



**Office of the Auditor General: Review of
Medication Management at Long-Term Care
Homes, Tabled at Audit Committee – April 30,
2018**

Table of Contents

Executive summary 1

 Purpose..... 1

 Background and rationale 1

 Objectives and criteria..... 2

 Findings 2

 Conclusion 7

 Recommendations and responses..... 8

Detailed review report..... 17

 Review of Medication Management at Long-Term Care Homes..... 17

 Introduction 17

 Background and context 17

 Review objectives and criteria..... 18

 Review scope..... 19

 Review approach and methodology 19

 Review observations and recommendations..... 20

Appendix A – Review objectives and criteria 42

Appendix B – Extract from a shipping report 45

Appendix C – Unsealed disposal bin 46

Appendix D – Medication log 47

Appendix E – Medication log 48

Appendix F – Drug close to expiry 49

Acknowledgements

The team responsible for this review, comprised of PricewaterhouseCoopers LLP, under the supervision of Sonia Brennan, Deputy Auditor General and the direction of Ken Hughes, Auditor General, would like to thank those individuals who contributed to this project, and particularly, those who provided insight and comments as part of this review.

Original signed by:

Auditor General

Executive summary

Purpose

The Review of Medication Management at City of Ottawa Long-Term Care Homes (LTC Homes) is a special project that was initiated by the Office of the Auditor General (OAG) in May 2017. This review was conducted in response to concerns raised through the City of Ottawa's Fraud and Waste Hotline in 2017.

Background and rationale

The City of Ottawa (City) is committed to providing quality long-term home care to seniors who can no longer live independently in their own homes. The City operates four LTC Homes located throughout the City that provide a range of services and programs designed for the well-being of all residents. Each of the City's LTC Homes is managed by an administrator who is accountable to the City's Director of Long-Term Care Services. The LTC Homes are governed by the Long-Term Care Homes Act, 2007 (LTCHA) and Ontario Regulation 79/10 (Regulation) (hereinafter referred to as the LTCHA and Regulation, respectively). The LTCHA came into force on July 1, 2010. Since that time, there have been a series of amendments to the LTCHA and the Regulation. To meet the requirements of the LTCHA and Regulation, each LTC Home must have written policies and protocols to ensure the accurate acquisition, dispensing, receipt, storage, administration, as well as destruction and disposal of all drugs used in the LTC Home.

The LTC Homes are funded by the City of Ottawa, the Ontario Ministry of Health and Long-Term Care, as well as resident fees set by the Province. Persons with limited income are eligible for a subsidy to reduce their accommodation rate. The four LTC Homes operated by the City of Ottawa are Garry J. Armstrong, Peter D. Clark, Centre d'accueil Champlain and Carleton Lodge.

This review is a special project that was initiated after the City's Fraud and Waste Hotline received a report regarding the medication management practices at one of the City's LTC Homes. In response to the complaint, the OAG is conducting a review of medication management at two LTC Homes, Garry J. Armstrong Home and Peter D. Clark Long-Term Care Home.

Objectives and criteria

The overall objective of this review is to determine whether LTC Homes, operated by the City, have appropriate practices, procedures and controls in place to ensure the accurate acquisition, receipt, dispensing, storage, administration, as well as destruction and disposal of medication in accordance with the LTCHA and Regulation. In developing the criteria, we referred to the LTCHA, the Regulation and the City's policies and procedures. The review objectives were as follows:

1. Management framework – An effective management framework exists to govern the management of medication within the LTC Homes.
2. Acquisition and receipt – The LTC Homes have effective systems and procedures in place to manage the acquisition and receipt of medications.
3. Storage – Adequate systems are in place to store and safeguard medications to prevent unauthorized access.
4. Dispensing/Pharmacy Service Provider (PSP) – Formal arrangements exist to govern the supply and dispensing of drugs.
5. Administration of drugs – Adequate controls are in place so that drugs are administered in accordance with the Regulation and the City's policies and procedures.
6. Destruction and disposal – Adequate controls are in place so that drugs are destroyed and disposed of in a safe and effective manner.
7. Emergency drug supply – The emergency drug supply is maintained in accordance with the requirements of the Regulation.

Findings

The key findings stemming from the review of the LTC Homes are as follows:

Review objective #1

Management framework – An effective management framework exists to govern the management of medication within the LTC Homes.

1.1 Gaps in the City's policies and procedures relative to the Regulation

We noted that the City's P&P No. 360.22 – Indicators and Audits policy does not include procedures to address the implementation and documentation of corrective actions stemming from audits and/or reviews of destruction and disposal of medications in keeping with the Regulation s.136(5)(b) and s.136(5)(c).

The overarching objective of P&P 360.22 states that quality assurance audits will be conducted on a regularly scheduled basis and that “*results shall be reviewed and action plans identified*”. However, P&P 360.22 does not provide a comprehensive set of procedures on *how* action plans will be identified, implemented and recorded as per s.136(5)(b) and s.136(5)(c).

While the scope of the Professional Practice Committee (PPC) includes addressing practice and operational issues such as discussing and providing direction on items related to interdisciplinary care and services, we noted that findings stemming from the Quality Improvement Reviews conducted by the pharmacy service provider indicate that some of the same issues were noted over consecutive reviews. While we were advised that actions are taken to address review findings in practice, there were no supporting documentation that provided evidence that corrective actions were implemented, which contravenes s.136(5)(c) of the Regulation.

Review objective #2

Acquisition and receipt – The LTC Homes have effective systems and procedures in place to manage the acquisition and receipt of medications.

2.1 Lack of sufficient information to determine if orders were placed and received by authorized personnel only

We could not determine whether the DigiOrders or the drug receipt documents were signed by authorized individuals due to the illegibility of the initials and/or signatures on the documents.

2.2 Drugs are not checked at the time of delivery

Our review found that drugs are accepted and signed for, but there was no verification of the drugs received prior to accepting the delivery. While there is a verification process on the following shift, discrepancies, if any, are only identified and communicated after the drugs have been signed for as received.

2.3 Inadequate safeguarding of drugs at the Home during delivery

2.3.1 Drugs stock is not adequately secured at [REDACTED]

We noted that the week’s supplies of drugs for the residents were in boxes left in bags at one Home’s [REDACTED] area while the pharmacy representative took the orders to the nurses’ station. The [REDACTED] is an area that is accessible to residents,

volunteers and visitors. Leaving the drugs at the [REDACTED] area allowed ease of access to the drugs and increases the risk of drug diversion.

2.3.2 Inadequate controls over custody of drugs at the [REDACTED] in the residents' area

Our review found that the drugs delivered to one unit at one Home were left unattended at the [REDACTED] while the pharmacy representative sought the nurse to accept custody of the drugs. Certain [REDACTED] are accessible to visitors and residents who are in the unit. Leaving the drugs unattended increased the risk of unauthorized access to the drugs, which included narcotics.

2.4 Medication information not adequately safeguarded

[REDACTED] were left unlocked, and this is where the medical information for each resident is stored within each unit. We also observed that the swipe card access provided to the pharmacy representative delivering medications gave access to a secured unit and the nurse was also not present at the time of delivery of the drugs.

Review objective #3

Storage – Adequate systems are in place to store and safeguard medications to prevent unauthorized access.

3.1 [REDACTED] were not consistently locked to prevent unauthorized access

We noted several instances when the [REDACTED] storing the week's supply of drugs could be accessed by unauthorized persons and taken from [REDACTED] when the nurses administering medications moved away from the [REDACTED] before the [REDACTED] auto-lock system was activated. There were also other instances where [REDACTED] were left unlocked and drawers could be opened to access drugs, which was sometimes due to the nurse being distracted by residents.

3.2 Controls over medications in government stock and residents' excess stock

3.2.1 Lack of controls to prevent unauthorized use of drugs that are stored in the LTC Homes' internal pharmacies

At both LTC Homes, there are no adequate systems in place to document the acquisition, removal and use of the drugs from the government pharmacy, which stores non-prescription drugs in bulk quantities, e.g. acetaminophen. As such, there is no way to know whether the drugs were removed for administration to a resident. There is also

no physical stocktaking and/or reconciliation done to identify anomalies between the quantities on hand against the order documents and dispensing documents.

3.2.2 Lack of proper systems to record and track residents' excess medication stock in medication rooms

Our review found that no record is maintained of the excess medications maintained on behalf of the residents. There is also no reconciliation or stocktaking done of the excess medications to ensure that the amounts in storage at any time agree to the amounts that were ordered.

3.2.3 Lack of cameras in rooms storing medications

We noted during our observations at both LTC Homes that the medication rooms and the government pharmacies did not have cameras in them. Given the volume of medication stored in these areas, cameras in the medication rooms and the government pharmacy could provide added security and mitigate the risk of drug diversion.

Review objective #4

Dispensing/Pharmacy Service Provider (PSP) – Formal arrangements exist to govern the supply and dispensing of drugs.

No key findings noted in this area.

Review objective #5

Administration of Drugs – Adequate controls are in place so that drugs are administered in accordance with the Regulation and the City's policies and procedures.

5.1 Evidence of medication administration by an authorized individual could not be determined due to illegible documentation (initials) on the Medication Administration Record (MAR)

We were unable to determine who administered the drugs due to the illegibility of the initials on the MAR, which could be attributed to the size of the space allowed for updating the document for administration. Accordingly, we are unable to conclude on whether the drugs were administered by an authorized individual as required under Regulation s.131(3) and City P&P No. 345.3 – Medication: Administration.

5.2 Identification of residents not consistently checked

During the medication administration process, other than addressing the residents by names, we did not observe a second form of identification being used to identify residents who were non-verbal. We noted several instances when residents who were non-verbal were not wearing bracelet/armbands to identify them in accordance with City P&P No. 345.3 – Medication: Administration.

5.3 Missing documentation on the MAR prevents conclusion on whether medication was administered

There were instances when the MAR had no notation to indicate administration of medication(s) to the resident on the particular dates and there were no corresponding incident reports for the respective dates. We observed that the nurses were frequently interrupted during the medication rounds, which could be attributed to the record not being updated. However, the missing notations could also suggest that the drugs were not administered.

Review objective #6

Destruction and disposal – Adequate controls are in place so that drugs are destroyed and disposed of in a safe and effective manner.

6.1 Non-controlled drugs are not destroyed according to the City's policies and procedures and the Regulation

In several instances observed, the non-controlled drugs were placed in the disposal bins in the original packaging of the drugs. In addition, the bins used to store the drugs marked for destructions were not sealed, in at least two separate observations in separate locations. There was also no water in the bins to render the drugs inactive, even though in at least one instance, the bin was filled to capacity.

6.2 Non-controlled drugs slated for destruction and disposal are not adequately secured

The bins with medications are moved from the secured area within the LTC Homes to a holding area on the property to await pickup by the external party, which could be several days before they are collected. The holding area is not a secured area. In addition, there is no documentation of the number of bins removed from within the LTC Homes, which contravenes City P&P No. 345.02, Medication Disposal Non-Controlled/Controlled.

Review objective #7

Emergency drug supply – The emergency drug supply is maintained in accordance with the requirements of the Regulation.

7.1 Incomplete and inaccurate documentation of emergency drug supply

There were instances where there was no documentation to support the removal of the inventory from the emergency drug supply, including by whom and the purpose for removal. In other instances, there were mathematical errors for calculating the balance on hand.

In addition, there is no periodic stocktaking of the drugs in the supply and no reconciliation is performed.

7.2 Inventory levels are not always in accordance with recommended maximum

There were instances of drugs being held in the emergency drug supply in excess of the recommended maximum for the particular drug. During our observation, we observed drugs in the medication cart and the medication room that were close to expiry.

Conclusion

Overall, we found that the City needs to strengthen the management of medication in LTC Homes to address the issues found with current practices. Although the existing policies and procedures are adequate to guide the functions in relation to medication management, they are not being followed in a number of areas. Within the key cycles of the medication management system, we noted numerous deficiencies in the LTC Homes' practices that increase the risk of drug diversion specifically related to the storage, destruction and disposal of drugs, and the emergency drug supply.

We also found discrepancies between the Regulation and the City's policies and procedures, which if addressed could significantly improve the timely identification and correction of issues found in quality improvement reviews conducted by the pharmacy service provider. Overall, there are opportunities to tighten the safeguarding and administration of drugs to reduce the risk of drug diversion and improve the LTC Homes' practices. The recommendations made in this report will help address the deficiencies related to compliance to procedures, mitigate the risk of drug diversion and contribute to the safety of LTC Home residents.

Recommendations and responses

Recommendation #1

That the LTC Homes review the City's policies and procedures against the Regulation to identify gaps in the policies and procedures, and develop and implement new policies so that the LTC Homes are operating in accordance with the Regulation.

Management response:

Management agrees with this recommendation.

Pharmacy services are provided by a third party under contract with the City of Ottawa. The contracted pharmacy provider issues each Home a detailed manual of policies and procedures that meet the requirements of the Regulation and which complement the City Homes' practices and procedures (P&Ps).

P&Ps are in-line with Accreditation Canada standards. During the last survey by Accreditation Canada in 2016, the City met over 98% of all standards relating to medications.

Annually, each Home completes a medication safety self-assessment through the Institute of Safe Medication Practices and makes any required changes to applicable P&Ps as a result of this assessment.

Long-Term Care staff will review the appropriate P&Ps and will work with the pharmacy provider to identify any gaps and ensure that current P&Ps are in accordance with the Regulation, by the end of Q4 2018.

Recommendation #2

That the LTC Homes implement appropriate systems to formally document and track the findings of audits and similar reviews and how the issues have been addressed and resolved. This could serve as a source of information to assist future planning and training activities.

Management response:

Management agrees with this recommendation.

Currently, any medication error or near miss is recorded on a formal tracking tool that details the incident and any contributing factors. These are reviewed regularly in the Homes to examine trends and make improvements to P&Ps.

Staff will develop and implement a formal tracking system that captures audit and review findings, actions taken and results to inform decision-making, orientation and training, by the end of Q2 2019.

Recommendation #3

That the LTC Homes implement a system, whereby both names and signature/initials are recorded on the documents to allow for independent verification of the persons who completed the DigiOrders and who received the drugs in the Home.

Management response:

Management agrees with this recommendation.

The City currently has a system in place to verify signatures/initials recorded on documents when required. In accordance with P&P 345.12, a Master Signature List is maintained in each unit to allow for independent verification of the authorized individual who completed the order.

The City is currently in negotiations for the procurement of a new automated Resident Care Information System. The second phase of this project will include an electronic Medication Administration Record (eMAR) system. This system, which will be implemented by Q2 2019, will provide verification of registered staff who administer medications.

Recommendation #4

That the LTC Homes implement a process to allow for the verification of drugs received at the time of delivery.

Management response:

Management agrees with this recommendation.

Currently, boxes are signed for at the point of delivery to confirm that the box was received. The box remains sealed until authorized staff have the opportunity to undertake a thorough and complete verification of the package contents against the packing slip. Following the verification of the package contents, any discrepancies are communicated to the pharmacy provider for timely rectification.

Staff will complete a review of best practices in the long-term care sector related to verifying receipt of medication at point of delivery and will develop an action plan for improvements identified by Q1 2019.

Recommendation #5

That the City require that all drugs be secured while in transit within the Home.

Management response:

Management agrees with this recommendation.

When medication deliveries are received, the packages will be placed in a secure location by the staff who signed for receipt of the delivery. The staff will notify the nurse on the unit, who will come to reception to retrieve the delivery and take it to a secured storage area.

Further to the response to Recommendation #6, a communication will be sent out to the appropriate staff by the end of Q2 2018 to direct that the [REDACTED] is to be locked at all times when unattended. Monitoring for compliance will be added to regularly scheduled leadership rounds.

Recommendation #6

That the LTC Homes implement a system whereby the [REDACTED] are kept consistently locked when a nurse is not present to reduce unauthorized access.

Management response:

Management agrees with this recommendation.

A communication will be sent out to the appropriate staff by the end of Q2 2018 to direct that the [REDACTED] is to be locked at all times when unattended. Monitoring for compliance will be added to regularly scheduled leadership rounds.

Recommendation #7

That the LTC Homes explore opportunities to reduce interruptions to nurses during medication rounds, thereby reducing the likelihood that [REDACTED] will be left unlocked and vulnerable to unauthorized access.

Management response:

Management agrees with this recommendation.

Long-Term Care staff will explore best practices in the area of safeguarding of medication, and minimizing interruptions to nurses where possible.

A communication will be sent out to the appropriate staff by the end of Q2 2018 to direct that [REDACTED] are to be locked when unattended as per P&P 345.3 -

Medication: Administration. Monitoring for compliance will be added to regularly scheduled leadership rounds.

Recommendation #8

That the LTC Homes implement proper systems to log the movement of drugs in the government pharmacy including the purpose.

Management response:

Management agrees with this recommendation.

Any medication that is administered, including medication from the government pharmacy, is tracked on the Medication Administration Record (MAR).

Management will review the medication log requirements within P&P 345.15 - Government Pharmacy for non-prescription medications. Currently, the P&P requires that on a weekly basis, registered staff from each Home area lists the required non-prescription items on the order sheet and fills the order from the government pharmacy, internal stores. For audit purposes, staff members will indicate on the order form the number of items left “on hand” at unit level.

Management will ensure that the P&P has been communicated to all appropriate staff and that the tools and templates are completed as per the P&P, by Q1 2019.

Recommendation #9

That the LTC Homes conduct periodic counting of all drugs in the government pharmacy and excess stock of drugs maintained on behalf of residents. Any discrepancies noted should be investigated and addressed in a timely manner.

Management response:

Management agrees with this recommendation.

Management will review the medication audit requirements as per P&P 345.15 - Government Pharmacy.

Management will ensure that the P&P has been communicated to all appropriate staff and that the tools and templates are completed as per the P&P, by Q1 2019.

Recommendation #10

That the City consider installing cameras in the medication rooms and government pharmacies to mitigate the risk of drug diversion.

Management response:

Management agrees with this recommendation.

A risk / cost-benefit analysis will be completed by Q2 2019 to consider the installation of cameras in the medication rooms and government pharmacies to reduce risk of drug diversion.

Recommendation #11

That the City explore opportunities with the pharmacy service provider to more clearly document which staff administered medication, which would allow for subsequent independent verification of compliance with the Regulation.

Management response:

Management agrees with this recommendation.

The City currently has a system in place to verify signatures/initials recorded on documents when required. In accordance with P&P 345.12, a Master Signature List is maintained in each unit to allow for independent verification of the authorized individual who completed the order.

The City is currently in negotiations for the procurement of a new Resident Care Information system. The second phase of this project will include an electronic Medication Administration Record (eMAR) system. This system, which will be implemented by Q2 2019, will track the registered staff who administer medications.

Recommendation #12

That the LTC Homes identify residents who are non-verbal and implement an alternative form of identification, e.g. bracelet/armbands to assist in the identification process, particularly for casual staff who may not be familiar with the residents.

Management response:

Management agrees with this recommendation.

The Homes utilize pictures of the residents as the primary identifier. As per Accreditation Canada standards, a second identifier is provided for residents who are non-verbal. Currently, non-verbal residents wear an identifying bracelet, but residents frequently remove or break bracelets because they dislike wearing them.

The City is currently in negotiations for the procurement of a new Resident Care Information system. The second phase of this project will include an electronic Medication Administration Record (eMAR) system, which will be implemented by Q2 2019. Staff will review opportunities within the system to determine if there is a solution to the identification process for residents. Staff will then consult with our partners at AdvantAge Ontario for sector best practices and will implement an alternative form of identification for residents who are non-verbal by Q3 2019.

Recommendation #13

That the management implement measures to reduce interruptions of the nurses during medication rounds and a system to remind nurses to check the MAR after each administration to verify that the record for the respective resident is updated accordingly.

Management response:

Management agrees with this recommendation.

Long-Term Care staff will explore best practices in the sector and will implement actions to reduce interruptions during medication rounds.

The City is currently in negotiations for the procurement of a new Resident Care Information system. The second phase of this project will include an electronic Medication Administration Record (eMAR) system. This system will include system-generated prompts to ensure that the Medication Administration Records (MAR) are checked after each administration, which will reduce the instances where MAR are not fully completed, below the current 1%. This will be implemented by Q2 2019.

Recommendation #14

That the LTC Homes implement practices to meet the requirements of the Regulation and the City's destruction and disposal policies. This includes verifying that the bin delivered for storing non-controlled drugs marked for destruction and disposal is sealed to render it tamper proof.

Management response:

Management agrees with this recommendation.

Management will review P&P 345.02 - Medication Disposal Non Controlled/Controlled to ensure that it complies with the requirements of the Regulation.

Management will ensure that a communication is sent to registered staff outlining the requirements of the City's P&Ps on the destruction and disposal of medication.

Designated staff will be identified and a procedure will be developed to verify, on a specified frequency, that the bins used for storing non-controlled drugs marked for destruction and disposal are sealed. This will be implemented by Q4 2018.

Recommendation #15

That the City implement practices so that the non-controlled drugs slated for destruction and disposal are maintained in a locked storage area until the third party contractor comes to pick them up. Also, it is recommended that the LTC Homes implement appropriate systems to document the number of bins removed from within the LTC Homes and have the third party contractor sign for the number of bins received. This could provide verifiable records in terms of the number of bins removed.

Management response:

Management agrees with this recommendation.

As per P&P 345.02 Medication Disposal Non Controlled/Controlled, medication disposal bins will be kept in a secured area until they are picked up by the third party contractor. A communication will be sent to appropriate staff reminding them of the P&P to ensure that non-controlled drugs slated for destruction and disposal are maintained in a locked storage area prior to pick-up.

Staff will work in partnership with our third party contractor to develop and implement a sign-off process for bins at time of pick-up. This will be implemented by Q4 2018.

Recommendation #16

That the LTC Homes implement proper record keeping that is easily understood to track the movement of the drugs in the emergency drug supply and provide staff with refreshers on how to complete the forms properly to reflect correct information.

That the LTC Homes conduct periodic counts and perform a reconciliation of all the drugs in the emergency drug supply to detect and resolve anomalies in a timely manner.

Management response:

Management agrees with this recommendation.

As per P&P 345.01 Emergency Supply Medication, all medications removed from the emergency supply are signed for on removal of the ordered medication, indicating balance on hand. Medications are only removed from this supply for a single dose administration and when there is a specific physician's order for the medication being removed. Only registered staff have access to medications from the emergency supply boxes.

Audits of medication in the emergency supply are performed at least quarterly by the pharmacy provider in accordance with P&P 345.01 – Emergency Supply Medication. During the audit, expiry dates are reviewed and medication is replenished. Discrepancies in the tracking and removal of emergency medication are reported to the Program Manager of Resident Care. Audit results will be reviewed through the Professional Practice Committee meetings and improvements will be implemented accordingly across the Homes.

Management will ensure that a communication is sent to staff outlining the proper process for record keeping and form completion. This will be implemented by Q3 2018.

Recommendation #17

That the LTC Homes observe the established maximum quantities for re-ordering drugs for the emergency drug supply to reduce the risk of medication reaching expiry date before the stock is depleted.

Management response:

Management agrees with this recommendation

As per P&P 345.01 Emergency Supply Medication, the Professional Practice Committee discusses the contents, relevance and utilization of the emergency supply medications annually. The Medical Directors of each of the City's Homes are required to approve, sign and date the list of approved medications.

Management will continue to work with the Professional Practice Committee to review the emergency drug supply on an annual basis to review established maximum quantities and drugs included, according to legislation, trends and medical expertise related to re-ordering and any risk of expiration, by Q4 2018.

The detailed section of this report is currently available in English only. The French version will be available shortly. For more information, please contact Ines Santoro at 613-580-2424, extension 26052.

La partie détaillée de ce rapport n'existe qu'en anglais. Elle sera disponible en français sous peu. Pour tout renseignement, veuillez communiquer avec Ines Santoro, 613-580-2424, poste 26052.

Detailed review report

Review of Medication Management at Long-Term Care Homes

Introduction

The Review of Medication Management at City of Ottawa Long-Term Care Homes (LTC Homes) is a special project that was initiated by the Office of the Auditor General (OAG) in May 2017.

Background and context

The City of Ottawa (City) is committed to providing quality long-term home care to seniors who can no longer live independently in their own homes. The City operates four LTC Homes located throughout the City, which provide a range of services, and programs designed for the well-being of all residents. The LTC Homes are funded by the City of Ottawa, the Ontario Ministry of Health and Long-Term Care, as well as resident fees set by the Province. Persons with limited income are eligible for a subsidy to reduce their accommodation rate. The four LTC Homes operated by the City of Ottawa are Garry J. Armstrong, Peter D. Clark, Centre d'accueil Champlain and Carleton Lodge.

This review is a special project that was initiated after the City received a complaint regarding the medication management practices at one of the City's LTC Homes. In response to the complaint, the OAG is conducting a review of medication management at selected LTC Homes.

Each of the City's LTC Homes is managed by an administrator who is accountable to the City's Director of Long-Term Care Services. The City's Community and Social Services department is accountable to the community through the Community and

Protective Services Committee of Ottawa City Council. The LTC Homes are governed by the Long-Term Care Homes Act, 2007 (LTCHA) and Regulation (Regulation) (hereinafter referred as the LTCHA and Regulation, respectively). The LTCHA came into force on July 1, 2010. Since that time, there have been a series of amendments to the LTCHA and the Regulation. To meet the requirements of the LTCHA and Regulation, each LTC Home must have written policies and procedures to ensure the accurate acquisition, receipt, dispensing, storage, administration, as well as destruction and disposal of all drugs used in the LTC Home.

The review will focus on the Garry J. Armstrong Home and Peter D. Clark Long-Term Care Home.

Garry J. Armstrong Home opened in 2005 with the construction of a new building on what was formerly Island Lodge complex. The Home is a seven-storey, 180-bed long-term facility with a mixture of both private and double rooms. The Home has dedicated floors for residents who require particular dementia care.

Peter D. Clark Long-Term Care Home is the largest of the City's long-term care homes with 216 beds. The Home is made up of two separate residences, Houses and Bungalows that are connected by an underground pathway. The Houses are two-storey clusters made up of eight self-containing living areas with private and basic units. The Bungalows are four wings designed to create a small residential-style dementia care facility with private rooms.

Review objectives and criteria

The overall objective of this review is to determine whether LTC Homes, operated by the City, have appropriate practices, procedures and controls in place to ensure the accurate acquisition, receipt, dispensing, storage, administration, as well as destruction and disposal of medication in accordance with the LTCHA and Regulation. In developing the criteria, we referred to the LTCHA, the Regulation and the City's policies.

The review objectives are listed below. We refer to Appendix A for the review criteria that were used to conduct this review.

1. Management framework – An effective management framework exists to govern the management of medication within the LTC Homes.
2. Acquisition and receipt – The LTC Homes have effective systems and procedures in place to manage the acquisition and receipt of medications.

3. Storage – Adequate systems are in place to store and safeguard medications to prevent unauthorized access.
4. Dispensing/Pharmacy Service Provider (PSP) – Formal arrangements exist to govern the supply and dispensing of drugs.
5. Administration of drugs – Adequate controls are in place so that drugs are administered in accordance with the Regulation and the City’s policies and procedures.
6. Destruction and disposal – Adequate controls are in place so that drugs are destroyed and disposed of in a safe and effective manner.
7. Emergency drug supply – The emergency drug supply is maintained in accordance with the requirements of the Regulation.

Review scope

The scope of this review includes operational management practices and procedures related to medication management only at the Garry J. Armstrong and the Peter D. Clark LTC Homes operated by the City.

The period in scope is from January 1, 2016 to December 31, 2017.

The legislation in scope for this review is the LTCHA, Regulation and the City’s established policies and procedures for LTC Homes. Sections 114 to 136 of the Regulation stipulate the requirements for the medication management system at LTC Homes, which includes acquisition, receipt, dispensing, storage, administration and destruction and disposal of drugs used in LTC Homes.

Our scope does not include an assessment of the appropriateness of medication prescribed to residents.

Review approach and methodology

The review methodology includes the following activities:

- interviews with staff members involved in the management of medication management at the Garry J. Armstrong and Peter D. Clark LTC Homes
- review of relevant documentation such as the LTCHA, the Regulation, City policies and procedures and records
- observation of LTC Homes personnel during the performance of their tasks in relation to medication management

- other review procedures as deemed necessary for purposes on concluding on the review objectives

The fieldwork was conducted in January and February 2018.

Review observations and recommendations

Review objective #1

Management framework – An effective management framework exists to govern the management of medication within the LTC Homes.

Regulation s.114 requires LTC Homes to have an effective interdisciplinary medication management system in place to ensure the accurate acquisition, receipt, dispensing, storage, administration and destruction and disposal of medication used in the home. We expected to find that the LTC Homes have comprehensive policies and procedures that are documented, well defined and clearly understood to meet medication management requirements of the Regulation. In addition, we would expect that there is an interdisciplinary team that meets regularly to evaluate the effectiveness of the Home's medication management system in keeping with Regulation s.115. This would include having systems in place to ensure that all staff involved in medication management are accredited to carry out their duties in accordance with the Regulation.

1.1 Gaps in City policies and procedures relative to the Regulation

We noted that the LTC Homes had appropriate and adequate policies and procedures in place to guide the day-to-day operations in relation to medication management. The Homes also incorporated policies and procedures from the pharmacy service provider and have an established Professional Practice Committee (PPC) with Terms of Reference to guide the operations of the PPC. The PPC is comprised of an interdisciplinary team that meets to discuss the affairs of the City's Homes and includes the Homes' medical personnel, administrators, program managers and a representative from the pharmacy service provider.

Through the review of the City's policies and procedures, we noted that there are gaps in the City's P&P No. 360.22 – Indicators and Audits policy as it does not include procedures to address the implementation and documentation of corrective actions stemming from audits and/or reviews of destruction and disposal of medications in keeping with the Regulation s.136(5)(b) and s.136(5)(c). The overarching objective of P&P 360.22 states that quality assurance audits will be conducted on a regularly

scheduled basis and that “*results shall be reviewed and action plans identified*”. However, P&P 360.22 does not provide a comprehensive set of procedures on *how* action plans will be identified, implemented and recorded as per s.136(5)(b) and s.136(5)(c).

The scope within the Terms of Reference for the PPC includes addressing practice and operational issues such as discussing and providing direction or considering items related to interdisciplinary care and services in the home, which satisfy Regulation s.115(3)(c) and (4) and s.116(3)(c) and (4).

We reviewed a sample of the pharmacy service provider’s Quality Improvement Reviews (QIR), which are conducted to assess the Homes’ practices in relation to key aspects of the medication management system, such as medication storage, administration and destruction. Based on our review, we noted that findings stemming from the QIRs conducted by the pharmacy service provider indicate that some of the same issues were noted over consecutive reviews. Through interviews and enquiries with Home personnel, we were advised that actions are taken to address review findings in practice, however, there was no supporting documentation that provided evidence that the corrective actions were implemented, which contravenes s.136(5)(c) of the Regulation.

Recommendation #1

That the Homes review the City’s policies and procedures against the Regulation to identify gaps in the policies and procedures, and develop and implement new policies so that the Homes are operating in accordance with the Regulation.

Management response:

Management agrees with this recommendation.

Pharmacy services are provided by a third party under contract with the City of Ottawa. The contracted pharmacy provider issues each Home a detailed manual of policies and procedures that meet the requirements of the Regulation and which complement the City Homes’ practices and procedures (P&Ps).

P&Ps are in-line with Accreditation Canada standards. During the last survey by Accreditation Canada in 2016, the City met over 98% of all standards relating to medications.

Annually, each Home completes a medication safety self-assessment through the Institute of Safe Medication Practices and makes any required changes to applicable P&Ps as a result of this assessment.

Long-Term Care staff will review the appropriate P&Ps and will work with the pharmacy provider to identify any gaps and ensure that current P&Ps are in accordance with the Regulation, by the end of Q4 2018.

Recommendation #2

That the Homes implement appropriate systems to formally document and track the findings of audits and similar reviews and how the issues have been addressed and resolved. This could serve as a source of information to assist future planning and training activities.

Management response:

Management agrees with this recommendation.

Currently, any medication error or near miss is recorded on a formal tracking tool that details the incident and any contributing factors. These are reviewed regularly in the Homes to examine trends and make improvements to P&Ps.

Staff will develop and implement a formal tracking system that captures audit and review findings, actions taken and results to inform decision-making, orientation and training, by the end of Q2 2019.

Review objective #2

Acquisition and receipt – The LTC Homes have effective systems and procedures in place to manage the acquisition and receipt of medications.

Regulation s.124 requires that Homes have controls in place so that all drugs received for use in the LTC Homes are acquired based on resident usage and that the ordering and receipt of drugs is done by authorized personnel only. Regulation s.133 requires that all drugs have a fully maintained detailed drug record.

Based on enquiries and review of available information, we noted that drugs are received in the Home on a weekly basis for a seven-day cycle. We noted that the drugs received in the Home are based on resident usage. For the sample of drugs tested, we were able to agree the received drug to a corresponding prescription for the resident. We also noted that there is a detailed drug record for the drugs with sufficient detail that meets the requirements of the Regulation.

The results of our review identified issues with determining whether authorized personnel only placed the orders, the verification of the drugs received, the safeguarding of drugs at time of delivery and safeguarding of residents' medical information. We discuss these findings in the sections that follow.

2.1 Lack of sufficient information to determine if orders were placed and received by authorized personnel only

Through interviews with key personnel and the review of available information, we noted that there are appropriate systems in place to order drugs. Drugs are ordered using DigiOrder, a digital pen and paper system that allows nurses and doctors to record new prescriptions with a digital pen, which once placed in the docking station, transmits the order to the pharmacy. The pharmacy then creates a MAR for the particular resident, which documents all the medications prescribed for the resident along with other related instructions, such as time of administration and dosage. The MAR then becomes the automatic source of re-order for the resident. The DigiOrder is also used for modifying current prescriptions.

When the drugs are delivered to the Homes, a "Shipping Report" or "Packing Slip", depending on the types of medications, accompanies the drugs. The documents list the drugs per resident, including quantity of the drug and strength. All DigiOrders and the documents that accompany the delivery of the drugs should be signed by individuals authorized to order and receive the drugs.

Based on our observation and examination of the documents, we could not determine whether the DigiOrders or the drug receipt documents were signed by authorized individuals due to the illegibility of the initials and/or signatures on the documents. Even though the DigiOrders have to be approved by the physicians, it is frequently done after the order has been made, within the seven-day window. However, unless the physicians or the pharmacy is familiar with all the initials and signatures of the persons placing the order, the opportunity exists for unauthorized orders to be made.

Recommendation #3

That the Homes implement a system, whereby both names and signature/initials are recorded on the documents to allow for independent verification of the persons who completed the DigiOrders and who received the drugs in the Home.

Management response:

Management agrees with this recommendation.

The City currently has a system in place to verify signatures/initials recorded on documents when required. In accordance with P&P 345.12, a Master Signature List is maintained in each unit to allow for independent verification of the authorized individual who completed the order.

The City is currently in negotiations for the procurement of a new automated Resident Care Information System. The second phase of this project will include an electronic Medication Administration Record (eMAR) system. This system, which will be implemented by Q2 2019, will provide verification of registered staff who administer medications.

2.2 Drugs are not checked at the time of delivery

The pharmacy delivers a week's supply of drugs for each resident once per week at each Home. Based on our enquiries, these deliveries occur during the evening shift. During our observation, we noted that the drugs were accepted and signed for, but there was no verification of the drugs received prior to accepting the delivery. We were advised that verification is done during the evening shift, when there is usually only one nurse on shift within each unit. With the added responsibility of evening medication rounds, there is little time for doing the verification process.

Based on interviews with relevant personnel, we were advised that the drugs are checked by staff on the following shift, the night shift. During this verification process, any discrepancies are communicated to the pharmacy. We reviewed a sample of Shipping Reports and observed discrepancies were noted on the reports as part of the nurse's verification process subsequent to the delivery of the drugs. We refer to Appendix B for an example. The drugs received in the Home should be verified at the time of receipt to ensure discrepancies, if any, are identified and communicated to the pharmacy on a timely basis rather than after the drugs have been signed for as received.

Recommendation #4

That the Homes implement a process to allow for the verification of drugs received at the time of delivery.

Management response:

Management agrees with this recommendation.

Currently, boxes are signed for at the point of delivery to confirm that the box was received. The box remains sealed until authorized staff have the opportunity to undertake a thorough and complete verification of the package contents against the packing slip. Following the verification of the package contents, any discrepancies are communicated to the pharmacy provider for timely rectification.

Staff will complete a review of best practices in the long-term care sector related to verifying receipt of medication at point of delivery and will develop an action plan for improvements identified by Q1 2019.

2.3 Inadequate safeguarding of drugs at the Home during delivery

2.3.1 Drugs stock is not adequately secured at [REDACTED]

During our observation of the delivery process at one Home, we noted that the week's supplies of drugs were in boxes left in bags near the Home's [REDACTED] area while the pharmacy representative took the orders to the nurses' station. The [REDACTED] is an area that is accessible to residents, volunteers and visitors. Leaving the drugs at the [REDACTED] area allowed ease of access to the drugs and increased the risk of drug diversion.

2.3.2 Inadequate controls over custody of drugs at the [REDACTED] in the residents' area

Within each unit is a [REDACTED] with computer terminals, surveillance television monitors and resident charts. The [REDACTED] is an area where health care providers perform administrative duties when not attending to residents. We observed at one Home that the drugs delivered to one unit were left unattended at the [REDACTED] while the pharmacy representative sought the nurse to accept custody of the drugs. Certain [REDACTED] are accessible to visitors and residents who are in the unit. Leaving the drugs unattended increased the risk of unauthorized access to the drugs, which included narcotics.

Recommendation #5

That the City require that all drugs be secured while in transit within the Home.

Management response:

Management agrees with this recommendation.

When medication deliveries are received, the packages will be placed in a secure location by the staff who signed for receipt of the delivery. The staff will notify the nurse on the unit, who will come to reception to retrieve the delivery and take it to a secured storage area.

Further to the response to Recommendation #6, a communication will be sent out to the appropriate staff by the end of Q2 2018 to direct that the [REDACTED] is to be locked at all times when unattended. Monitoring for compliance will be added to regularly scheduled leadership rounds.

2.4 Medication information not adequately safeguarded

Medical information for each resident is maintained in resident files (charts) which are stored in the [REDACTED] within each unit. Each chart holds approximately three months of information at a particular time.

Based on interviews with relevant personnel and observation, we noted instances when the [REDACTED] which were unlocked. We observed that the swipe card access provided to the pharmacy representative gave access to a secured unit, where the nurse was also not present at the time of delivery of the drugs.

There is often just one nurse (RN or RPN) on shift and may be on rounds or responding to an immediate concern within the unit that precludes the nurse from being at the [REDACTED] at all times.

The absence of nurses at the [REDACTED] when the doors are unlocked and the unsupervised access to external parties into secured residents units increases the risk of unauthorized access to residents' personal information and physical access to the residents' quarters.

Recommendation #6

That the Homes implement a system whereby the [REDACTED] are kept consistently locked when a nurse is not present to reduce unauthorized access.

Management response:

Management agrees with this recommendation.

A communication will be sent out to the appropriate staff by the end of Q2 2018 to direct that the [REDACTED] is to be locked at all times when unattended.

Monitoring for compliance will be added to regularly scheduled leadership rounds.

Review objective #3

Storage – Adequate systems are in place to store and safeguard medications to prevent unauthorized access.

Regulation s.130(1),(2) requires that every licensee of long-term care home take steps to ensure the security of drug supply, including all areas where drugs are stored be locked at all times, when not in use and access to these areas be restricted to persons who may dispense, prescribe or administer drugs.

City P&P No. 345.3 – Medication: Administration states that when administering medications, the RN/RPN must ensure that the [REDACTED] is not left unattended without locking it first and medication is not left on the [REDACTED] when it is unattended.

Based on our observation in the Homes, drugs (medication) are stored in dedicated storage areas such as medication rooms, [REDACTED] and the government pharmacies. High-risk drugs are stored either in a special storage compartment, which is locked with a special key within the [REDACTED] or within a cabinet in the medication room. There is one medication room and one or two [REDACTED] in each unit of each Home. Each Home also has a government pharmacy where medications are stored. We noted from our observation at both Homes that there were no cameras in the medication rooms or the government pharmacies.

3.1 [REDACTED] were not consistently locked to prevent unauthorized access

The week's supply of medications for each resident is stored in [REDACTED]. The drugs in the [REDACTED] can be accessed three (3) ways; through swipe, a physical key or keypad access. When the swipe card access is used, the [REDACTED] locks

automatically within a few seconds after the drawers are closed, the physical key and keypad accesses provide manual ways to lock the [REDACTED] once the drawers are closed.

We observed on more than one occasion when the swipe card access was used that the nurses administering medications would move away from the [REDACTED] before the auto-lock system was activated.

We noted several instances where drugs could be accessed by unauthorized persons. In some instances, [REDACTED] were left unattended while unlocked. In other instances, [REDACTED] were left unlocked and drawers could be opened to access drugs. This was sometimes due to the nurse being distracted by residents.

Regulation s.130(1) (2) requires every licensee of long-term care home to take steps to ensure the security of drug supply, including all areas where drugs are stored be locked at all times, when not in use and access to these areas be restricted to persons who may dispense, prescribe or administer drugs. City P&P No. 345.3 – Medication: Administration states that when administering medications, the RN/RPN must ensure that the [REDACTED] is not left unattended without locking it first and medication is not left on the [REDACTED] when it is unattended.

Leaving the [REDACTED] unlocked or drawers open does not provide adequate safeguarding of the drugs and contravenes the City’s policies and procedures and the Regulation.

Recommendation #7

That the Homes explore opportunities to reduce interruptions to nurses during medication rounds, thereby reducing the likelihood that [REDACTED] will be left unlocked and vulnerable to unauthorized access.

Management response:

Management agrees with this recommendation.

Long-Term Care staff will explore best practices in the area of safeguarding of medication, and minimizing interruptions to nurses where possible.

A communication will be sent out to the appropriate staff by the end of Q2 2018 to direct that [REDACTED] are to be locked when unattended as per P&P 345.3 - Medication: Administration. Monitoring for compliance will be added to regularly scheduled leadership rounds.

3.2 Controls over medications in government stock and residents' excess stock

3.2.1 Lack of controls to prevent unauthorized use of drugs that are stored in the LTC Homes' internal pharmacies

Each Home has a government pharmacy that provides access to non-prescription drugs in bulk quantities, e.g. acetaminophen. The government pharmacies at both Homes were in areas separate from other medication storage areas. The orders to replenish the stock of drugs are done by completing a specific form from the Ontario Ministry of Health and Long-Term Care.

Based on interviews with relevant personnel and through observations, we noted that at both Homes, there are no adequate systems in place to document the acquisition, removal and use of the drugs. As such, there is no way to know whether the drugs were removed for administration to a resident. We noted that at one Home, there is a system to record the quantity and type of drug removed, however, there is no documentation of the intended use for the drugs. There is also no physical stocktaking and/or reconciliation done to identify anomalies between the quantities on hand against the order and dispensing documents.

At another Home, there is no system in place to record the drugs received or removed from stock. Re-ordering of stock is done when drugs are at the established minimum re-order levels. There is also no physical and/or reconciliation done to identify anomalies.

As a result, the lack of proper systems to document the movement of the drugs in the government pharmacies creates the opportunity for unauthorized removal without notice or accountability and increases the risk of drug diversion.

3.2.2 Lack of proper systems to record and track residents' excess medication stock in medication rooms

The Homes maintain excess medications for some residents in the medication rooms within their respective unit. The excess medication is maintained on behalf of some residents to reduce the turnaround between when the drug may be required and the time it takes to obtain the drugs from the pharmacy. The types of drugs in excess stock include non-controlled substances only.

Based on interviews with relevant personnel and our observation, we noted that no record is maintained of the excess medications maintained on behalf of the residents. There is no reconciliation or stocktaking done of the excess medications stored for residents to ensure that the amounts in storage at any time agree to the amounts that

were ordered. This increases the risk of unauthorized removal of drugs and drug diversion.

Recommendation #8

That the Homes implement proper systems to log the movement of drugs in the government pharmacy including the purpose.

Management response:

Management agrees with this recommendation.

Any medication that is administered, including medication from the government pharmacy, is tracked on the Medication Administration Record (MAR).

Management will review the medication log requirements within P&P 345.15 - Government Pharmacy for non-prescription medications. Currently, the P&P requires that on a weekly basis, registered staff from each Home area lists the required non-prescription items on the order sheet and fills the order from the government pharmacy, internal stores. For audit purposes, staff members will indicate on the order form the number of items left “on hand” at unit level.

Management will ensure that the P&P has been communicated to all appropriate staff and that the tools and templates are completed as per the P&P, by Q1 2019.

Recommendation #9

That the Homes conduct periodic counting of all drugs in the government pharmacy and excess stock of drugs maintained on behalf of residents. Any discrepancies noted should be investigated and addressed in a timely manner.

Management response:

Management agrees with this recommendation.

Management will review the medication audit requirements as per P&P 345.15 - Government Pharmacy.

Management will ensure that the P&P has been communicated to all appropriate staff and that the tools and templates are completed as per the P&P, by Q1 2019.

3.2.3 Lack of cameras in rooms storing medications

The Homes medication rooms and government pharmacies store excess medications held on behalf of residents and emergency drug supplies. The medication carts for some units are also stored in the medication rooms. The government pharmacy stores non-prescription drugs in bulk quantities.

We noted during our observations at both Homes that the medication rooms and the government pharmacies did not have cameras in them. Given the volume of medication stored in these areas, cameras in the medication rooms and the government pharmacy could provide added security and mitigate the risk of drug diversion

Recommendation #10

That the City consider installing cameras in the medication rooms and government pharmacies to mitigate the risk of drug diversion.

Management response:

Management agrees with this recommendation.

A risk / cost-benefit analysis will be completed by Q2 2019 to consider the installation of cameras in the medication rooms and government pharmacies to reduce risk of drug diversion.

Review objective #4

Dispensing/Pharmacy Service Provider (PSP) – Formal arrangements exist to govern the supply and dispensing of drugs.

A third party supplier provides pharmacy services to the Homes. Based on review of relevant documentation, the City has formal arrangements in place for the supply and dispensing of drugs. There were no key findings in this area.

Review objective #5

Administration of drugs – Adequate controls are in place so that drugs are administered in accordance with the Regulation and the City's policies and procedures.

City P&P No. 345.3 – Medication: Administration addresses the approved practices in relation to the administration of medications to residents. The policy states "there are 10 steps to make sure are "right" when administering medication". More specifically, right resident, right medication, right dose, right frequency, right time, right course, right site, right reason, right response/effect and right documentation.

We observed the Homes' practices as they relate to the administration of medication to residents to determine whether the Homes' practices are in keeping with the Regulation and the City's policies and procedures. The results of our observation and review of relevant documentation are noted below.

5.1 Evidence of medication administration by an authorized individual could not be determined due to illegible documentation (initials) on the Medication Administration Record (MAR)

The MAR is a record of all the medications prescribed to a resident at a prescribed time and dose by month. The pharmacy service provider produces the MAR. There is one MAR per resident and each time a medication is administered, the nurse who administers the medication to the resident is responsible for initialing the MAR as evidence of administration of the drugs.

Based on our review of MARs, we were unable to determine who administered the drugs due to the illegibility of the initials on the MAR, which could be attributed to the size of the space allowed for updating the document for administration. Accordingly, we are unable to conclude on whether the drugs were administered by an authorized individual as required under Regulation s.131(3) and City P&P No. 345.3 – Medication: Administration.

Recommendation #11

That the City explore opportunities with the pharmacy service provider to more clearly document which staff administered medication, which would allow for subsequent independent verification of compliance with the Regulation.

Management response:

Management agrees with this recommendation.

The City currently has a system in place to verify signatures/initials recorded on documents when required. In accordance with P&P 345.12, a Master Signature List is maintained in each unit to allow for independent verification of the authorized individual who completed the order.

The City is currently in negotiations for the procurement of a new Resident Care Information system. The second phase of this project will include an electronic Medication Administration Record (eMAR) system. This system, which will be implemented by Q2 2019, will track the registered staff who administer medications.

5.2 Identification of residents not consistently checked

City P&P No. 345.3 requires the RN/RPN to always exercise vigilance when he or she administers medications to residents in accordance with the “10 things to make sure are ‘right’”. The policy stipulates that in relation to the right resident, “if unable to self identify look at the resident picture in MAR and verify bracelet/armband as well as ensuring it is in good order and not needing replacement”. The Regulation also requires that drugs be administered to a resident by a physician, dentist, RN or an RPN. Exceptions may be granted in instances when the prescription is for a topical drug. Based on our enquiries with relevant personnel, some nurses have been working with the residents for extended periods and are familiar with the residents in the units. However, the Homes employ permanent and casual nursing staff. We observed several medication rounds to assess whether adequate controls were in place so that drugs administered to a resident are accurate. We expected to see practices adopted by the nurses to verify the resident’s identification. This could include addressing the residents by their name and obtaining an acknowledgment by the resident, verifying the picture on the resident’s MAR or checking the resident’s bracelet/armband.

During our observations, we noted that nurses addressed the residents by name. Residents who were verbal acknowledged the nurse and serve as a confirmation that the right resident was being administered the drug. However, for residents who were non-verbal, we did not observe staff using a second form of identification. Based on our interviews with staff, we were advised that residents have bracelet/armbands that can serve as a form of identification. During our observation, we noted several instances when residents who were non-verbal were not wearing bracelet/armbands.

While we recognize the benefits of having staff who are familiar with the residents and can identify them, there is a risk of medication errors. Each resident’s MAR has a picture of the resident on the front page of the MAR. However, if a resident is unable to respond to his/her name, with their head bowed and there is no secondary form of identification, such as a bracelet/armband, the risk exists for administration errors. This risk could be higher, particularly in cases involving casual staff who may not be familiar with the residents.

Recommendation #12

That the Homes identify residents who are non-verbal and implement an alternative form of identification, e.g. bracelet/armbands to assist in the identification process, particularly for casual staff who may not be familiar with the residents.

Management response:

Management agrees with this recommendation.

The Homes utilize pictures of the residents as the primary identifier. As per Accreditation Canada standards, a second identifier is provided for residents who are non-verbal. Currently, non-verbal residents wear an identifying bracelet, but residents frequently remove or break bracelets because they dislike wearing them.

The City is currently in negotiations for the procurement of a new Resident Care Information system. The second phase of this project will include an electronic Medication Administration Record (eMAR) system, which will be implemented by Q2 2019. Staff will review opportunities within the system to determine if there is a solution to the identification process for residents. Staff will then consult with our partners at AdvantAge Ontario for sector best practices and will implement an alternative form of identification for residents who are non-verbal by Q3 2019.

5.3 Missing documentation on the MAR prevents conclusion on whether medication was administered

As noted earlier in this report, the nurse who administers the medication to the resident is responsible for initialing the MAR as evidence of administration of the drugs. The results of our interviews with relevant personnel confirmed that this is a standard practice that should be followed by all staff who administer drugs to residents.

However, we noted from our review of the documentation that there were instances when the MAR had no notation to indicate administration of medication(s) to the resident on the particular dates and there were no corresponding incident reports for the respective dates. We observed that the nurses were frequently interrupted during the medication rounds, which could be attributed to the record not being updated. However, the missing notations could also suggest that the drugs were not administered.

We reviewed a sample of MAR for a sample of residents in both Homes. In total, we examined documentation for 714 administrations at one Home, and of this amount, six administrations (approximately 1%) did not have any documentation as to whether the medication was administered. For the other Home, we examined documentation for 630 administrations, of which eight administrations (approximately 1%) did not have any evidence as to whether the medication was administered. The lack of documentation presents a risk where the resident could be under medicated or the drugs could be removed for unauthorized purposes. Notwithstanding that, even though there are notations on the MAR to indicate that medication was administered, there is no

assurance that the medications were indeed administered to the residents, particularly residents who are non-verbal.

Recommendation #13

That the management implement measures to reduce interruptions of the nurses during medication rounds and a system to remind nurses to check the MAR after each administration to verify that the record for the respective resident is updated accordingly.

Management response:

Management agrees with this recommendation.

Long-Term Care staff will explore best practices in the sector and will implement actions to reduce interruptions during medication rounds.

The City is currently in negotiations for the procurement of a new Resident Care Information system. The second phase of this project will include an electronic Medication Administration Record (eMAR) system. This system will include system-generated prompts to ensure that the Medication Administration Records (MAR) are checked after each administration, which will reduce the instances where MAR are not fully completed, below the current 1%. This will be implemented by Q2 2019.

Review objective #6

Destruction and disposal – Adequate controls are in place so that drugs are destroyed and disposed of in a safe and effective manner.

6.1 Non-controlled drugs are not destroyed according to the City’s policies and procedures and the Regulation

The City’s P&P No. 345.02 – Medication Disposal Non-Controlled/Controlled states that for non-controlled substances:

“At time of disposal a registered staff will remove the medication from medication strips/card, together with a second team member place surplus medication in the tamper proof, disposal bin supplied.” (Clause 2);

“Monthly, water will be poured into bin to render the medication inactive before being removed from the home area...” (Clause 3)

Based on our observations, in several instances, the non-controlled drugs were placed in the disposal bins in the original packaging of the drugs. In addition, the bins used to store the drugs marked for destructions were not sealed in at least two separate observations in separate locations. Refer to Appendix C for one example.

We also noted at the time of observation in both Homes that there was no water in the bins to render the drugs inactive, even though in at least one instance, the bin was filled to capacity. The review team was able to access the non-controlled drugs. We refer to Appendix C for an example.

Based on our observation, the destruction practices are not in keeping with the City's policies and procedures. The unsealed bins, the medications in original packaging and the lack of liquid on the medications in the bins increases the risk of drug diversion and unauthorized use of the drugs.

Regulation s.136 (3) requires that all drugs be destroyed in teams. Based on our interviews with relevant personnel, after drugs have been identified for destruction, one nurse takes the drugs to the destruction bins. This increases the risk of drug diversion and contravenes the City's policies and procedures and the Regulation.

Recommendation #14

That the Homes implement practices to meet the requirements of the Regulation and the City's destruction and disposal policies. This includes verifying that the bin delivered for storing non-controlled drugs marked for destruction and disposal is sealed to render it tamper proof.

Management response:

Management agrees with this recommendation.

Management will review P&P 345.02 - Medication Disposal Non Controlled/Controlled to ensure that it complies with the requirements of the Regulation.

Management will ensure that a communication is sent to registered staff outlining the requirements of the City's P&Ps on the destruction and disposal of medication.

Designated staff will be identified and a procedure will be developed to verify, on a specified frequency, that the bins used for storing non-controlled drugs marked for destruction and disposal are sealed. This will be implemented by Q4 2018.

6.2 Non-controlled drugs slated for destruction and disposal are not adequately secured

The City's P&P No. 345.02, Medication Disposal Non-Controlled/Controlled states that for non-controlled substances:

“A registered staff member will sign disposal form, indicating the number of bins being removed from the Home area. The disposal bins are removed by storekeeper and held in a designated area. The disposal bins are removed by store keeper and held in a designated locked storage area until pick up by a bonded third party contractor.”

Based on interviews with relevant personnel, we were advised that while there is documentation for the destruction of controlled drugs, there is no documentation for the destruction and disposal of non-controlled substances. This contravenes the City's policies and procedures.

Based on enquiries with relevant personnel, we were advised that the bins with the non-controlled drugs marked for destruction and disposal are removed from the medication rooms and placed in a secured area. Access to this area is limited to authorized persons. In keeping with the scheduling of the third party contractor, the bins are moved from the secured area and placed in a holding area on the property to await pickup by the external party, which could be several days before they are collected. The holding area is not a secured area. In addition, we were advised that there is no documentation of the number of bins removed from the Homes neither does the third party contractor know how many bins should be picked up.

This presents a risk of drug diversion of the drugs from the holding area, particularly if there is no water in the bins to render the medication inactive and given that the holding area is utilized for other activities associated to the Home, which provides access to the bins.

Recommendation #15

That the City implement practices so that the non-controlled drugs slated for destruction and disposal are maintained in a locked storage area until the third party contractor comes to pick them up. Also, it is recommended that the Homes implement appropriate systems to document the number of bins removed from within the Homes and have the third party contractor sign for the number of bins received. This could provide verifiable records in terms of the number of bins removed.

Management response:

Management agrees with this recommendation.

As per P&P 345.02 Medication Disposal Non Controlled/Controlled, medication disposal bins will be kept in a secured area until they are picked up by the third party contractor. A communication will be sent to appropriate staff reminding them of the P&P to ensure that non-controlled drugs slated for destruction and disposal are maintained in a locked storage area prior to pick-up.

Staff will work in partnership with our third party contractor to develop and implement a sign-off process for bins at time of pick-up. This will be implemented by Q4 2018.

Review objective #7

Emergency drug supply – The emergency drug supply is maintained in accordance with the requirements of the Regulation.

Section 123 of the Regulation requires that only approved drugs are kept in a Home's emergency drug supply. The Regulation stipulates that the Home must have a written policy with the following key criteria: location, reordering, access, use, tracking and documentation of the drugs in the emergency drug supply.

The City has P&P No. 345.01 – Emergency Supply Medication related to the emergency drug supply. Based on our review of the City's policy and procedures around the emergency drug supply, the content of the policy meets the requirement of the Regulation.

We observed the Homes' practices as they relate to the emergency drug supply to determine whether the Homes' emergency drug supply is maintained in accordance with the Regulation and the City's policies and procedures. The results of our observation and review of relevant documentation are noted below.

7.1 Incomplete and inaccurate documentation of emergency drug supply

Each Home maintains an emergency supply of drug for times when a resident needs a particular drug, which is not part of the resident's regular drug regime. The drugs that are included in the emergency drug supply are a combination of controlled and non-controlled drugs and are approved annually at a PPC meeting. The PPC is comprised of an interdisciplinary team that meets to discuss the affairs of the City's Homes and

includes the Homes' medical personnel, administrators, program managers and a representative from the pharmacy service provider.

Based on interviews with relevant personnel, we were advised that a medication log is maintained of each drug that forms part of the emergency drug supply. Each time a drug is removed from the emergency drug supply, the resident for whom it was removed should be documented and an emergency replacement form completed and faxed to the pharmacy to replenish the supply for that particular drug.

Based on our observation and review of documentation, we noted that there were inaccuracies in the record keeping for the drugs at both Homes. In some instances, there was no documentation to support the purpose for the removal of the drugs from inventory (refer to Appendix D). In other instances, there were mathematical errors for calculating the balance on hand (refer to Appendix E). Based on enquiries with relevant personnel, we were advised that the use of casual employees is a contributing factor as they are not always familiar with all of the procedures. We were also advised that when the pharmacy does its reviews, excess drugs are removed by the pharmacy. In this instance, there is no way to verify who removed the drugs.

Based on discussions with relevant personnel, there is no periodic stocktaking of the drugs in the supply and no reconciliation is performed. The incomplete and inaccurate record keeping and lack of counting and reconciliation increases the risk of drug diversion.

Recommendation #16

That the Homes implement proper record keeping that is easily understood to track the movement of the drugs in the emergency drug supply and provide staff with refreshers on how to complete the forms properly to reflect correct information.

That the Homes conduct periodic counts and perform a reconciliation of all the drugs in the emergency drug supply to detect and resolve anomalies in a timely manner.

Management response:

Management agrees with this recommendation.

As per P&P 345.01 Emergency Supply Medication, all medications removed from the emergency supply are signed for on removal of the ordered medication, indicating balance on hand. Medications are only removed from this supply for a

single dose administration and when there is a specific physician's order for the medication being removed. Only registered staff have access to medications from the emergency supply boxes.

Audits of medication in the emergency supply are performed at least quarterly by the pharmacy provider in accordance with P&P 345.01 – Emergency Supply Medication. During the audit, expiry dates are reviewed and medication is replenished. Discrepancies in the tracking and removal of emergency medication are reported to the Program Manager of Resident Care. Audit results will be reviewed through the Professional Practice Committee meetings and improvements will be implemented accordingly across the Homes.

Management will ensure that a communication is sent to staff outlining the proper process for record keeping and form completion. This will be implemented by Q3 2018.

7.2 Inventory levels are not always in accordance with recommended maximum

Each drug in the emergency drug supply has an approved maximum quantity of drugs that should be held at any particular time, as determined by the PPC. The medication logs note the required inventory levels.

Based on our review of documentation, we noted instances where the record reflected drug quantities in excess of the recommended maximum. This presents the opportunity where the drugs could expire before the stock is depleted. During our observation, we observed drugs in the medication cart and the medication room that were close to expiry. We refer to Appendix D for an example of a medication log that indicates the inventory level exceeded the recommended maximum. We refer to Appendix F for a photo taken of a non-controlled drug close to expiry.

Recommendation #17

That the Homes observe the established maximum quantities for re-ordering drugs for the emergency drug supply to reduce the risk of medication reaching expiry date before the stock is depleted.

Management response:

Management agrees with this recommendation

As per P&P 345.01 Emergency Supply Medication, the Professional Practice Committee discusses the contents, relevance and utilization of the emergency

supply medications annually. The Medical Directors of each of the City's Homes are required to approve, sign and date the list of approved medications.

Management will continue to work with the Professional Practice Committee to review the emergency drug supply on an annual basis to review established maximum quantities and drugs included, according to legislation, trends and medical expertise related to re-ordering and any risk of expiration, by Q4 2018.

Appendix A – Review objectives and criteria

Overview of the review objectives and criteria

<p>Review Objective #1: Management framework – An effective management framework exists to govern the management of medication within the LTC Homes.</p>
<p>The LTC Homes have an effective interdisciplinary medication management system in place for the accurate acquisition, receipt, dispensing, storage, administration and destruction and disposal of medication used in the home in accordance with the Regulation (Section 114).</p>
<p>The LTC Homes (Armstrong Home and Clark Home) have comprehensive policies and procedures that are documented, well defined, and clearly understood to meet medication management requirements of the Regulation (Section 114).</p>
<p>An interdisciplinary team meets at least quarterly to evaluate the effectiveness of the Home's medication management system (Sections 115 and 116).</p>
<p>All staff involved in medication management are accredited to carry out their duties in accordance with the Regulation.</p>
<p>Review Objective #2: Acquisition and receipt – The LTC Homes have effective systems and procedures in place to manage the acquisition and receipt of medications.</p>
<p>Controls are in place so that all drugs received for use in the LTC Homes are acquired based on the resident usage (Section 124).</p>
<p>Controls are in place to govern the ordering and receipt of drugs by authorized personnel only and there is established and fully maintained detailed drug record in place (Section 133).</p>
<p>Review Objective #3: Storage – Adequate systems are in place to store and safeguard medications to prevent unauthorized access.</p>
<p>Controls are in place to ensure that all controlled and non-controlled drugs are stored, safeguarded and accessible only to authorized individuals (Sections 129 and 130).</p>
<p>Adequate procedures are in place to reconcile controlled drugs inventory levels monthly to identify discrepancies on a timely basis (Section 130).</p>

<p>Review Objective #4: Dispensing/Pharmacy Service Provider (PSP) – Formal arrangements exist to govern the supply and dispensing of drugs.</p>
<p>A comprehensive written contract is in place between the Homes and the pharmacy service provider (the pharmacy) that sets out the pharmacy’s responsibilities to the Homes (Section 119).</p>
<p>Controls are in place to identify and prevent contra-indicated drug interactions prior to dispensing.</p>
<p>The pharmacy delivers timely educational support to staff on the storage, administration and destruction/disposal of prescribed drugs (Section 120).</p>
<p>Review Objective #5: Administration of drugs – Adequate controls are in place so that drugs are administered in accordance with the Regulation and the City of Ottawa’s policies and procedures.</p>
<p>All medical directives or orders for the administration of a drug to a resident are reviewed by an individual with delegated authority whenever the resident’s condition is assessed or reassessed in developing the resident’s plan of care (Section 117).</p>
<p>Controls are in place to ensure that drugs administered to residents are accurate and by authorized individuals (Sections 125 and 131).</p>
<p>Controls are in place to ensure that each resident’s response to administered drugs and the drugs’ effectiveness is monitored, documented and assessed against the resident’s drug regime (Section 134).</p>
<p>Review Objective #6: Destruction and disposal – Adequate controls are in place so that drugs are destroyed and disposed of in a safe and effective manner.</p>
<p>Each Home has drug destruction and disposal system to identify, destroy and dispose of drugs that meet the criteria for destruction (i.e. expired, illegal, discharged, discontinued, etc.) (Section 136).</p>
<p>On an annual basis, each Home’s drug destruction and disposal system is audited for adherence and effectiveness, and results of the audit are documented (Section 136).</p>

<p>Review Objective #7: Emergency drug supply – The emergency drug supply is maintained in accordance with the requirements of the Regulation.</p>
<p>Only approved drugs are maintained in the Emergency Drug Supply (Section 123).</p>
<p>The Emergency Drug Supply is clearly located, labelled, secured, tracked, and documented at all times to prevent unauthorized access and distribution of drugs (Section 123).</p>
<p>The use of drugs kept in the Emergency Drug Supply is evaluated on a periodic basis and adjustments made accordingly (Section 123).</p>

Appendix B – Extract from a shipping report

Extract from a shipping report¹ printed on January 23, 2018 – discrepancies noted as part of the nurse’s verification process subsequent to the delivery.

Shipping Report		Printed on: 23/01/2018 3:12:09 PM			
Patient Name					
Rx #	DIN	Qty	Drug	Check	Received
	02348772 02316080 00337730 02430118 02322358 80009451	14 10.5 7 7 7 7	traZODone 50mg TAB QUETiapine 25mg TAB Furosemide 20mg TAB Escitalopram 10mg TAB Donepezil 10mg TAB Vitamin B12 Timed Release 1200mcg	<i>Redo 40mg</i>	_____ _____ _____ _____ _____ _____

¹ Prescription numbers, patient names and the name of Home have been redacted

Appendix C – Unsealed disposal bin

Photo of unsealed bin in medication room with medication in original packaging with no water (taken January 30, 2018)



Appendix D – Medication log

Medication log, which illustrates that the purpose for the removal of the drug from inventory is not documented²

Medication log, which illustrates quantities held in excess of recommended maximum³

MEDICATION LOG

PREDNISON 5mg

*** should have 10 on hand at all times

Date Order Received:	Prescription Number:	Amount received:	Amount on hand:	Resident Name	Amount removed:	Balance on hand:	Signature
Aug 28 17		10	10		-	20	
17/12/21		1				10	

² Prescription numbers and signatures have been redacted

³ Prescription numbers and signatures have been redacted

Appendix E – Medication log

Medication log with mathematical errors⁴

MEDICATION LOG

HYDROMORPHONE 2mg/mL Inj (Dilaudid)

*** should have 5 on hand at all times

Date Order Received:	Prescription Number:	Amount received:	Amount on hand:	Resident Name	Amount removed:	Balance on hand:	Signature
Dec 21 / 2015		0	4		1	3	
2016-07-11		/	4		1	3	
2016-07-11		1	3		-	4	
2016-07-11		1	4			5	
2017.05.19			3		1	2	
17/5/28			2		1	1	
Sep. 18 / 17.		3	3		-	6	
2018-01-25		0	3		1	2	

⁴ Prescription numbers, resident names and signatures have been redacted

Appendix F – Drug close to expiry

Photo of non-controlled drugs in medication room (taken January 30, 2018)

