors

Human factors engineering is the discipline concerned with understanding how humans interact with the world around them. It draws upon applied research in many areas, such as biomechanics, kinesiology, physiology, and cognitive science, to define the parameters and constraints that influence human performance. This knowledge can be used to design tools and processes so that they are compatible with human characteristics. Conversely, if systems are not compatible with human characteristics, performance can be negatively affected.

Many things we interact with every day are not designed to consider human limitations, sometimes making us feel inept. Think about some things that you find difficult to use – it's likely that the problem is the product design – not you! Human factors can be summed up as, "Fit the task or the tool to the human, not the other way around."

A Systems Approach

A systems approach is one in which human factors have been considered in the design. In a systems approach, when things go wrong, consideration is given to underlying factors that influenced the actions of the care providers involved, rather than directing attention solely to the provider-patient interface.

There are many elements that influence human performance. Understanding human factors helps to design sustainable processes that reduce the likelihood of human error, thereby enhancing patient safety.

Hierarchy of Effectiveness

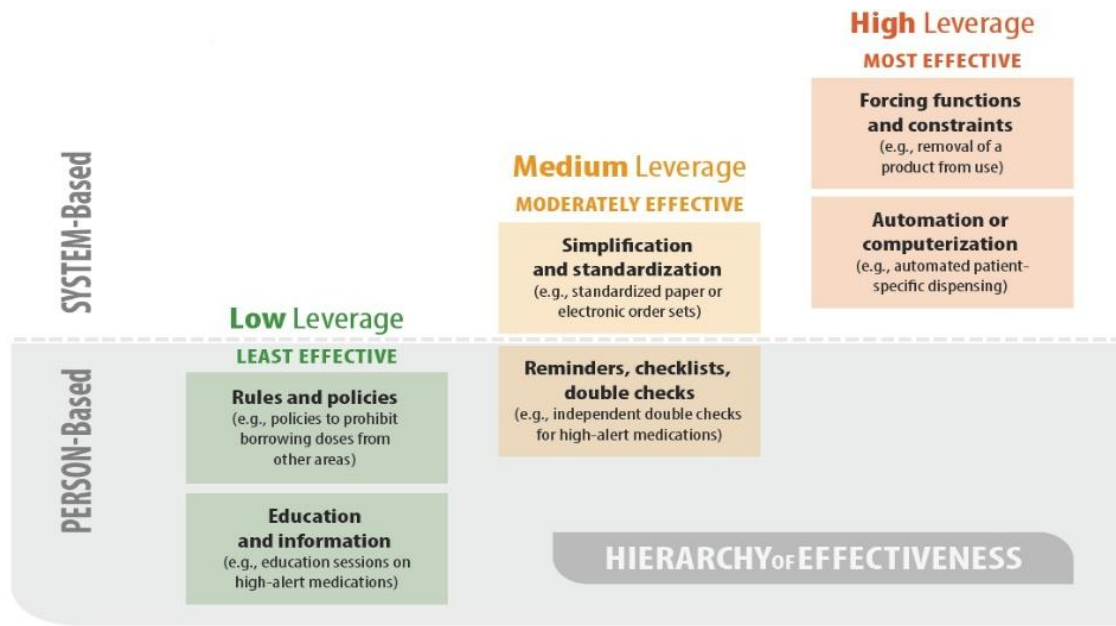
The hierarchy of effectiveness refers to strategies that are more likely to support strong systems, in turn supporting individual providers to take the intended actions in patient care processes. Understanding the types of actions that are more likely to be successful over the long term can help teams to implement improvements in a successful and sustainable way.

The hierarchy of effectiveness divides possible improvement strategies into 2 broad categories:

- *Person-based strategies* such as education and policy development are necessary, but on their own, are unlikely to result in significant process changes because they require individuals to retrieve information from their memory at a future time. Reminders and checklists, while still person-based, help to show individuals the correct path at the time they need the information. Double checks provide an added layer of safety for high-risk situations (for example, administration of high-alert medications).
- *System-based strategies* begin with simplification and standardization, which are helpful in streamlining processes and supporting all team members following the process to do it in the same way. The highest leverage strategies are automation/computerization and forcing functions and constraints. Automation helps us to manage large quantities

of information in a more efficient and standardized way, and computerization can replace a manual process with accuracy and efficiency. Forcing functions and constraints are intended to force a particular path or prevent an incorrect action.

The hierarchy of effectiveness developed by ISMP Canada¹ illustrates that the strategies at the top are considered most effective (higher leverage actions) and that those further down are less effective (lower leverage actions).



Just Culture

Just culture refers to a safety-supportive model of shared accountability, where organizations are accountable for the systems they design, for supporting the safe behavioural choices of care team members and patients/caregivers, and for responding to care team behaviours in a fair and just manner. In turn, care team members are accountable for the quality of their behavioural choices and for reporting errors and system vulnerabilities.

A behavioural choice is an intentional act undertaken by the free exercise of one's judgment and represents the purposeful behaviour we intentionally employ while engaging in our day-to-day activities. Human error is not a behavioural choice; it is unintentional behaviour.²

The phrase "just culture" was coined by David Marx,³ who outlined the principles for achieving a culture in which health care providers feel comfortable disclosing errors—including their own—while maintaining professional accountability.

¹ Designing effective recommendations. Ontario Critical Incident Learning. 2013 Apr [cited 2026 May 1];4:1-2. Available from: https://www.ismp-canada.org/download/ocil/ISMPCONCIL2013-4_EffectiveRecommendations.pdf.

² Adapted from the 2012 ISMP International Medication Safety Self Assessment® for Oncology.

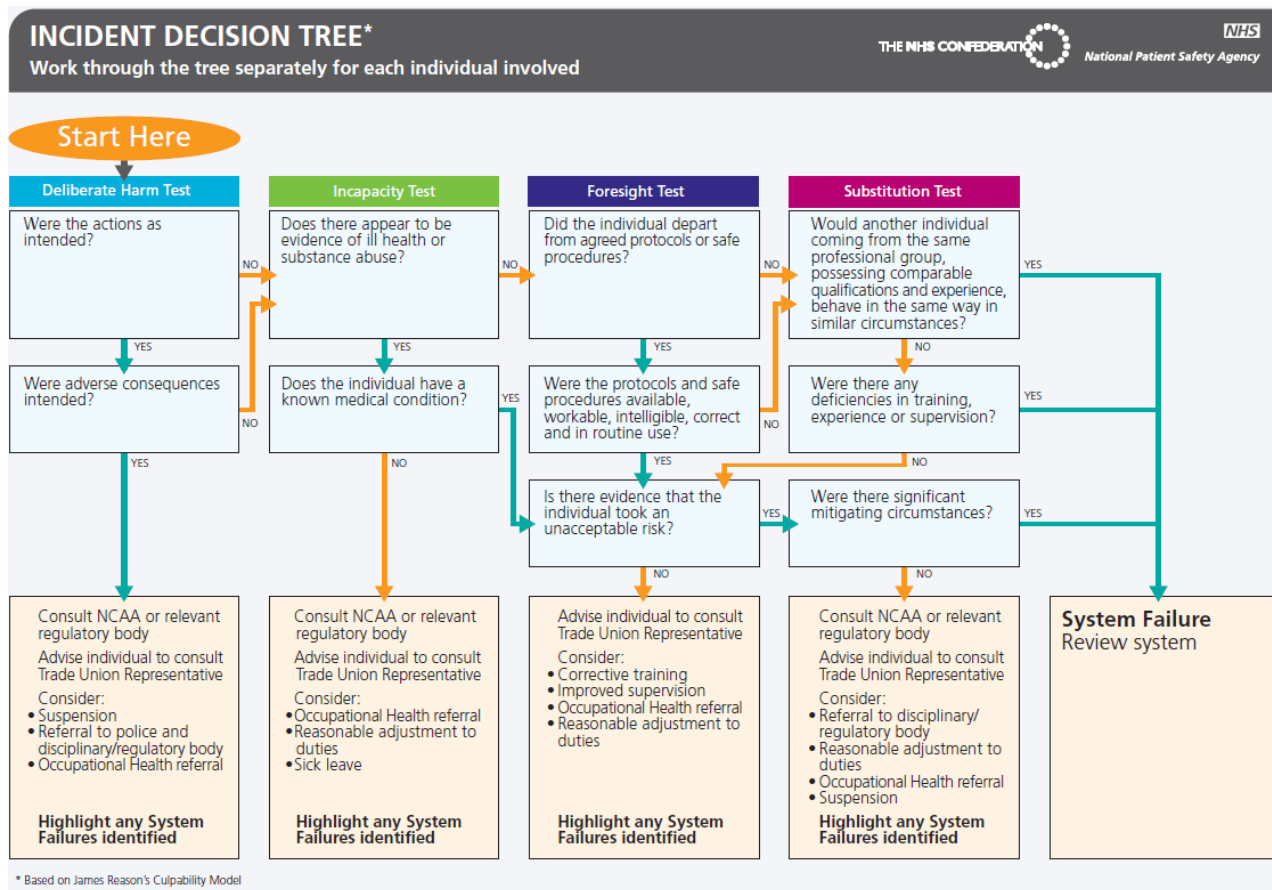
³ Marx D. Patient safety and the "just culture": A primer for health care executives. New York (NY): Columbia University; 2001 [cited 2026 May 1]. Available from: <http://psnet.ahrq.gov/resource.aspx?resourceID=1582>

A just culture guide⁴ and incident decision tree (shown below)⁵ were designed to support appropriate review and actions following a patient safety incident.

Traditionally, individual health care providers have been held accountable for all errors or mishaps that occurred during their care. By contrast, a just culture recognizes that individual practitioners should not be held accountable for system failings over which they have no control.

A just culture also recognizes that many errors represent predictable interactions between human operators and the systems in which they work. However, in contrast to a culture that touts “no blame” as its governing principle, a just culture does not tolerate conscious disregard for obvious risks to patients or clear misconduct (e.g., falsifying a record or performing professional duties while intoxicated).

In summary, a just culture recognizes that competent professionals make mistakes and acknowledges that even competent professionals will develop unhealthy norms (shortcuts, “routine rule violations”), but has zero tolerance for reckless behavior.



⁴ Just culture guide. England (UK): National Health Service. n.d. [cited 2026 May 1]. Available from: <https://www.england.nhs.uk/patient-safety/a-just-culture-guide/>

⁵ The incident decision tree: Information and advice on use England (UK): National Health Service. 2003 [cited 2026 May 1]. Available from: <https://riskmngworkshop.wordpress.com/wp-content/uploads/2015/10/incident-decision-tree-guideline.pdf>

This User Guide is designed to support the use of the Medication Safety Self-Assessment for Hospital (MSSA-Hospital), Canadian Version IV (2026). It offers guidance for facilitation of the assessment process and support for using the results to develop a quality improvement plan.

For questions about the Medication Safety Self-Assessment for Hospital (MSSA-Hospital), or this User Guide, email mssa@ismpcanada.ca.

ISMP Canada gratefully acknowledges financial support from Health Canada.

Views expressed in this document are those of ISMP Canada and do not necessarily reflect those of Health Canada.

