Overview:

- Medication safety in long-term care (LTC) home settings is critically important to the health and well-being of LTC residents.
- In the final report of the Public Inquiry into the Safety and Security of Residents in the Long-Term Care Homes System, Justice Gillese emphasized the importance of medication management in LTC homes in keeping LTC residents safe.
- Justice Gillese made a series of findings and recommendations to strengthen medication safety in LTC homes, including recommendations about how technology can be used to strengthen medication management.
- This included specific recommendations that the Ministry of Long-Term Care (MLTC) establish a program to provide LTC homes with funding to support improvements to medication-related technology.
- LTC sector partners and stakeholders have confirmed the valuable role that technology can play in supporting medication safety.
- Medication safety technologies have been demonstrated to be effective in supporting safety in care settings, including in acute care and LTC homes.
- That is why MLTC is launching a Medication Safety Technology (MST) program. This program will support LTC homes in adopting technologies that will help to strengthen LTC home medication management systems.
- This investment is intended to support homes in working towards the implementation of medication safety technology systems that strengthen safety throughout the medication use cycle.
- The goals of this program are to:
    1. Strengthen medication safety so that LTC residents experience less risk of adverse outcomes, such as falls and unnecessary hospitalizations.
    2. Increase the adoption of medication safety technologies across the LTC sector.
- The MST program will provide supplementary funding to LTC homes over a three-year period to strengthen the safety and security of LTC medication management systems by acquiring access to technologies that support:
    - The secure and accurate electronic transmission and handling of prescription information.

  - The optimization of medication regimens for LTC home residents, including the identification of opportunities for deprescribing and decision support at the point of prescribing.
  - The strengthening of the security of the drug supply.
  - The accurate administration of medication.
  - The oversight and monitoring of the medication use process.
  - The improved functioning of the medication management system in the LTC home.

- The ministry recognizes that medication management is a complex activity, particularly in LTC settings and that a multi-faceted approach to strengthening medication safety is important.
- The ministry also recognizes that there are varying needs across LTC homes with respect to strengthening their medication management systems. This is why the ministry is providing LTC homes with the flexibility to:
  - choose between a variety of MST options that offer a range of complexity and expense to implement;
  - submit a request to the ministry for consideration of technologies that meet the goals of the MST program but are not identified on the list of eligible technologies.
  - use MST funding to support implementation activities, including implementation and change management support.
- For more details, please see the ministry's *Long-Term Care (LTC) Medication Safety Technology (MST) Program Funding Policy (Funding Policy).*

1. What is medication management?

- Generally, medication management refers to the process of prescribing, dispensing, storing, administering, and monitoring the effects of medication to reduce the risk of medication errors and incidents for LTC residents.
- Effective medication management can improve the safety and quality of life for LTC residents and help to ensure that LTC residents experience less risk of negative outcomes due to medication, such as falls and hospitalization.

2. Why is effective medication management so important?

- Effective medication management is critical to ensuring safety in LTC environments. LTC residents are prescribed more medications than individuals in any other setting to treat multiple comorbid conditions.[i]

- On average, seniors living in LTC homes are prescribed 9.9 drug classes – significantly higher than seniors in the community.[ii]

- Polypharmacy is the concurrent use of multiple medications and is often defined as the routine use of five or more medications.[iii]

- Polypharmacy increases the complexity of medication regimens and is a significant contributor to adverse drug events:
    - As the number of drugs prescribed to an individual increases, the risk of negative outcomes (e.g. adverse drug reactions, hospitalizations, death) also increases.
    - The use of multiple drugs is associated with a higher rate of potentially inappropriate drug use and a higher risk of adverse drug events.[iv]
    - The use of multiple drugs also increases the rate of emergency department visits and hospitalizations.[v]
- Given the complexity of their medication regimens, LTC residents are at increased risk of unintentional medication errors and incidents that can result in negative outcomes.

3. How can LTC medication management systems be improved?

- Medication management is a complex, multifaceted operation involving multiple people and numerous steps.[vi]

- Because of this complexity, evidence supports the use of multi-faceted approaches, involving multiple interventions, for improving medication practices.[vii]

- Technological enhancements to medication management systems can be effective interventions to improve medication safety, especially when implemented as part of a systematic, team-based, quality improvement approach that considers analysis of the medication management system and medication incidents that have occurred.[viii]

  *Note: LTC homes must follow all the rules for medication management found in the Long-Term Care Homes Act, 2007 (*LTCHA*) and Regulation 79/10 (*Regulation*) under the* LTCHA*.*

4. How can technology help to strengthen medication safety?

- The introduction of technology to automate and computerize medication-related activities can enhance medication safety.[ix]

- Technology can be used to strengthen medication safety at all stages of the medication use process in LTC homes, including: prescribing, pharmacist verification, dispensing, storage, administration, and monitoring.

- Medication safety technology can be most effective when integrated into "closed-loop" electronic medication management systems that cover the entire medication use process. As Justice Gillese noted in her final report:

> *"Hospitals are increasingly moving toward implementing closed-loop electronic medication management systems to improve overall medication safety. These closed-loop systems comprise 'electronic system components that support all stages of medication management including prescribing, dispensing and medication administration.' While it may not be feasible for LTC homes to immediately implement all components of a closed-loop system, they can move closer to it by integrating one of the technologies…into their existing medication management systems."*[x]

5. What is a 'closed-loop' electronic medication management system?

- A closed-loop electronic medication management system refers to a technology infrastructure that has interconnected electronic system components that support all stages of medication management including prescribing, dispensing, medication administration, and monitoring drug use. These are end-to-end electronic medication management systems with a seamless flow of information along the process[xi].

- Closed-loop electronic medication management systems can contain features such as:
    - An electronic health record (EHR), which is a "secure, integrated collection of a person's encounters with the health care system" and "provides a comprehensive digital view of a patient's health history"[xii]. EHRs form the foundation for effective electronic medication management systems and can include access to information such as: lab results, diagnostic images, dispensed medication, etc.

  - Electronic ordering of medications with integrated clinical decision support for prescribers at the point of prescribing, without a need to further transcribe the prescription.
  - Electronic entry of prescriber instructions into the EHR.
  - Electronic review of prescriptions by a pharmacist.
  - Integration of the LTC home's EHR with the pharmacy service provider (PSP) system.
  - Remote access to information (e.g. contained in an EHR or electronic medication administration record) by the relevant professionals in the circle of care (PSP, prescriber, LTC nurse, etc.).
  - Automated dispensing cabinets (ADCs) with the following features:
    - Ability to be profiled to contain (or be linked to) resident-specific information.
    - Ability to be accessed securely and monitored (i.e. access and transactions are recorded).
    - Ability to be integrated with eMAR, EHR and pharmacy systems.
    - Ability for the PSP to review medication orders remotely and to release medications upon review by a pharmacist.
    - Ability to dispense medications on a unit-dose basis.
  - Electronic collaboration and communication between care team members, including at transition of care.
  - Automatic generation of reports (e.g. missed doses, etc.).
  - Connection to information resources across care settings (e.g. hospital records, lab results, medication history, diagnostic images, etc.).

- While MLTC does not expect every LTC home to implement all of the technologies eligible under the MST program, LTC homes are encouraged to consider the concept of a closed-loop electronic medication management system as a goal for their medication management systems.

- As part of a needs assessment planning process, homes should give consideration to not only how MSTs can be integrated into the existing technology infrastructure of the home but also the integration of MSTs in the future. LTC home licensees need to work with their contracted pharmacy service provider (PSP) to ensure that integration of these systems can work in the home and all requirements in the LTCHA and Regulation are met.

6. What technologies are eligible under the MST program and how will they help to strengthen medication safety?

- The ministry has identified five of the key types of MSTs that have been demonstrated to be effective in strengthening medication safety and can be incorporated into closed-loop electronic medication management systems. These are:

Technology	Description
Computerized Prescriber Order Entry (CPOE) or e-Prescribing.	• CPOE is an electronic or computerized system into which an authorized prescriber directly enters medical orders, including medication orders. CPOE systems ideally also offer integrated clinical decision support. • Electronic prescribing is the secure electronic creation and transmission of a prescription between an authorized prescriber and a patient/resident's pharmacy, using clinical EHR and pharmacy management software. • CPOE/e-Prescribing can strengthen medication safety by: o Reducing the risk of errors at the point of prescribing (especially where decision support is provided in conjunction with e-Prescribing technology) o Enabling clinical decision support to occur at the point of prescribing in order to optimize medication therapy outcomes. o Reducing the risk of transcription errors (e.g. when prescriptions are handwritten and need to be transcribed) o Providing the ability for secure and timely electronic communication between pharmacists and prescribers (and other members of the interdisciplinary team) when integrated with the pharmacy's system and/or the LTC home's EHR. o When integrated with electronic medication reconciliation, can facilitate a more efficient medication ordering process.
Electronic medication administration records (eMARs)	• An electronic record of medication use that is maintained digitally on a computer system. An eMAR indicates medications to be administered on a computer screen and doses are recorded through data entry.

Technology	Description
	• eMARs can strengthen medication safety by: ○ Improving access to health information by the entire health team. ○ Preventing medication incidents by allowing resident-specific alerts to be identified in real-time. ○ Facilitating efficient and/or automated completion of documentation by nursing staff. ○ Providing the capability to gather and analyze data with respect to medication administration in LTC homes.
Machine-Readable Coding for Medication Administration (e.g. bar code medication administration)	• Machine-readable coding uses an encoded identifying mark (e.g., bar code) representing data that can be read with a computerized reading device, such as a scanner or imager for the purposes of medication administration. • Machine-readable coding can strengthen medication safety by helping to automate the process of checking that the right medication is being given to the right resident.
Automated Dispensing Cabinets (ADCs)	• A drug storage device or cabinet that electronically dispenses medications in a controlled fashion and tracks medication use. • There are different types of ADCs. For the purpose of the MST program, the type of ADC (and associated functionality) being referenced are the ward-based systems described in the Final Report of the Gillese Inquiry (see pages 98 to 104 of Volume 3 the Final Report). • ADCs allow medications to be stored and dispensed near the point of care while controlling and tracking drug distribution. • ADCs can strengthen medication safety by: ○ Controlling access to critical and high-risk medication (e.g. opioids) with an ability to track and produce reports on what was accessed and when access occurred. ○ Being linked to resident eMAR profiles and thereby only allowing the release of medication for a specific individual if it has been prescribed for them or requiring identification of the resident for whom medication was

Technology	Description
	retrieved (with follow up matching of orders by pharmacy). ○ Enabling the storage of critical drugs on-site at the home with a direct electronic linkage to the PSP system, which allows for the remote updating of a resident's eMAR profile and the electronic release of drugs from the ADC, which may reduce the time to first dose for LTC residents. ○ Providing opportunities to improve management of the after hours/emergency drug supply ○ Providing opportunities to reduce time spent conducting shift counts for controlled substances (e.g. opioids), releasing time to other care priorities.
Electronic Clinical Decision Support Systems (eCDSS)	• An eCDSS is an electronic tool that is integrated or interfaced with the EHR and assists health care providers in making medical decisions, and, specifically, decisions about a resident's medication regimen. • eCDSS can be integrated with CPOE/e-Prescribing systems to provide real-time alerts in response to data in the EHR at the point of prescribing or at other points in the medication use process. • eCDSS can be integrated with CPOE/e-Prescribing systems to provide real-time alerts in response to data in the EHR at the point of prescribing. • They can also be systems that are not integrated with CPOE/e-Prescribing systems (while still being integrated with the EHR) and used to support other points in the medication use process beyond initial prescribing, such as medication reviews. • Examples of eCDSS include: ○ Software that provides real-time alerts at the point of prescribing. ○ Software to support electronic medication reconciliation. ○ Electronic deprescribing tools. ○ Electronic medication review tools.

Technology	Description

	• eCDSS can strengthen medication safety by:
	  ○ Alerting prescribers to safety issues such as: medication allergies, drug-drug interactions, drug-disease interactions, therapeutic duplicates, dosing issues related to renal failure, age-related potentially inappropriate medications (e.g., Beers List) during initial prescribing;
	  ○ Generating reports to support medication reviews (e.g. by identifying deprescribing opportunities and supporting medication reconciliation).

7. How can these technologies support medication safety?

- Individually, these types of technologies can help to strengthen medication safety at different stages of the medication management cycle.
- Taken together, these technologies can be integrated to create a closed-loop system of managing medication and their effects throughout the medication management cycle and support safety at each stage.
- The integration of these technologies into a closed-loop system can allow for the maximization of medication safety benefits.
- In order to achieve these benefits, the selection and implementation of technologies should be done following a planning process that:
  - Identifies the areas for improvement in the medication management system;
  - Establishes medication safety priorities;
  - Gives careful consideration to the selection of technologies that will help to address medication safety priorities and lay the foundation for future MST adoption and the establishment of a closed-loop medication system;
  - Identifies existing technology infrastructure capacities and how further technology can be integrated into it;
  - Considers other technology initiatives underway and systems currently in place in organizations in the community (e.g. local hospital, Ontario Health Team (OHT), etc.);

- Identifies future MST needs and considers how the implementation of new technologies should be phased.
- Works closely with the PSP for the home to ensure that the licensee meets all the requirements of the LTCHA and Regulation and any terms of the contract between the licensee and the PSP.
- Involves close collaboration with the PSP for the home to ensure that the licensee meets all the requirements of the LTCHA and Regulation and any terms of the contract between the licensee and the PSP.

8. How were these technologies selected as eligible expenditures for the MST program?

- In addition to advice provided by Justice Gillese with respect to specific technologies that should be implemented in LTC medication management systems, the ministry also consulted with medication safety experts and a broad range of sector stakeholders.

- These technologies have been demonstrated to be effective in supporting enhanced medication safety in health care and congregate living settings, including in the LTC sector in Ontario.

9. How do LTC homes identify the technologies they should be implementing?

- To help with the identification of MSTs that can support the medication management system in the home, LTC homes must complete a needs assessment process that includes:
    - An evaluation of the medication management system of the LTC home using the Medication Safety Self-Assessment for Long-Term Care (MSSA-LTC) tool developed by the Institute for Safe Medication Management Practices Canada (ISMP Canada).
    - The development of a medication safety technology plan (or additions to existing technology plans) to map out current areas for improvement within their medication management system, identify what their medication safety priorities are, how the new or enhanced technology will advance these goals, and what the specific outcomes are that will be achieved by implementing each technology. Baseline measures for the outcomes expected to improve should be collected and tracked over time.
- In developing this plan, LTC homes should consider factors such as:

- **Medication safety needs:** LTC homes should consider the functionality of the eligible technologies and assess which would address the needs of their particular medication management system. In doing so, LTC homes can consider the results of quarterly and annual evaluations of their medication management systems, including reviews and analysis of the steps in the medication management cycle where medication incidents and errors are more prevalent or likely to occur, and the technology(ies) that would be best to address the specific needs of that medication management system. The MSSA-LTC tool can help homes in identifying areas for improvement within the medication management system and consider technologies to address these areas.
- **Functionality:** LTC homes should consider the functionality of the MST(s) they are considering for implementation. Within each category of eligible items, there will be varying levels of functionality that may or may not support the development of closed-loop MST systems and/or optimal medication management. For example, while CPOE/e-Prescribing systems without integrated clinical decision support can improve medication safety, a system that contains this functionality can yield greater medication safety benefits. Similarly, there are varying degrees of functionality with ADC technologies. As noted in Justice Gillese's final report, "the elements that ensure effective implementation and use of ADCs include:
    - linking the ADC to patient profiles so that the ADC records which medications were taken out for which resident;
    - basing what can be taken out on medication orders already entered into and approved within the system;
    - having unit dose packaging so that the nurse has access to only one dose at a time; and
    - interfacing the ADCs with the PSP system to provide for pharmacist review."[xiii]
- **The existing technology infrastructure:** LTC homes should consider which technologies are already in place in the home and how the MST-eligible technologies can be integrated into the existing technology infrastructure, including interoperability between systems. This should involve consideration of interoperability between the home's systems and others in the community, as appropriate.
- **Future technology needs:** LTC homes should consider future MST needs as part of the planning for implementing MST-eligible technologies. Consideration should be given to what future technologies may be

implemented and how these systems can be integrated into the home's technology infrastructure. This should include consideration of working towards an end-to-end system of connected technologies that support safety throughout the medication management cycle, including: accurate medication ordering, deprescribing activities, secure storage and access of medication, safe administration of medication, and capabilities to provide sophisticated analysis of medication usage and monitoring of medication management activities and medication incidents.

- **Integration with Existing Workflows:** LTC homes should consider how existing workflows within the home should be taken into account when selecting and implementing technology. For example, if considering the selection of Computerized Prescriber Order Entry (or e-Prescribing), LTC homes should consider needs related to other types of orders that are made by prescribers that are not related to medication.
- **Suitability:** LTC homes should consider whether a given technology is suitable for the existing home environment (physical plant, staffing mix, resident mix, etc.).
- **Sustainability:** LTC homes should consider how the technology to be chosen can be sustained following implementation and beyond the three-year funding horizon for the MST program.
- **Feasibility:** LTC homes should consider whether the implementation of the technology is feasible given the home's capacity to implement the technology being considered.

- LTC homes should also ensure that appropriate consultation with LTC home staff and partners occurs to support the identification and implementation of technologies. This can include:
  - the interdisciplinary team responsible for evaluating the medication management system,
  - residents and family members,
  - staff,
  - prescribers,
  - local community organizations (including hospitals) that may have already implemented such technology,
  - the local OHT (if applicable),
  - technology vendors.

- Note that LTC homes must continue to follow all the rules for medication management found in the LTCHA and Regulation as they implement MSTs. LTC homes also need to work with the home's contracted PSP to ensure that the licensee meets all the requirements of the LTCHA and Regulation and any terms of the contract between the licensee and the PSP.

10. What can LTC homes be considering in order to support successful implementation?

- Successful implementation of MSTs in the LTC context can be supported by:
    - Consultation with and collaboration between members of the LTC home community and, particularly, the interdisciplinary team in order to ensure that the requirements for each particular discipline or participant (e.g. prescribers, nurses, pharmacy professionals, personal support workers, administration etc.) are addressed and integrated.
    - Working closely with the contracted PSP to consider opportunities and ensure that acquired technology can be integrated with pharmacy systems and all requirements set out in the LTCHA and Regulation continue to be met.
    - Considering a phased approach to implementation, which can help to integrate the new technology(ies) into existing workflows in the home
    - Conducting an ongoing planning process that considers MST implementation in the context of broader medication safety goals for the home.

11. What resources can LTC homes draw on to support MST planning and implementation?

- There may be existing resources from which LTC homes can draw on to support the planning and implementation of MSTs. For example:
    - LTC homes should consult with their contracted PSP as part of their planning process. In addition, some PSPs currently support homes by offering MSTs as part of their service packages.
    - Technology vendors with which LTC homes have existing relationships may be familiar with and offer digital health solutions, including MSTs.
    - Existing digital health initiatives that are currently underway may be considered as part of MST planning, including, for example, initiatives supported by Canada Health Infoway. See the Canada Health Infoway website: https://infoway-inforoute.ca/en/

- Where applicable, OHTs may be engaged in planning with respect to MSTs and/or other technologies for the populations they serve. To find out more about the digital health initiatives in your area, consider contacting the Regional Digital Health Lead in your Ontario Health Region:
    - OH-West_DigitalVirtual@ontariohealth.ca
    - OH-East_DigitalVirtual@ontariohealth.ca
    - OH-Central_DigitalVirtual@ontariohealth.ca
    - OH-North_DigitalVirtual@ontariohealth.ca
    - OH-Toronto_DigitalVirtual@ontariohealth.ca
- Hospitals may already have engaged in the selection and implementation of MSTs and closed-loop medication systems.
- The Institute for Safe Medication Practices Canada has a number of resources that can be used to support planning for medication safety improvements. See the ISMP Canada website: https://www.ismp-canada.org/index.htm
- The final report of the Gillese Inquiry, and particularly Chapter 17 of the report (Volume 3: http://longtermcareinquiry.ca/wp-content/uploads/LTCI_Final_Report_Volume3_e.pdf), contains useful advice and information about making improvements to medication safety systems and the challenges and opportunities that MSTs present. Justice Gillese quotes an excerpt from a report issued by the US Institute of Medicine ("To Err Is Human: Building a Safer Health System") that speaks directly to what needs to be in place for the successful implementation of a new MST:
    - "a strong clinical and executive leadership to drive change;
    - a consideration of the entire medication use process, not just the particular pieces being affected by the technologies contemplated for implementation;
    - an understanding of the state, technologies, processes, strengths, and weaknesses in the existing medication use process, before planning and design;
    - before implementation of these technologies, a shared vision of what the ultimate medication use process will look like and its impact on all involved clinicians, to drive the planning efforts;
    - a focus on clinical change management, including communication;
    - a unified design, created by a multidisciplinary team, including the information system, work processes, corresponding policies, and supporting technologies;

- extensive design and implementation planning to reduce the risk of adverse outcomes and false starts in the implementation process;
- appropriate infrastructure in place to support rapid communication and integration among systems; and
- organizational commitment to dedicating resources to ensure full implementation."

12. What general considerations should LTC homes keep in mind when undertaking MST planning and implementation?

- When considering the implementation of new technologies, LTC homes should consider the following:
    - Seek to avoid adopting technology without comprehensive and informed planning. Without a clear strategy, there is a risk of acquiring technology that is not compatible with current systems or workflows.
    - Understand that the purchase price of technology is only one part of the potential cost. Significant time and resources may be required for training staff and implementation efforts (e.g., remodelling of storage or workspace, upgrading of wifi connectivity, etc.).
    - Ongoing maintenance, support, and subscription costs will need to be considered over the life of the technology implementation.
    - The implementation of technology may engender significant change management costs for users/staff.
    - The considered adoption of technology may increase safety, but does not address all safety issues in the home.
    - Develop a communication plan to inform senior leadership and staff about MST implementation progress.

13. Why are LTC homes being asked to complete an evaluation of their medication management system using the Medication Safety Self-Assessment for Long-Term Care (MSSA-LTC) tool developed by the Institute for Safe Medication Practices Canada (ISMP Canada)?

- LTC homes in Ontario are required to undertake an annual evaluation of their medication management systems using an assessment instrument specifically designed for that purpose. The MSSA-LTC is a tool that can be used for these

purposes that has been used by many homes in the LTC sector since its introduction.

- The completion of the MSSA-LTC will be beneficial for LTC medication management because it will:
    - Support homes in establishing a baseline and planning for their medication safety system improvement efforts;
    - Identify areas of improvement, where MSTs may be able to assist, and thereby support homes in selecting the optimal MSTs for their home's needs;
    - Allow homes to track their progress in making medication system improvements and compare themselves (anonymously) with their peers;
    - Support the adoption of consistent language across the sector with respect to medication safety quality improvement.
- Note that the ministry never receives any identifying information about a home's MSSA-LTC results.

14. Why has the ministry taken this approach to a program that supports the adoption of medication safety technology in the LTC sector?

- The ministry recognizes that medication management is a complex activity, particularly in LTC settings and that a multi-faceted approach to strengthening medication safety is important.
- The ministry also recognizes that a "one size fits all" approach to supporting technology enhancements will not work for the sector. There are varying needs across LTC homes with respect to strengthening their medication management systems and that homes have differing technology infrastructure already in place. This is why the ministry is providing LTC homes with the flexibility to:
    - choose between a variety of MST options that offer a range of complexity and expense to implement;
    - submit a request to the ministry for consideration of technologies that meet the goals of the MST program but are not identified on list of eligible technologies.
    - use MST funding to support implementation activities, including change management support.

15. Are all LTC homes eligible?

- All LTC home licensees that have a direct funding agreement (DFA) with the Ministry of Long-Term Care are eligible to receive MST program funding.

16. Are new homes eligible to receive MST program funding?

- Yes, new LTC homes that are licensed or approved under the LTCHA are eligible for MST funding.

17. Is the ministry expecting that homes implement all technologies?

- No, LTC homes are not expected to implement all of the eligible technologies.
- The MST program is not a “one size fits all” approach. LTC homes are expected to select one or more of the identified technologies based on an assessment of which would be best suited to strengthen medication safety within the context of their home, while giving consideration to future MST adoption.

18. What if an LTC home has already implemented all of these technologies?

- If an LTC home has already implemented all of these technologies, they may submit a request to the ministry for consideration of other technologies that meet the goals of the program.
- Homes that have already implemented ADCs (as defined in the ministry’s funding policy) may use MST funding to cover costs associated with their ongoing implementation.

19. Does the introduction of this program mean that the ministry wants LTC homes to take a fundamentally different approach to medication management?

- No, the MST program is intended to complement and support existing arrangements that support medication management in LTC homes and efforts to strengthen medication safety.
- The introduction of the MST program is not intended to alter relationships with or services provided by existing partners, such as the PSP with which the home has an existing contract.

- All the requirements in the LTCHA and Regulation related to drugs and medication management continue to apply to licensees.

20. Does an LTC home need to purchase these technologies and associated equipment, or should they be leased?

- The ministry is not prescribing how LTC homes acquire access to eligible items. Decisions to purchase, lease, or otherwise acquire access to items eligible for the MST program should be considered as part of the planning process.

21. The MST program funding policy states that funding must be used to acquire (or access) technologies that had not been in place as of April 1, 2021. What does this mean?

- The MST program is intended to help strengthen medication safety by increasing the adoption of technologies to support medication management. This means that MST funding is to be used to fund 'net-new' technology adoption. In keeping with this, technology that was in place and being used by the home prior to April 1, 2021, regardless of whether it was being paid for by the home or not, is not eligible for MST funding. For example, if the home's contracted PSP was paying for the electronic medication administration record technology being used by the home as of April 1, 2021, this is not eligible for MST funding, even if the home elects to pay for it directly at a later point.

  Exceptions to this provision, which are outlined in the MST Funding Policy, include:

  - situations where a home has already implemented automated dispensing cabinets (ADCs) and may use MST funding for their ongoing use and maintenance, and
  - situations where a technology is already in place and a Licensee wishes to add additional functionality and may use MST funding to cover the additional cost associated with the new functionality.

22. Funding is only being provided for over a three-year period; how do I implement technologies for the long term when I'm only receiving funding for three years?

- The ministry recognizes that while some of the costs associated with acquiring and implementing MSTs will be one-time costs, many MSTs will have ongoing subscription and/or maintenance costs.

- As part of their planning for MST implementation, LTC homes are asked to incorporate sustainability planning into their overall planning activities to allow for the ongoing use of MSTs beyond the three-year horizon for the MST program.

23. Technology is great but it's not the full solution. What else is the ministry doing?

- The ministry recognizes that medication management is a complex process that requires a multi-faceted approach when seeking to make improvements.
- That's why, in addition to supporting the adoption of technology, the ministry has also contracted with ISMP Canada for three years to support LTC homes in strengthening medication safety.
- Through the provision of education, training, and tools, this initiative will help homes to continuously improve their medication practices to:
    - Reduce the risk of adverse events such as falls and hospitalizations for LTC residents
    - Improve transitions between hospitals and LTC homes to reduce the risk of medication errors in handoffs in care
    - Learn from previous experiences in order to improve resident safety
    - Improve resident engagement in the medication use process and resident quality of life
    - Reduce the number of medication errors and incidents.
- The ministry will also continue to explore ways to support LTC homes in strengthening medication safety.

24. What do I do if I have further questions about the MST program?

- Please contact the ministry at MLTC.correspondence@ontario.ca.

[i] Ellis, W., Kaasalainen, S., Baxter, P., & Ploeg, J. (2012). Medication management for nurses working in long-term care. CJNR (Canadian Journal of Nursing Research), 44(3), 129.
[ii] Canadian Institute for Health Information. Drug Use Among Seniors in Canada, 2016. Ottawa, ON: CIHI; 2018, 36.
[iii] Medication Safety in Polypharmacy. Geneva: World Health Organization; 2019 (WHO/UHC/SDS/2019.11).
[iv] Canadian Institute for Health Information. Drug Use Among Seniors in Canada, 2016. Ottawa, ON: CIHI; 2018, 9.

[v] Canadian Institute for Health Information. Drug Use Among Seniors in Canada, 2016. Ottawa, ON: CIHI; 2018, 9.
[vi] Agrawal, A. (2009), Medication errors: prevention using information technology systems. British Journal of Clinical Pharmacology, 67: 681-686.
[vii] Technical Series on Safer Primary Care. Geneva: World Health Organization; 2016. Licence: CC BY-NC-SA 3.0 IGO
[viii] ISMP Canada Critical Incident Learning Bulletin, "Designing Effective Recommendations", Issue 4, April 2013.
[ix] ISMP Canada Critical Incident Learning Bulletin, "Designing Effective Recommendations", Issue 4, April 2013.
[x] The Public Inquiry into the Safety and Security of Residents in the Long-Term Care Homes System. (2019). Final Report, *Volume 3: A Strategy for Safety*, Chapter 17, page 98.
[xi] Agrawal, A. (2009), Medication errors: prevention using information technology systems. British Journal of Clinical Pharmacology, 67: 681-686.
[xii] Canada Health Infoway, https://www.infoway-inforoute.ca/en/solutions/digital-health-foundation/electronic-health-records
[xiii] [xiii] The Public Inquiry into the Safety and Security of Residents in the Long-Term Care Homes System. (2019). Final Report, *Volume 3: A Strategy for Safety*, Chapter 17, page 104.