MEDICATION RECONCILIATION IN LONG-TERM CARE



Getting Started Kit



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This Getting Started Kit has been written to help engage your interprofessional/interdisciplinary teams in a dynamic approach for improving quality and safety while providing a basis for getting started. The Getting Started Kit represents the most current evidence, knowledge and practice, as of the date of publication and includes what has been learned since the first kits were released in 2005. We remain open to working consultatively on updating the content, as more evidence emerges, as together we make healthcare safer in Canada.

Note:

The Getting Started Kits for all interventions are available in both French and English.

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Acknowledgement

The Institute for Safe Medication Practices Canada (ISMP Canada) leads the medication reconciliation initiative for the Safer Healthcare Now!

This Medication Reconciliation in long-term care kit has been prepared by ISMP Canada and contains materials, documents and experiences of medication reconciliation teams across Canada customized to the long-term care setting. The insight and contributions of the Canadian Medication Reconciliation Faculty are gratefully acknowledged.

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The Institute for Safe Medication Practices Canada (ISMP Canada) is an independent national not-for-profit agency established for the collection and analysis of medication error reports and the development of recommendations for the enhancement of patient safety.

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Glossary of Terms

The SHN Getting Started Kit: Medication Reconciliation in Long-Term Care uses the following terminology: (See Also Appendix A - Glossary of Terms).

<u>Undocumented Intentional</u> <u>discrepancy</u> is one in which the prescriber has made an intentional choice to add, change or discontinue a medication but this choice is not clearly documented.

<u>Unintentional</u> <u>discrepancy</u> is one in which the prescriber unintentionally changed, added or omitted a medication the resident was taking prior to admission.

Best Possible Medication History (BPMH): A Best Possible Medication History (BPMH) is a history created using 1) a systematic process of interviewing the resident/family; and 2) a review of at least one other reliable source of information to obtain and verify all of a resident's medication use (prescribed and non-prescribed). Complete documentation includes drug name, dosage, route and frequency. The BPMH is more comprehensive than a routine primary medication history which is often a quick preliminary medication history which may not include multiple sources of information.

Best Possible Medication Discharge Plan (BPMDP) from acute care accounts for the medications that the resident was taking prior to admission (BPMH) to acute care, the most current medication list, and any new medications planned to start upon discharge. The best possible medication discharge plan (BPMDP) should be communicated to the resident, community physician, community pharmacy and alternative care facility or service.

Most Current Medication List: The most recent list of medications (name of medication, dose, route and frequency) currently taken by the resident. This list is communicated to the next care provider and provides the starting point for the BPMH at the next facility or hospital. Examples of the most current medication list include: a comprehensive medication profile or a Medication Administration Record (MAR), which includes medications given weekly, monthly and every 3 months.

Re-admission to long-term care refers to a resident externally transferred to an acute care hospital and is returning (i.e. transferring back) to the same long-term care facility.

Introduction

This Safer Healthcare Now! (SHN) Getting Started Kit: Medication Reconciliation in Long-Term Care is a step-by-step guide to assist healthcare professionals working in long-term care facilities across Canada to implement medication reconciliation. Medication reconciliation is designed to reduce the number of adverse drug events and potential resident harm associated with changes in medication information as residents transfer from one care setting to another.

Accreditation Canada has included reconciliation of the resident's medications as one of the core patient safety performance measures for long-term care organizations. The Required Organizational Practices related to medication reconciliation within the Patient Safety Area of Communication include requirements to:

- Employ effective mechanisms for transfer of information at interface points,
- Reconcile the residents' medications upon admission to the organization, and with the involvement of the resident, and
- The team reconciles the client's medications with the involvement of the client, family or caregiver at transition points where medication orders are changed or rewritten (i.e. internal transfer, and/or discharge).

This SHN Getting Started Kit is intended to assist long-term care facilities meet this patient safety goal by using quality improvement processes and will address the unique challenges of implementing medication reconciliation in a long-term care facility.

Although this kit is intended to be used by long-term care facility staff, its application may be extended to rehabilitation hospitals, palliative care/hospice units, complex continuing care facilities, mental health institutions and homes for children.

What is meant by the term Long-Term Care in this kit?

In general, long-term care facilities provide living accommodation for people who require on-site delivery of 24-hour, 7 days a week supervised care, including professional health services, high levels of personal care and services. They accommodate varying health needs with on-site supervision for personal safety.² Long-term care is governed by provincial and territorial legislation.

Across the country, jurisdictions offer a different range of services and cost coverage. Consequently, there is little consistency across Canada in what facilities are called. (BC - Residential care facility, AB - Continuing Care Centre, SK - Special Care home, MB - Personal Care home, ON - Long-term Care Home, QC - Community Health Division) Centre hospitalier et d'hébergement de soins de longue durée (CHSLD), CHSLD privés, NB - Nursing Home, PEI - Government Manor home, Private Manor home, NS - Nursing Home or Home for the Aged, NL - Nursing Home, YK - Residential Continuing Care Facility, NT - Personal Care Facility, NU - Group Living Environment for Dependent Elderly.)³ For the purposes of this kit, we will use 'long-term care'.

Long-term care, when compared with acute care, is characterized by higher resident to nurse or RPN/LPN ratios and on-site pharmacist/physician services that vary from daily to weekly or monthly basis. The acuity of long-term care residents, while usually less than acute care patients has been increasing steadily, but long-term care residents are typically in more stable condition, except in specialized programs. Therefore, changes to a resident's care or medication regimen occur less frequently than in acute care. Residents in long-term care are often prescribed multiple medications and are usually serviced by a community or in-house pharmacy with multi-dose packaging.

Overview of Medication Reconciliation

What is Medication Reconciliation?

Medication reconciliation is a formal process in which healthcare providers work together with residents, families and care providers to ensure accurate and comprehensive medication information is communicated consistently across transitions of care.

Medication reconciliation requires a systematic and comprehensive review of all the medications a resident is taking to ensure that medications being added, changed or discontinued are carefully evaluated. It is a component of medication management and will inform and enable prescribers to make the most appropriate prescribing decisions for the resident.

Medication reconciliation is a process that can minimize potential prescribing errors when a resident changes location.⁴

The Case for Medication Reconciliation

Literature about medication reconciliation in long-term care is building. Some studies show that a systematic approach to reconciling medications is reducing errors leading to adverse drug events and improved efficiency in the medication system. Studies involving long-term care facilities indicate that improvements in access to accurate and timely information are needed. Recent articles refer to LTC specific issues. These include:

- "Increased collaboration between nursing home registered nurses and licensed practical nurses staff could improve patient care." The March 2012 study stated that "Researchers estimate nearly 800,000 preventable adverse drug events may occur in nursing homes each year. Many of these incidents could be prevented with safety practices such as medication reconciliation, a process in which healthcare professionals, such as physicians, pharmacists and nurses, review medication regimens to identify and resolve discrepancies when patients transfer between healthcare settings. In nursing homes, both registered nurses and licensed practical nurses often are responsible for this safety practice. A recent study by a University of Missouri gerontological nursing expert found, when observed, these nurses often differed in how they identified discrepancies. Recognizing the distinct differences between RNs and RPNs could lead to fewer medication errors and better patient care.⁵
- 2006 survey by Lee Studied the transfer of information from an acute care hospital to a long-term care facility and found 22% of transfers had no formal summary of information. Legible summaries were available only 56% of the time; secondary diagnoses were missing from 30% of transfers; only 51% had allergies documented; clarification of information was difficult because identification of hospital physician was only legible 41% of the time and phone numbers only 33% of the time. The conclusions from this survey were that major errors of omissions and commissions occur frequently with potential for serious departures from intended or appropriate management resulting in unnecessary rework and inefficiencies.⁶
- 2007 survey by Earnshaw et al. Surveyed 218 continuing care nurses and pharmacists from Alberta about the quality of medication information received for new admissions transferred from acute care hospitals. Only 25% reported medication information was "always" legible and complete with medication name, dose, frequency and route. Only 10% of respondents reported that there was "always" enough information to tell if the prescribed medications were appropriate for the resident's diagnoses. Sixty percent of respondents reported medication information arrived the same day as the resident's admission. Overall, their perspective of medication information received was incomplete or inaccurate.⁷
- 2007 survey by Boockvar Only 68% of responding long-term care administrators indicated that staff often or always received all the information required to care for residents transferred from the hospital, 53% indicated they received a readable and easily understood post-hospital plan of care, and 38% indicated they received information about the purpose and diagnosis of each prescribed medication. Fourteen percent (14%) also reported incidences of resident harm caused by inadequate communication of health information from hospital to a long-term care facility.⁸

- 1997 study by Jones et al. of 709 long-term care residents transferred to the emergency department, sixty-seven residents (10%) were transferred without any documentation. For those residents with transfer documentation, 6 common discrepancies were identified. The authors concluded that many residents were transferred without appropriate documentation for the emergency physician.⁹
- In a 2000 study by Gurwitz et al., adverse drug events occurred commonly among long-term care residents and more than half (51%) were judged to be preventable. Serious life-threatening and fatal adverse drug events were more likely to be preventable than less severe events. Most errors associated with preventable events occurred at the ordering and monitoring stages. ¹⁰
- In a 2007 Institute of Medicine Report, it was noted that components of the medication use system operate in silos with ineffective means of sharing important information across the continuum of care. The report recognized the need to improve continuity of resident care through the implementation of medication reconciliation between hospital and community providers. 11

The Impact of Medication Reconciliation

- 2004 study by Boockvar the incidence of adverse drug events caused by medication changes upon transfer between facilities was twenty percent (20%). Adverse events due to medication changes occurred most often upon transfer from the hospital back to the nursing home. Incomplete or inaccurate communication between facilities was identified as a potential factor in these occurrences. Their recommendation was to implement an intervention, like medication reconciliation, at the time of admission back to the long-term care facility.¹²
- 2006 study by Boockvar The possibility of having a discrepancy-related adverse event was less likely in the group of residents who had medication reconciliation by a pharmacist (with physician communication) upon transfer back from acute care to long-term care, compared with the group that did not. The pharmacist compared the medications ordered upon transfer back to the long-term care facility to the medications taken before hospitalization. The most common discrepancies were omissions followed by additions and dosage changes. The most common adverse drug event was pain due to the omission of analgesics, and the most common causes of discrepancy-related ADEs were antibiotics and analgesics.¹³

Medication reconciliation in the long-term care setting is a three-step process:

- 1. Create a complete and accurate Best Possible Medication History (BPMH) of the resident's medications including name, dosage, route and frequency. This includes:
 - o a systematic process of interviewing the resident/family, and
 - o a review of at least one other reliable source of information;
- Reconcile Medications: Use the BPMH to create admission orders or compare the BPMH against the
 resident's admission, transfer or discharge medication orders; identify and resolve all differences or
 discrepancies; and
- 3. **Document and Communicate** any resulting changes in medication orders to the relevant providers of care and resident or family member wherever possible.

Guiding Principle

Medication reconciliation is a process that can minimize potential prescribing errors when a resident changes location.⁴

What is the Best Possible Medication History (BPMH)?

The BPMH forms the basis of medication reconciliation both in acute and long-term care. The BPMH is documentation of all medications, including drug name, dose, frequency and route that a resident is currently taking, even though it may be different from what was actually prescribed.

At each interface in care when the resident is being transferred from one healthcare facility/service to another, the BPMH should be compared to the resident's medication orders. From our experience with medication reconciliation in acute care, the BPMH is the cornerstone of the medication reconciliation process.

Several tools created in the SHN in acute care are helpful in ensuring care providers obtain the BPMH in the most efficient manner. These tools are available on the Medication Reconciliation Communities of Practice website and can be accessed using the following links:

- Best Possible Medication History (BPMH) Interview Guide
- Medication History Taking Presentation Winnipeg Regional Health Authority

See also **Appendix B**: Tips for Creating a BPMH and Appendix C: Tips to remember when Interviewing Residents and **Appendix D**: Resident and Family role in the Medication Reconciliation Process, **Appendix G**: Sample Tools for Admission Medication Reconciliation.

Multiple Sources of Information Used to Obtain the BPMH

The sources of information used to obtain the BPMH differ with the specific types of admission to long-term care. (Refer to Table 1) Synthesizing the data from multiple sources of information will help ensure the Best Possible Medication History (BPMH).

Note: These are possible sources of information that may not always be available for use depending on each individual transferring facility.

Table 1: Sources of Information to Obtain the Best Possible Medication History (BPMH)

Type of Admission	Sources of Information	
From Acute Care Hospital (New Admission)	 Most Current Medication List (MAR or medication profile) Best Possible Medication Discharge Plan (BPMDP)* Transfer Orders/Discharge Prescriptions Pre-Acute Care Medications (if medication reconciliation was not clearly documented at the former facility) Review the "home medication list" Interview family/resident to confirm medications and dosages Review medication vials, blister pack medications Review community pharmacy profile or the provincial electronic health record Review family physician records, home care records 	
From Acute Care Hospital (Readmission to LTC)	 Most Current Medication List (MAR or medication profile) Best Possible Medication Discharge Plan (BPMDP)* Transfer orders, discharge prescriptions Pre-Acute Care Medications Resident's most current long-term care MAR prior to hospital transfer 	
From Another Long- Term Care facility	 Most Current Medication List (MAR or medication profile) Resident Assessment Instrument (RAI)** - Section U - standard screening and assessment tool used in long-term care (where completed) Pre-long-term care medications (if medication reconciliation was not clearly documented at the former facility) Review the "home medication list" Interview family/resident to confirm medications and dosages Review medication vials, blister pack medications Review community pharmacy profile, provincial electronic health records or drug information systems (e.g. PIP, Drug Profile Viewer, PharmNet) Review family physician records, home care records 	
From Community or Assisted Living	 Review the "home medication list" Interview family/resident, check medication vials, blister pack medication lists, home care health record Review community pharmacy profile, provincial electronic health records or drug information systems (e.g. PIP, Drug Profile Viewer, PharmNet) Review family physician records, home care records 	

Type of Admission	Sources of Information
Rehabilitation/	Most Current Medication List (MAR or medication profile)
Complex Continuing	Discharge Prescription from the facility
Care facility	'Dear Doctor/Community Pharmacy' letter
(Rehab/CCC)	Pre-Rehab/CCC medications (if medication reconciliation was not clearly
	documented at the former facility)
	Review the "home medication list"
	Interview family/resident to confirm medications and dosages
	Review medication vials, blister pack medications
	Review community pharmacy profile, provincial electronic health
	records or drug information systems (e.g. PIP, Drug Profile Viewer,
	PharmNet)
	Review family physician records, home care records

The term Best Possible Medication Discharge Plan (BPMDP), introduced in the acute care SHN Getting Started Kit is intended to be the product of medication reconciliation at acute care discharge. It should be communicated to the long-term care facility upon admission but, may not be available as many acute care organizations are focusing on admission prior to implementing discharge medication reconciliation processes. (See Appendix H for Examples of BPMDPs used in Acute Care)

* Using the Best Possible Medication Discharge Plan (BPMDP) as a source of information

Using the most current medication list and the BPMH as references, the BPMDP is comprised by evaluating and accounting for:

- New medications started in a healthcare facility
- Adjusted and discontinued medications (from BPMH)
- Unchanged medications that are to be continued (from BPMH)
- Medications on Hold in hospital
- Non-formulary/formulary adjustments/auto-substitutions made in hospital
- New medications started upon discharge
- Additional comments as appropriate. Example: status of herbals or medications to be taken at the resident's discretion.¹⁴

**Using the Resident Assessment Instrument (RAI) as a source of information

Sections O and U are the sections of the Resident Assessment, which pertain to medications. (See also **Appendix E** - Resident Assessment Instrument)

The intent of section O1 is to determine the number of different medications (OTC & Rx) the resident has received in the past seven days (assessment period). Section O2 records whether the resident is currently receiving medications that were initiated in the last 90 days; Section O3 reviews injectables, Section O4 records information on specific types of medications (by category such as antipsychotics, anti-anxiety, analgesics etc), and does not specify the name of the medications.

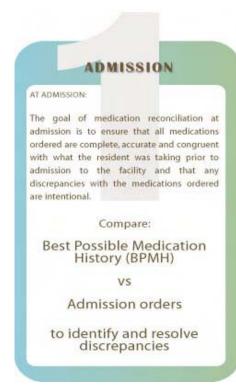
Section U identifies and records all medications the resident received in the last seven days. This section specifies the medication name (and Drug Information Number (DIN), dose ordered, route of administration, frequency, amount administered and number of PRN doses and STAT doses given in the last seven days. This section does not record PRNs that are not given. Currently section U is not mandatory for long-term care facilities, but would serve as a good source of data in cases where it is completed and current.

Guiding Principle

An up-to-date and accurate medication list is essential to ensure safe prescribing in any setting.

The Medication Reconciliation Process

Medication reconciliation at admission is the foundation of a successful reconciliation process.



Conceptual Framework for Medication Reconciliation at Admission

Admission medication reconciliation processes generally fit into two models: proactive process and retroactive process.

The **proactive process** occurs when the BPMH is created **first** and is used to write admission medication orders (as shown graphically below). Imagine a resident being admitted to long-term care from an acute care hospital. A practitioner creates a BPMH by reviewing several sources of information. For this example, this may include the MAR or the medication profile, and as available a BPMDP, transfer orders, or discharge prescriptions.

NOTE: If medication reconciliation was not clearly documented at the previous facility then pre-acute care medications must be reviewed. The pre-acute medications may have been intentionally stopped or changed in acute care - in cases where this may be difficult for the practitioner in LTC to assess, consultation with the acute care physician or pharmacist is recommended.

Proactive Medication Reconciliation Process

- 1. **Create** the BPMH using a systematic process of interviewing the resident, family/caregiver and a review of at least one other reliable source of information;
- 2. Create admission medication orders (AMOs) by assessing each medication on the BPMH;
- 3. **Compare** the BPMH against the AMOs ensuring all medications have been assessed; **identifying** and **resolving** all discrepancies with the most responsible prescriber.



A retroactive process occurs when a BPMH is created and medications are reconciled after admission medication orders are written (as shown graphically below).

Create a primary medication history (PMH); Generate the admission medication orders (AMO's) from PMH Create the Best Possible Medication History (BPMH) using a systematic process of interviewing the resident, family/caregiver and a review of at least one other reliable source of information; Compare the BPMH against the AMOs ensuring all medications have been assessed; identifying and resolving all discrepancies with the most responsible prescriber.



In the SHN we suggest medication reconciliation occur within 24 hours of admission, however each facility will need to determine what is best practice for them. Medication reconciliation will identify and resolve <u>unintentional</u> <u>discrepancies</u> (medication errors) and <u>undocumented intentional</u> <u>discrepancies</u> (errors in documentation). Prompt reconciliation means potential harm is averted and not perpetuated. If <u>during information gathering a serious discrepancy is detected the pharmacist or nurse would contact the physician immediately. In order to decide whether discrepancies in orders are <u>intentional</u> or <u>unintentional</u>, ask the prescriber who wrote the admission orders.</u>

Example of *Unintentional* Discrepancy at Admission

A resident with Parkinson's disease was admitted from home. Based on information on the resident's medication vial, Sinemet 200/50 (200 mg/50 mg) PO BID was ordered on admission. A few days later, the resident's family commented that the resident's Parkinson's disease appeared to be worsening. Further investigation revealed that the resident had been told by his neurologist last week to increase his Sinemet dosage to 200/50 PO TID. The physician was informed and the Sinemet dosage was corrected.

Example of <u>Undocumented Intentional</u> Discrepancy at Admission

A resident who was on glyburide 5 mg PO BID at home is admitted to long-term care on glyburide 2.5 mg PO BID due to recent dizzy spells and hypoglycaemia. However, the reason for reducing the dose was

not documented in the medical record. Discussion with the physician reveals this was an <u>intentional</u> discrepancy.

An incomplete order such as 'aspirin 81mg po' (missing frequency) is also an example of an <u>undocumented intentional</u> discrepancy.

Establishing Criteria

It will be important to identify criteria for those residents who should receive an in-depth BPMH, in what timeframe, and how to go about obtaining the BPMH (Example: residents on greater than 5 medications, or on high-alert medications (as determined by the facility), must have a BPMH within 24 hours of admission.) (See also: Appendix F - Sample Policies and Procedures)

Improving Admission Medication Orders

Many facilities are pro-actively improving the admission medication orders and reducing unintentional discrepancies by making improvements to the way the primary medication history is gathered.

Getting the BPMH First

In the first 18 months of the SHN (largely in acute care), many successful teams created forms intended for use at admission when initial orders are written. This form provides space for the BPMH to be collected and documented by a practitioner and then gives the prescriber an opportunity to assess each medication and indicate whether it should be continued, discontinued, held or modified. This way, the BPMH leads directly to accurate orders.

Once forms have been developed, tested, modified and are embedded into the system, the frequency of discrepancies between the BPMH and the AMOs is reduced. **Internal quality safety audits** should be performed to test the quality of the BPMH's on a regular basis to ensure that the <u>unintentional</u> discrepancies are actually decreasing (See Also Appendix G - Sample Tools for Admission Medication Reconciliation).

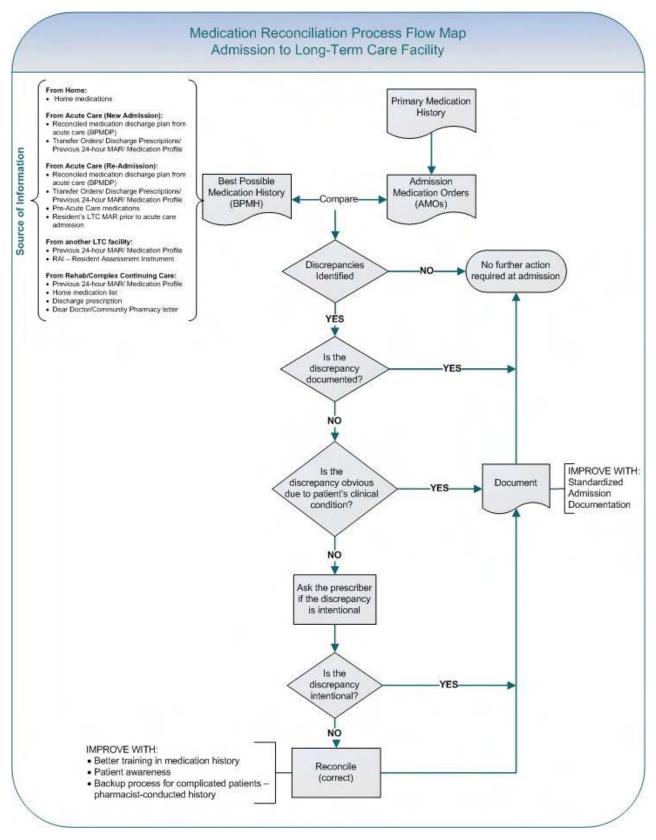
Improving the Primary Medication History

If a full BPMH cannot be done prior to admission orders, there are many other opportunities to improve the process of gathering the primary medication history. Improving the primary medication history will help reduce the number of unintentional discrepancies. Examples: Training staff to use more than one source of information, providing educational hands-on sessions to improve medication history taking and engaging the resident and their families in the process.

TIP

The quality of the BPMH affects <u>unintentional</u> <u>discrepancies</u> and the use of a form improves documentation and reduces <u>undocumented intentional discrepancies</u>. If the BPMH cannot be completed prior to admission orders being written, reconciliation still reduces potential resident harm.

Figure 1: Medication Reconciliation on Admission to a Long-Term Care



Medication Reconciliation at Internal Transfer



Internal Transfer is an interface of care where the resident is transferred within the facility when there is a change in resident's level of care or transitions when facility requires medications to be re-ordered.

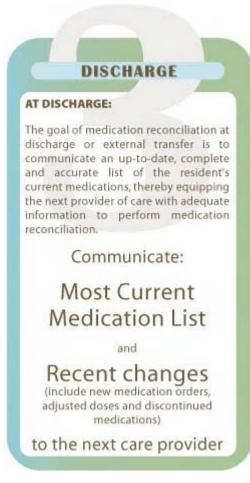
If a good process for medication reconciliation has occurred during admission, then the 'most current medication list' becomes the Best Possible Medication History. Medication reconciliation at internal transfer involves comparing the new transfer orders with the most current medication list from the transferring unit and resolving any <u>unintentional</u> or <u>undocumented discrepancies</u>.

Example of <u>Undocumented Intentional</u> Discrepancy at Internal Transfer

Upon transfer to a new unit, physician decreased the dose of glyburide from 5mg PO BID to 2.5 mg PO BID. Discussion with the prescriber reveals this was an intentional choice.

Example of an <u>Unintentional Discrepancy at Internal Transfer</u> Resident was on an antihypertensive medication as indicated on his most recent MAR which was not ordered upon transfer to the mental health unit. Discussion with the prescriber showed that this was not intentional and the anti-hypertensive was reordered.

Medication Reconciliation at Discharge or External Transfer



Long-term care residents are sometimes transferred externally to acute care for a medical intervention. This intervention may be either for short term treatment (e.g. dialysis) in which medications are usually the same with the addition of very specific treatment for the acute condition or admitted to an acute care bed for further assessment and treatment where the length of stay may vary. According to the policy of the facility, (e.g. if the length of stay in acute care is longer than 21 days or if the resident is not expected to return) the external transfer may become a discharge. The medications are then reconciled upon admission to acute care and once again upon return to long-term care.

Long-term care discharges to other long-term care facilities or to the community, while not common, do occur particularly in facilities with specialized programs such as a transition unit or respite care.

If a good process for medication reconciliation has occurred during admission, then the 'most current medication list' is the Best Possible Medication History. The 'most current medication list' and the recent changes to the list, preferably electronically generated, including new medication orders, adjusted doses and discontinued medications should be clearly and legibly communicated to the next provider of care and to the resident or family member where feasible. The information should be sent in

a timely manner and where possible, be transferred along with the resident to the receiving facility. Medication reconciliation will occur promptly after transition to the new setting of care.

TIPS

- Recent changes to the 'most current medication list' can be communicated to the next provider of care by either sending 7-10 days of previous MARS or a comprehensive medication profile dated back 7-10 days or more.
- It is helpful, but not required, to include the reason for the recent medication changes, expected goals and monitoring recommendations particularly for important medications such as antibiotics, anti-psychotics, anti-depressants, analgesics.

Figure 2: Medication Reconciliation Poster - Describes medication reconciliation in long-term care at admission, transfer and discharge

MEDICATION RECONCILIATION From Admission to Discharge in Long-Term Care

ADMISSION

AT ADMISSION:

The goal of medication reconciliation at admission is to ensure that all medications ordered are complete, accurate and congruent with what the resident was taking prior to admission to the facility and that any discrepancies with the medications ordered are intentional.

Compare:

Best Possible Medication History (BPMH)

Admission orders

to identify and resolve discrepancies

TRANSFER

AT TRANSFER:

The goal of medication reconciliation at internal transfer is to ensure that all medications orders are completely and correctly transferred with the resident to the transferring unit and that any discrepancies with the medication list are intentional.

Compare:

Most Current Medication List

V5.

New Transfer Orders

to identify and resolve discrepancies

DISCHARGE

AT DISCHARGE:

The goal of medication reconciliation at discharge or external transfer is to communicate an up-to-date, complete and accurate list of the resident's current medications, thereby equipping the next provider of care with adequate information to perform medication reconciliation.

Communicate:

Most Current Medication List

and

Recent changes

(include new medication orders, adjusted doses and discontinued medications)

to the next care provider

Adapted from Barnsteiner, J. H. (2005). Medication Reconcilistion. American Journal of Nursing, 3 (suppl), 31-36. Created by the Institute for Safe Medication Practices Canada (ISMP Canada) for the Safer Healthcare Abart campaign

Implementing the Medication Reconciliation Process

Getting Started with Implementing Medication Reconciliation in Long-Term Care

The following key steps for getting started in medication reconciliation include: 15

- 1. Secure Senior Leadership Commitment
- 2. Form a Team
- 3. Use the Model of Improvement to Accelerate Change by:
 - A. Set Aims (Goals and Objectives)
 - B. Establish Measures
 - C. Select Changes
 - D. Test Changes
- 4. Implement Changes
- 5. Spread Changes

For additional information about implementing Medication Reconciliation see **Appendix I**: Keys to Successful Implementation of Medication Reconciliation, and **Appendix J**: Lessons Learned - the Canadian Experience.

* Note: SHN recommends using the Model for Improvement when implementing medication reconciliation in your organization.

1. Secure Senior Leadership Commitment

Implementing a successful medication reconciliation process requires clear commitment and direction from the highest level of the organization. Visible senior leadership support can help to remove obstacles and allocate resources enhancing the ability of teams to implement medication reconciliation.

Actively engage senior leadership by building a business case for medication reconciliation and demonstrating the need for ADE prevention and reductions in work and rework. Present progress to senior leadership monthly: present data on errors prevented by the medication reconciliation process; identify resources needed to be successful. Sharing qualitative stories is important especially for teams with small numbers and less reliable quantitative data.

2. Form a Team

Including the right people on a process improvement team is critical to a successful improvement effort. Teams vary in size and composition. Each organization builds teams to suit its own needs.

A team approach is needed to ensure medication reconciliation is completed successfully. To lead the initiative we recommend the organization identify a multidisciplinary site coordination team to organize implementation of medication reconciliation and to conduct tests of change in that facility.

Some organizations may have different teams (e.g. a management team to guide the process and provide support; a frontline team to implement and refine the process.)

Representation of the site coordination team could include:

- Senior Administrative leadership (executive sponsor)
- Clinical leaders representing physicians, nursing and pharmacy staff
- Front line caregivers from key settings of care, and from all shifts
- Representatives from other work units or committees whose responsibilities/mandates include the improvement of resident safety (e.g., Resident Safety Officer, representatives from Quality Improvement/Risk Management, Resident Representatives, Pharmacy and Therapeutics committee)
- Clerical support
- Educator ongoing staff training
- Resident and/or family member

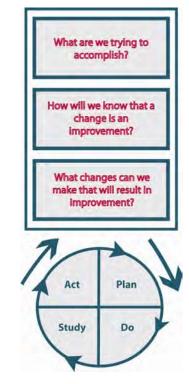
On a resident care unit, a small 'unit team' is helpful to coordinate and initiate tests of change (Plan-Do-Study-Act (PDSA) cycles - See Model for Improvement) and provide comments to the site coordinating team. Team members could include: unit based physician, nurse manager, frontline nurse, pharmacist and resident. Team members can communicate in a variety of methods including short stand-up meetings on the unit.

3. Use the Model for Improvement to Accelerate Change

The *Model for Improvement*, developed by Associates in Process Improvement, is a simple yet effective tool not meant to replace change models that organizations may already be using, but rather to accelerate improvement. This model has been used very successfully by hundreds of healthcare organizations in many countries to improve many different healthcare processes and outcomes.

The model has two parts:

- Three fundamental questions, which can be addressed in any order.
 - 1. What are we trying to accomplish?
 - 2. How will we know that a change is an improvement?
 - 3. What changes can we make that will result in improvement?
- The Plan-Do-Study-Act (PDSA) cycle to test and implement changes in real work settings. The PDSA cycle guides the test of a change to determine if the change is an improvement.



Set Aims

Improvement requires setting aims. The aim should be timespecific and measurable; it should also define the specific population of patients that will be affected.

Establish Measures

Teams use quantitative measures to determine if a specific change actually leads to an improvement.

Select Changes

All improvement requires making changes, but not all changes result in improvement. Organizations therefore must identify the changes that are most likely to result in improvement.

Test Changes

The Plan-Do-Study-Act (PDSA) cycle is shorthand for testing a change in the real work setting — by planning it, trying it, observing the results, and acting on what is learned. This is the scientific method used for action-oriented learning.

Langley G; Nolan KM, Nolan TW, Norman CL, Provost LP. The Improvement Guide: A Practical Approach to Enhancing Organizational Performance.

A. Set Aims (Goals and Objectives)

Improvement requires setting aims. An organization will not improve without a clear and firm intention to do so. The aim should be time-specific and measurable; it should also define the specific population of residents that will be affected. Agreeing on the aim is crucial; so is allocating the people and resources necessary to accomplish the aim.

Setting an aim can assist teams to focus on what they are hoping to achieve when implementing medication reconciliation. The aim should be time-specific, measurable and define the specific population of residents who will be affected.

The following are examples of aims at the organizational level:

- 1. Reduce the number of <u>unintentional</u> discrepancies by 75% on a stated number of units by June 2008.
- 2. Reduce the number of <u>undocumented intentional</u> discrepancies by 75% on a stated number of units by June 2008.
- 3. Conduct a BPMH and reconcile discrepancies on 100% of admissions within 24 hours of admission.





As teams work on different points in the resident care process, the aims should be specific to what it is they are hoping to achieve at that point.

B. Establish Measures

Measurement is a critical part of testing and implementing changes; measures tell a team whether the changes they are making actually lead to improvement. Measurement for improvement should not be confused with measurement for research. This difference is outlined in this chart:

	Measurement for Research	Measurement for Learning and Process Improvement
Purpose	To discover new knowledge	To bring new knowledge into daily practice
Tests	One large "blind" test	Many sequential, observable tests
Biases	Control for as many biases as possible	Stabilize the biases from test to test
Data	Gather as much data as possible, "just in case"	Gather "just enough" data to learn and complete another cycle
Duration	Can take long periods of time to obtain results	"Small tests of significant changes" accelerates the rate of improvement

Three Types of Measures

Use a balanced set of measures for all improvement efforts:

1. Outcome Measures (voice of the resident):

How is the system performing? What is the result?

• Mean number of unintentional discrepancies per resident

2. Process Measures (the workings of the system):

Are the parts/steps in the system performing as planned?

· Percentage of admitted residents reconciled.

3. Balancing Measures (looking at a system from different directions/dimensions):

Are changes designed to improve one part of the system causing new problems in other parts of the system? This measure often addresses resident/staff satisfaction and workload issues.

Time to complete BPMH

Measuring for improvement in medication reconciliation starts with collecting baseline data to determine the seriousness of the problem to help motivate stakeholders. Then, collect data regularly to track the effectiveness of change over time. (See Measuring the Success of Medication Reconciliation for more details)

C. Select Changes

While all changes do not lead to improvement, all improvement requires change. The ability to develop, test, and implement changes is essential for any individual, group, or organization that wants to continuously improve. There are many kinds of changes that will lead to improvement, but these specific changes are developed from a limited number of change concepts.

A change concept is a general notion or approach to change that has been found to be useful in developing specific ideas for changes that lead to improvement. Creatively combining these change concepts with knowledge about specific subjects can help generate ideas for tests of change. After generating ideas, run Plan-Do-Study-Act (PDSA) cycles to test a change or group of changes on a small scale to see if they result in improvement. If they do, expand the tests and gradually incorporate larger and larger samples until you are confident that the changes should be adopted more widely.

For examples of change concepts in medication reconciliation, refer to Appendix K.

D. Test Changes

Once a team has set an aim, established its membership, and developed measures to determine whether a change leads to an improvement, the next step is to test a change in the real work setting. The Plan-Do-Study-Act (PDSA) cycle is shorthand for testing a change — by planning it, trying it, observing the results, and acting on what is learned. This is the scientific method used for action-oriented learning.

Reasons to Test Changes

- To increase your belief that the change will result in improvement.
- To decide which of several proposed changes will lead to the desired improvement.
- To evaluate how much improvement can be expected from the change.
- To decide whether the proposed change will work in the actual environment of interest.
- To decide which combinations of changes will have the desired effects on the important measures of quality.
- To evaluate costs, social impact, and side effects from a proposed change.
- To minimize resistance upon implementation.

Steps in the PDSA Cycle

Step 1: Plan

Plan the test or observation, including a plan for collecting data.

- State the objective of the test.
- Make predictions about what will happen and why.
- Develop a plan to test the change. (Who? What? When? Where? What data need to be collected?)





Step 2: Do

Try out the test on a small scale.

- Carry out the test.
- Document problems and unexpected observations.
- Begin analysis of the data.

Step 3: Study

Set aside time to analyze the data and study the results.

- Complete the analysis of the data.
- Compare the data to your predictions.
- Summarize and reflect on what was learned.

Step 4: Act

Refine the change, based on what was learned from the test.

- Determine what modifications should be made.
- Prepare a plan for the next test.

Example of a Test of Change (Plan-Do-Study-Act Cycle)

Depending on the aim, teams choose promising changes and use Plan-Do-Study-Act (PDSA) cycles to test a change quickly on a small scale, see how it works, and refine the change as necessary before implementing it on a broader scale. The following example shows how a team started with a small-scale test.

Implementing a Medication Reconciliation Form in a Long-Term Care facility

Plan :	Test a draft of a medication reconciliation form used to collect the Best Possible Medication History (BPMH).	
Do:	Test the form for 3-5 new residents by two nurses.	
Study:	Obtain specific feedback via a questionnaire from the 2 nurses on the format of the form, ease of use, etc.	
Act:	Make modifications to the form where needed.	

4. Implement Changes

After testing a change on a small scale, learning from each test, and refining the change through several PDSA cycles, the change is ready for implementation on a broader scale-for example, for an entire pilot population or on an entire unit. Implementation is a permanent change to the way work is done and, as such, involves building the change into the organization. It may affect documentation, written policies, hiring, training, compensation, and aspects of the organization's infrastructure that are not heavily engaged in the testing phase. Implementation also requires the use of the PDSA cycle.

Example

Three nurses on different shifts use a Testing a change: new medication reconciliation order

form to obtain feedback on ease of use,

format of the form etc.

Implementing All 10 nurses on the pilot unit begin using a change:

the new medication reconciliation and

order form.



Example of Implementing a Medication Reconciliation Process on Select Unit

- a. Initially implement a medication reconciliation process on a smaller scale with select groups of residents, on select units or during a specific point in the continuum of care to develop forms and tools that work in your organization and to gain expertise in the medication reconciliation process.
- b. Use a simple process flow diagram to outline the current process in place. Note: keep this process simple, its purpose is to identify the sequence of events, who is doing what and where opportunities exist for change and/or how medication reconciliation would 'fit-in'.

TIP:

Embed the medication reconciliation process into normal processes of care and work towards reconciliation forms that result in orders.

- c. Adapt and test a medication reconciliation form. Specific sample forms are available (See Appendix **G** - Sample Tools for Admission Medication Reconciliation).
- d. The purpose of these forms is to aid in the collection of a Best Possible Medication History (BPMH), to share the information with prescribers, and to facilitate reconciliation (the documentation of prescriber decisions about medication orders). Many institutions adapt a physician's order form for this purpose and a number of forms have been developed by different organizations. The forms will require modifications before use in your institution. As with any changes you make, our recommendation is to test the form first on a small scale and modify as needed.

5. Spread Changes

Spread is the process of taking a successful implementation process from a pilot unit or pilot population and replicating that change or package of changes in other parts of the organization or other organizations. During implementation, teams learn valuable lessons necessary for successful spread, including key infrastructure issues, optimal sequencing of tasks, and working with people to help them adopt and adapt a change.

Spread efforts will benefit from the use of the PDSA cycle. Units adopting the change need to plan how best to adapt the change to their unit and to determine if the change resulted in the predicted improvement.

As experience develops and measurement of the success of your medication reconciliation process reflects sustained improvement the process can be implemented for more residents in more areas. Evaluate at each new step before adding more units to the process. Retest the pilot process on new units in order to identify any revisions that may be needed. The roll-out across an organization requires careful planning to move through each of the major implementation phases.



A key factor for closing the gap between *best* practice and *common* practice is the ability of healthcare providers and their organizations to spread innovations and new ideas. The IHI's 'A Framework of Spread: From Local Improvements to System-Wide Change'¹⁶ will assist teams to develop, test and implement a system for accelerating improvement by spreading change ideas within and between organizations. This paper will assist teams to "prepare for a spread; establish an aim for spread; and develop, execute, and refine a spread plan." Some issues to address in planning for spread include training and new skill development, supporting people in new behaviours that reinforce the new practices, problem solving, current culture regarding change, degree of buy-in by staff, and assignment of responsibility.

Further information on sustaining and spreading improvements can be accessed by using the following links:

- MedRec Communities of Practice articles, presentations on Spread
- A Framework for Spread White Paper (IHI)¹⁶

Example: If one to five nurses on a pilot unit successfully implement a new medication reconciliation order form, then spread would be replicating this change in all nursing units in a step-wise fashion throughout the organization and assisting the units in adopting or adapting the change.

Measuring the Success of Medication Reconciliation

The SHN framework measures improvement by focusing on a consistent set of core measures. This represents the minimum measures required to evaluate the success of medication reconciliation. Healthcare facilities may add additional measures to evaluate improvement as they see fit. (see Optional Measures section below for examples).

- On an ongoing basis, progress should be measured to evaluate your medication reconciliation process.
- To ensure consistency we encourage all participants to report the three core medication reconciliation measures to the Central Measurement Team of SHN. This data should also be presented to the facilities senior leadership monthly during the baseline and early initial implementation stage and less frequently during the full implementation stage to check the quality of improvement.
- Start by collecting baseline data on five to six admissions. (See 'Collect Baseline Data' section below).
- Subsequently five to ten charts should be reviewed for data collection each month. Organizations may choose to review more or fewer charts each month depending on resident volumes. When collecting monthly data after the baseline audit, thought should be given to the type of resident audited. Focusing on residents with a completed medication reconciliation form will help provide information regarding the impact and effectiveness of the form and the medication reconciliation process. For a sample data collection tool see **Appendix L**: Individual Medication Reconciliation Audit Tool.
- If measures do not reflect improvement, your team should investigate the reason why (e.g. processes which are not working, non-compliance to these processes and/or barriers exist which prevent the process from working effectively etc.).

Core Measures

1. Undocumented Intentional Discrepancies

Mean number of undocumented Intentional discrepancies Number of undocumented intentional discrepancies

Number of residents reconciled

An <u>undocumented intentional</u> discrepancy is one in which the physician has made an intentional choice to add, change or discontinue a medication but this choice is not clearly documented.

<u>Undocumented intentional</u> discrepancies are a failure to document. They are not medication errors and do not usually represent an immediate threat to resident safety. <u>Undocumented intentional</u> discrepancies may however lead to confusion, require extra work and may lead to medication errors. They can be reduced by standardizing the method for documenting admission medication orders. A mean of 2.0 <u>undocumented intentional</u> discrepancies simply means that for every 1 resident there would be a mean of 2 orders per resident with an undocumented reason.¹⁷

2. <u>Unintentional</u> Discrepancies

Mean number of unintentional
discrepancies=Number of unintentional discrepanciesNumber of residents reconciled

An <u>unintentional</u> discrepancy is one in which the physician unintentionally changed, added or omitted a medication the resident was taking prior to admission, transfer or discharge.

<u>Unintentional</u> <u>discrepancies</u> are medication errors that can lead to ADEs. They can be reduced by ensuring good training of nurses/ physicians/ pharmacists at obtaining in-depth medication histories and by wisely involving clinicians, frequently pharmacists to identify and reconcile these discrepancies. In institutions without access to clinical pharmacists, reconciliation of discrepancies can be assigned to other healthcare professionals.

A mean of two <u>unintentional</u> <u>discrepancies</u> means that for every 1 resident we would expect to observe two <u>unintentional</u> <u>discrepancies</u>. ¹⁸

3. Percentage of Residents Reconciled upon admission

 Percentage of Residents
 =
 Number of residents reconciled
 x 100

 Reconciled at Admission
 Number of residents admitted

The percentage of reconciled residents upon admission is a process measure evaluating whether the system is performing as planned. The goal of this measure is to have 100% of residents reconciled upon admission.

Collect Data

A. Collect Baseline Data

It is critical to collect baseline data to get a sense of what issues exist in your facility. "Baseline data" reflects the types of discrepancies that exist prior to the implementation of the medication reconciliation process and will provide the information your team needs to build the case for medication reconciliation. The Individual Medication Reconciliation Audit Tool in Appendix L will assist teams to collect baseline data. Not only does this data provide the baseline against which to measure the effectiveness of the change, it is evidence of the seriousness of the problem to motivate stakeholder involvement.

Resident Selection

- Each facility will determine which residents will be included
- The only criterion for exclusion of a resident is that the resident is not prescribed any medications.

TIP:

The individuals performing the BPMH and data collection must be properly trained regarding obtaining a medication history and coding of discrepancies.

Number of Charts to Review

The concurrent method of data collection will be used. Concurrent audit means doing the audit at the time the resident is admitted as opposed to a retrospective audit of resident charts of those admitted in the previous weeks or months. Concurrent audits identify resident "at hazard" and immediate actions for improvement can be made.

- Concurrent audits also make it easier to distinguish <u>intentional</u> from <u>unintentional</u> discrepancies than does a retrospective chart audit.
- Review 5-10 resident charts monthly (or fewer if admission rate is low) to collect baseline data.
 (If admission rates are low, may need to submit and present data on a quarterly basis)

Process for Baseline Data Collection (using admission as the example)

- 1. Allow the normal process of taking a primary medication history (PMH) to occur. Using the facilities established process, obtain the AMO.
- 2. To obtain a BPMH, have a registered nurse, LPN/RPN, pharmacist, trained pharmacy technician or physician do one or more of the following, as needed: (refer to: What is the BPMH)
 - interview the resident and or family if feasible;
 - review 'most current medication list' and vials, consult provincial electronic database or RAI;
 - contact the community pharmacist and or referring physician; and/or
 - review the BPDMP from the transferring facility or unit.
- 3. Identify any discrepancies by comparing the AMOs with the BPMH.
- Clarify discrepancies with the ordering or most responsible physician to determine which are <u>undocumented intentional</u> and which are <u>unintentional</u>. Record discrepancies on the Individual Medication Reconciliation Audit tool. (See Appendix L).
- 5. Calculate the Mean Number of <u>undocumented intentional</u> discrepancies and the Mean Number of <u>unintentional</u> discrepancies using the following formulas:

 Mean number of undocumented intentional discrepancies
 Number of undocumented intentional discrepancies

 Intentional discrepancies
 Number of residents reconciled

Mean number of unintentional
discrepancies=Number of unintentional discrepanciesNumber of residents reconciled

6. Submit data to the SHN! Central Measurement Team. (See 'Submitting Data to SHN! section)

B. Evaluate the Improvements Being Made - Collect and Submit Data

- Start by creating a BPMH for every newly admitted resident.
- Compare the AMOs with the BPMH to identify any discrepancies.
- Clarify discrepancies with the ordering or most responsible physician to determine which discrepancies are <u>undocumented intentional</u> and which are <u>unintentional</u>. These will be recorded on the Individual Medication Reconciliation Audit tool in Appendix L.
- Calculate the mean number of <u>undocumented intentional</u> discrepancies and the mean number of <u>unintentional</u> discrepancies on a monthly basis.
- Submit data to the SHN! Central Measurement Team. (See Submitting Data to SHN! section)
- Once you have a system in place that you know is working and reached your goal for 6 consecutive months, process measures are more reasonable and practical to sustain. To ensure ongoing quality of the medication reconciliation system, detailed measurements of discrepancies may be useful several times a year.
- In addition, some facilities may choose to do independent regular quality improvement audits to
 ensure that the BPMH gathering process or the process of reconciling discrepancies is completed
 accurately.

Optional Measures

Canadian medication reconciliation teams have found additional measures useful to determine what is going on within their organization. These measures may be useful to teams in assessing the effectiveness of medication reconciliation and other impacts on the system as it is implemented.

- Time From Admission to Completion of Reconciliation
- Time it takes to conduct a BPMH
- Time it takes to get correct admission orders with the existing process vs. Time to get admission orders after medication reconciliation has been implemented.
- Number of Sources of Information Used
- Resident, physician, pharmacist and staff satisfaction
- Number of Med Histories on the chart before and after medication reconciliation
- Number of high risk medications or number of medication orders handled successfully using the process
- Percentage of Residents with Unintentional Discrepancies The percent of residents with one or more <u>unintentional</u> <u>discrepancies</u> (Type 3) whose discrepancies were identified and corrected. E.g. there was a 20% decrease in residents with unintentional discrepancies after medication reconciliation was implemented on the unit in the last six months.

Percentage of Residents with = <u>Number of residents with 1 or more unintentional discrepancies</u> x 100

Unintentional Discrepancies Number of residents in the sample

Measurement Tips¹⁹

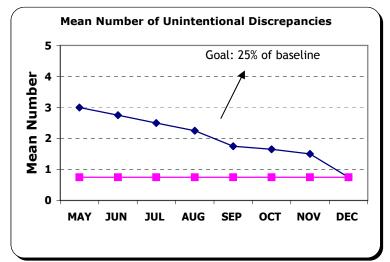
1. Plot data over time.

Information about a system and how to improve it can be obtained by plotting data over time and then observing trends and other patterns. Tracking a few key measures over time is the single most powerful tool a team can use and will help them to see the effects of the changes they are making.

Within your organization we encourage you to use Run Charts - described below, to show progress over time.

2. Run Charts - Track Your Measures over Time

Determining if improvement has really happened and if it is lasting, requires observation of patterns over time. Run charts are graphs of data over time and are one of the single most important tools in performance improvement. Using run charts has a variety of benefits:



- They help improvement teams formulate aims by depicting how well (or poorly) a process is performing
- They help in determining when changes are truly improvements by displaying a pattern of data that you can observe as you make changes
- They give direction as you work on improvement and information about the value of particular changes.²⁰

3. Seek usefulness, not perfection.

Remember, measurement is not the goal; improvement is the goal. In order to move forward to the next step, a team needs just enough data to know whether changes are leading to improvement.

- Integrate measurement into the daily routine. Useful data are often easy to obtain without relying on information systems. Don't wait two months to receive data from your hospital's information systems department. Develop a simple data collection form, and make collecting the data part of someone's job. Often, a few simple measures will yield all the information you need.
- Use qualitative and quantitative data. In addition to collecting quantitative data, be sure to collect qualitative data, which often are easier to access and highly informative. For example, ask staff how the medication reconciliation process is going or how to improve the medication reconciliation or BPMH form. Or, in order to focus your efforts on improving a resident's ability to provide a complete and accurate medication history, ask residents and their families about their experience.

Measurement Tips

- Goal is improvement, not the development of a measurement system
- Measurement should speed up improvement
- Develop a useful rather than a perfect process
- Key measures should clarify objectives
- Integrate measurement into daily routines
- Link measures for improvement with other initiatives in the unit/organization
- Involve stakeholders in measuring process & outcomes

Reference: Not Now, I'm Busy: Measurement For Patient Safety, G. Ross Baker, Ph.D., University of Toronto October 21, 2006

Submitting Data to SHN

On a national level, the central question is whether Canadian healthcare facilities are able to learn and implement the changes in practice that have been shown in other settings to reduce adverse events, morbidity and mortality.

The management of data submitted to SHN will be carried out by a University of Toronto based Central Measurement Team (CMT) which is funded by the Canadian Patient Safety Institute (CPSI) and led by Dr. G. Ross Baker. Data collected by the Central Measurement Team will be used to:

- 1. Facilitate the testing of evidence-based strategies for better practice, shown in other settings to reduce morbidity and mortality.
- 2. Support teams by providing information on their own performance relative to the interventions for which they have enrolled through the collection, analysis and reporting of organization-level, intervention specific data.

The SHN <u>Data Submission Policy</u> specifies the following requirements for organizations/teams enrolled:

- 1. Baseline data for at least one measure of each intervention for which the organization is enrolled is to be submitted within the first quarter following enrolment.
- 2. Early Implementation data (Working to Goal) for the measure for which baseline data had been submitted, is to be submitted within one quarter following the first month of baseline data submission.
- 3. If no data is received for one quarter between the Baseline and Early Implementation (Working to Goal) Phase the team will be designated as "Inactive".
- 4. During the Early Implementation (Working to Goal) Phase if data is not received once every quarter the team will be designated as "Inactive".
- 5. A team may re-activate at any time by submitting data.
- 6. A team that has reached its measurement goal (Full Implementation) and held its gains for three consecutive data points in six months (nine months for quarterly submitters) is considered to be "At

Goal". Teams designated as "At Goal" must recertify annually by submitting three data points within a period of two quarters.

Teams submitting data using the SHN Patient Safety Metrics system can generate run charts and in 2012 will have the ability to create control charts (statistical process control).

Data Submission

On a national level, the central question is whether Canadian healthcare facilities are able to learn and implement the changes in practice that have been shown in other settings to reduce adverse events, morbidity and mortality.

Measurement is essential to monitoring success and helps guide your team towards your specific intervention goal. Measurement also tells us what's working and what's not, and provides evidence to inspire other healthcare providers to improve the quality of patient safety.

The management of data submitted to *Safer Healthcare Now!* will be carried out by a University of Toronto based Central Measurement Team (CMT) which is funded by the Canadian Patient Safety Institute (CPSI) and led by Dr. G. Ross Baker. Data collected by the Central Measurement Team will be used:

- 1. To facilitate the testing of evidence-based strategies for better practice, shown in other settings to reduce morbidity and mortality.
- 2. To support the teams by providing information on their own performance relative to the interventions for which they have enrolled through the collection, analysis and reporting of organization-level, intervention specific data.

As part of SHN, measures will be completed by participating teams and submitted on a monthly basis in order to monitor the success of implementation of medication reconciliation across Canada. Data can be submitted by entering your data directly into the Patient Safety Metrics System.

About the Patient Safety Metrics

The Patient Safety Metrics System, a web based data submission and reporting system, was designed to support teams in the collection and analysis of improvement data.

Benefits of the Patient Safety Metrics System

The process of data submission has been streamlined and simplified; the system is easily accessible, intuitive to use, simple to navigate, and barriers to data submission have been minimized.

- Reports of participating facilities by region, type, intervention, measure
- Centralized source for data and real-time access to data of all participants
- Real- time access to performance reports (controlled by permission linked to user level)
- Data can be rolled up or drilled down for reporting (e.g. team, hospital, region, Province/Territorial, National)
- Customizable reports
- Dashboard multi-site and indicator reports (Phase 2)

Main Components

This application consists of two main components:

- the Enrolment Process, and
- the Data Entry and Reporting Process

The Enrolment component is used to enrol new organizations into *Safer Healthcare Now!* and can be used to see if an organization has already been enrolled.

To enter the Patient Safety Metrics System, the following options are available:

- The Data Entry and Reporting component is a secure environment accessible by approved usermembers to access and enter data, organization and member profiles as well as to run real time organizational reports.
- The Guest Data Entry component is an unsecured environment which can be used by anyone to submit data. The data is held separate from the main database until it is approved by the Key Organizational Contact (KOC) or Central Measurement Team (CMT). It can only be used to submit data to interventions already enrolled in by existing organizations. This function was designed for those who are irregularly delegated as data entry persons only, where their role has no need to view data, or run reports.

A user's manual for data submission is available on the *Patient Safety Metrics website* using the following link: https://shn.med.utoronto.ca/manual.aspx

Appendix M contains further details on the technical descriptions of these measures, including definitions of terms, numerators, denominators, exclusions, and collection strategies. It also contains a worksheet for each measure. The worksheets provide step-by-step tables for calculating the numerator, denominator, and final calculation for each measure. The worksheets can be used at the baseline stage (before you have started to implement), partial implementation stage and at full implementation.

How long should you continue to measure?

Process measures should be measured on an ongoing basis as it reflects the number of patients being reconciled. 'Percentage Reconciled' is consistent with the Accreditation Canada measurement.

Outcome measures should be measured monthly until data shows that the team's implemented process is working dependably. This is demonstrated when teams have achieved and sustained a target goal for mean number of unintentional discrepancies per patient. Thereafter, to continue to hold your gains, it is important to audit on a regular basis. For more information, see the SHN Data Submission Policy.

Challenges of Medication Reconciliation in Long-Term Care

Awareness of challenges and barriers is essential to identifying, developing and implementing effective strategies to address them.

Challenges and Solutions of Medication Reconciliation in Long-term Care

Challenges/Barriers **Solutions Limited Nurse/Pharmacy Staffing** Most admissions and external transfers from acute Resident to healthcare provider ratios are care are known in advance and therefore higher in long-term care than in acute care. preparations can be made by the healthcare Many long-term care facilities have very provider to prioritize their time to be spent on limited access to pharmacists or these residents. nurses/nurse practitioners to reconcile • Build a business case to support resources for medications. medication reconciliation. (see Appendix N -Creating a Business Case) **Limited Physician Services** • Timely communication with the physician via fax or Limited availability of physician to write phone is possible even with a physician who is not admission orders and to reconcile on-site. discrepancies since some physicians may visit on a monthly basis. Poor Communication between facilities • Work with a referring acute care site to arrange Most long-term care facilities and acute the transfer of electronic or paper records to meet care hospitals are loosely affiliated and do the needs of the long-term care facility on a pilot not share medical records, medication basis, in order to demonstrate success. ordering systems, formularies, or • Utilise an electronic form that can be generated pharmacies. Medication information may be for residents admitted to or discharged from an inaccurately transcribed upon transfer of acute care facility. the resident. 12 An example of a process tested at Providence Healthcare in BC where they have implemented the MIMO (Moving in Medication Orders). The MIMO, which is remotely printed to the receiving facility, is generated for residents moving in or returning from an acute care site. It lists all the medications the resident was receiving on discharge. Residential RNs compare this list with any additional resident's medication information to determine if there are any discrepancies. The complete list is then faxed to the resident's physician. The RN calls the physician's office 30 minutes later to review the list, makes changes as required and signs the bottom of the form as a verbal order. The form is designed to minimize transcription errors

Challenges/Barriers	Solutions
	while reducing the risk of overlooking medications. The MIMO is then faxed to Pharmacy for processing and the original is filed in the resident's record. ²¹
Many Sources of Information are incomplete/inaccurate Residents admitted from the community are not always aware of the names of drugs they are taking, frequency, dosage, and management of side effects. There are many situations in which the resident/caregiver is incapable of providing an accurate list of medications. Statements such as "I take a blue pill" or "I do not remember the name" are common.	More accurate sources of information (e.g. provincial databases, community pharmacy record, and family physician record) may be available and utilising multiple sources should be used to help compile the BPMH. Involving the family or caregiver in medication reconciliation may help to get accurate information
No clear owner of the process and/or no defined process for medication reconciliation.	 Use the quality improvement model to test a possible solution on one or two long term care admissions in order to develop a process that works.
Variability in knowledge and skills of inter- disciplinary healthcare providers related to the importance of medication reconciliation.	 Provide educational seminars with interactive components so staff may have opportunities to learn the importance of medication reconciliation, to practice taking the BPMH and to understand the process of reconciling medications.
Fear of getting blamed if errors are made or discovered.	Celebrate the 'good catches' when <u>unintentional</u> discrepancies are intercepted and potential harm averted. Share results broadly to gain commitment and reduce fear.
	(Contribute to the growing collection of Good Catches on the Communities of Practice website.)
Fear of change	 Any change is difficult. The antidote to fear is knowledge about the deficiencies of the present process and optimism about the potential benefits of a new process

Challenges/Barriers	Solutions
Communication Breakdown	 Organizations have not been successful when they failed to communicate with staff about the process as well as when they failed to provide ongoing teaching as new staff, become involved in the process.
Physician & Staff 'partial buy-in' (Just another flavour of the week)	• In order to enlist support and engage staff, It is important to share baseline data on <u>unintentional</u> discrepancy rates and to share the results of improvement efforts. If the run charts suggest a large decrease in <u>unintentional</u> discrepancies compared to baseline, issues surrounding "buy-in" tend to fade. ²²

Note: Solutions presented in this chart will be updated on the Communities of Practice website based on actual experiences and innovative solutions. (See also **Appendix O**: Communities of Practice)

Summary

Medication reconciliation will take time and resources to implement across an organization. SHN will focus on sharing Canadian experiences and success stories to facilitate implementation of medication reconciliation in Canada across the continuum of care with the goal of reducing potential adverse drug events, improving the healthcare of residents and saving lives from preventable medication errors.

Appendix A - Glossary of Terms

Admission Medication Orders (AMOs): Physician-recorded medication orders documented within 24 hours from the time admission to healthcare facility. A time frame of 24 hours is allowed for clarification of admission medication orders (i.e., permitting normal processes of care to correct problems occurring at the time of admission). These normal processes would include clinical pharmacists clarifying unclear admission medication orders.

Best Possible Medication History (BPMH): A Best Possible Medication History (BPMH) is a history created using 1) a systematic process of interviewing the resident/family; and 2) a review of at least one other reliable source of information to obtain and verify all of a resident's medication use (prescribed and non-prescribed). Complete documentation includes drug name, dosage, route and frequency. The BPMH is more comprehensive than a routine primary medication history which is often a quick preliminary medication history which may not include multiple sources of information.²³

Best Possible Medication Discharge Plan (BPMDP): The Best Possible Medication Discharge Plan (BPMDP) accounts for the medications that the resident was taking prior to admission (BPMH), the most current MAR, and any new medications planned to start upon discharge. The best possible medication discharge plan (BPMDP) should be communicated to the resident, community physician, community pharmacy and alternative care facility or service.

<u>Intentional</u> <u>Discrepancies</u>: An <u>intentional</u> <u>discrepancy</u> is one in which the physician has made an intentional choice to add, change or discontinue a medication and their choice is clearly documented. This is considered to be 'best practice' in medication reconciliation.

LTCF RAI - stands for Long-Term Care Facility Resident Assessment Instrument, which consists of a core screening and assessment instrument known as the Minimum Data Set (MDS) and 18 resident assessment protocols (RAPs) and includes information about medications the resident has been on.

Medication Reconciliation: A formal process of obtaining a complete and accurate list of each resident's current home medications—including name, dosage, frequency, and route—and comparing the physician's admission, transfer, and/or discharge orders to that list.

Most Current Medication List - The most recent list of medications (name of medication, dose, route and frequency) currently taken by the resident. This list is communicated to the next care provider and provides the starting point for the BPMH at the next facility or hospital. Examples of the most current medication list include: a comprehensive medication profile or a Mediation Administration Record (MAR), which includes medications given weekly, monthly and every three months.

Prescribed Medication: 'Prescribed medication' will be used for 'prescription medication', as prescription is a term defined differently by each provincial pharmacy act. Prescribed medications may include some OTC medications (e.g., ASA). Organizations should decide which Over the Counter (OTC) medications are relevant in their setting and should be counted as prescribed medications. For the purpose of the SHN, we require consistent reporting of prescribed medications.

Primary Medication History (PMH): An initial medication history taken at the time of admission, generally by a physician or nurse. Various sources of information may be used to obtain the PMH, including resident/family interviews, review of medication lists/vials, or follow-up with the community pharmacy or family physician.²³

Seamless Care: The desirable continuity of care delivered to a resident in the healthcare system across the spectrum of caregivers and their environments."²⁴

Senior Leadership: A senior leader is a person who can remove obstacles and allocate resources.

Transfer: Transfer is an interface where orders need to be reviewed and rewritten according to facility policy. These may include: Change of service, Change in level of care, Transfer between units because of availability of beds.

<u>Undocumented Intentional</u> <u>Discrepancies</u>: An <u>undocumented intentional</u> <u>discrepancy</u> is one in which the physician has made an intentional choice to add, change or discontinue a medication but this choice is not clearly documented. <u>Undocumented intentional</u> <u>discrepancies</u> are a failure to document. They are not medication errors and do not usually represent a serious threat to resident safety. <u>Undocumented intentional</u> <u>discrepancies</u> may however lead to confusion, require extra work and may lead to medication errors. They can be reduced by standardizing the method for documenting admission medication orders.

<u>Unintentional</u> <u>Discrepancy</u>: An <u>unintentional</u> <u>discrepancy</u> is one in which the physician unintentionally changed, added or omitted a medication the resident was taking prior to admission. <u>Unintentional</u> <u>discrepancies</u> are medication errors than can lead to ADEs. They can be reduced by ensuring good training of nurses/physicians/pharmacists at obtaining in-depth medication histories and by wisely involving clinical pharmacists to identify and reconcile these discrepancies. In institutions without access to clinical pharmacists, reconciliation of discrepancies can be assigned to other healthcare professionals.

Appendix B - Tips for Creating a Best Possible Medication History

Use multiple sources of information

• Go back as far as necessary

If medication reconciliation was not clearly documented at the former facility, review the pre-acute care admission, pre-long-term care admission and community/assisted living medication list as far back as is necessary to capture all chronic medications taking into consideration some medications may be given as infrequently as every 3 months. Also, residents may get a 100-day fill of their medications or even occasionally a 6-month fill, therefore a review of their medications filled in the last year may be necessary to capture all the necessary information.

• Keep intentional changes that were made

Changes to the resident's medication regimen, which often occur during an acute care stay, need to be transferred and implemented upon the resident's return to long-term care. Pay special attention to medications whose interruption is likely to be associated with immediate withdrawal and/or relapse symptoms such as opioids, antidepressants and also antibiotics which were commonly missed upon transfer in a recent study.²⁵ In cases where it may be difficult to assess, consultation with the former facility's physician or pharmacist is recommended.

Don't re-order discontinued medication

Ensure medications that have been discontinued intentionally are not included in the BPMH. If you choose to record it on the list, clearly indicate that the medication has been discontinued and indicate when it was stopped. If the intention of the discontinuation of a medication is difficult to assess, consultation with former facility's physician or pharmacist is recommended.

Remember medications on hold

It is not uncommon in acute care that unessential or infrequent medications are not ordered or held. Upon re-admission to long-term care, these medications should be re-assessed and reordered, if necessary. If the resident was not from your long-term care facility, a thorough investigation of the pre-acute admission medications, (i.e. referring to the most current LTC medication profile) to re-evaluate medications on hold may be necessary.

Examples of infrequent or commonly held medications include: vitamins, home laxative products, benzodiazepines, skin creams and intermittent therapies (i.e. weekly bisphosphonates monthly B12 injections, monthly or every third month injections of GnRH agonists such as Lupron® or Zoladex®). Antihypertensive agents also tend to be discontinued on an acute care admission as many elderly patients have low blood pressure (BP) when ill, but these medications usually get restarted either before or at the time of discharge.

• Involvement of the Resident and/or Family

Sometimes the involvement of the resident is difficult, even dangerous, given their cognitive impairment and the unavailability of family members. Therefore, assessment of the resident's cognition is required to determine the reliability of the resident as a source of information.

Record what the resident was actually taking versus what was prescribed

Interviewing the resident or caregiver, where possible, is beneficial to determine what medications the resident is actually taking, which may be different than what was prescribed. It may be worthwhile to write as a note to the physician what the resident was prescribed especially if the resident is taking the medication incorrectly or differently.

Example: A resident is prescribed digoxin 0.0625 mg daily. An interview with the resident

revealed he was taking digoxin twice a day for the last month without the doctor

knowing.

What to do: Record the 'digoxin 0.0625 mg twice daily' in the BPMH but ensure physician

knows what was originally prescribed so the physician is able to make a clinical

decision about what dose and monitoring measures are needed.

Appendix C - Tips to Remember When Interviewing Residents²⁶

Note: the resident's cognition should be assessed before their involvement can be relied upon to gather information

- When asking about all medications, be sure to **get the name**, **dosage form**, **dosage**, **dosing schedule**, **and last dose taken** be as specific as possible about prn (as needed) medications.
- Use open-ended questions (what, how, why, when) and balance with yes/no questions.
- Use nonbiased questions which do not lead the resident into answering something that may not be true.
- Pursue unclear answers until they are clarified.
- Ask simple questions, avoid using medical jargon, and always invite the resident to ask questions.
- **Prompt the resident** to try and remember patches, creams/ointments, eye/ear drops, inhalers, sample medications, shots, herbals, vitamins, and minerals.
- When discussing allergies, educate the resident on the difference between a side effect and a true allergy—e.g., rash, breathing problems, hives.
- Have residents describe how and when they take their medications, and if they ever have difficulty taking their medications or remembering to take their medications. Vague responses may indicate non-compliance.

Steps to take if the resident cannot remember a medication or if clarification is needed:

- Obtain a detailed description of the medication from the resident or a family member—dosage form, strength, size, shape, color, markings.
- Talk to any family members present or contact someone that could possibly bring in the medication or read it over the phone.
- Call the resident's pharmacy to obtain a list of medications the resident has been regularly filling
- Contact the resident's physician/physicians to get an accurate listing of their current medications.
- Obtain previous medical records.

Appendix D - Resident and Family Role in the Medication Reconciliation Process

While the majority of residents in the long-term care home are unable to manage their own medications either due to cognition, mental or physical constraints or the sheer complexity of their regimens, there may be a small group of residents who are capable of taking on a more active role in their medication management. Those who are on a self-medication program or who frequently go on passes home with committed involvement from family members, can play a significant role in a medication reconciliation process and be active participants in developing and maintaining an accurate list of the medications they are taking.

Effectively engaging these types of residents and/or family in medication reconciliation is a key strategy for identifying and preventing prescribing and administration errors, and thereby reducing potential harm. Involvement should be encouraged by the healthcare team by:

- engaging the resident and family in the development and maintenance of a complete and accurate list of the resident's medications
- asking the resident or family to bring their medication bottles/vials and the list upon admission
- keeping them informed about medications the resident is receiving and changes that occur especially if they are being transferred or discharged or going on pass or are on a self-medication program
- educating them about what side effects to look for, and
- providing the means and encouragement to report any concerns they might have.

Where possible, residents and their families should take an active role in the medication reconciliation process by keeping an up-to-date and accurate list of the medications they are taking and take responsibility for monitoring their medications and reporting any unexpected changes in their condition after starting a new medication.²⁷

The following strategies may assist healthcare providers in engaging residents and families in the medication reconciliation process:

- Write your improvement team aim or goal statement from the resident's perspective. For example: Every resident referred for admission to X long-term care unit will receive all medications they have been taking at home (as appropriate).
- Actively engage residents/families where possible, in developing and maintaining a complete & accurate list of the medications they are taking (BPMH). Some tips include:
 - Have the resident/family review and verify the completeness and accuracy of the medication list you create. Having residents actually read over the list themselves is even more effective than just reading it back to them.
 - Develop interview questions to help in collecting the information including open-ended questions, linking medications to the resident's medical conditions and/or physicians, checklists for commonly missed medications (e.g. inhalers, eye drops, patches, contraceptives), prompting for over the counter (OTC) and herbal medications and using scripts to prompt for important information e.g. dosages, time of last dose, allergies, name and phone number of community pharmacies.

Tools created by Manitoba Institute for Patient Safety for educating patients on medication safety including Medication Reconciliation. Posters, brochures and presentations are available in 15 languages. Providers can download an Info sheet and Tips for Implementing It's Safe to Ask! Link: www.safetoask.ca.

Additional tools created by Canadian Medication reconciliation teams are available on the Medication Reconciliation Communities of Practice.

Links: LTC Training Packages

Appendix E - Resident Assessment Instrument

(Reference: Minimum Data Set 2.0 Canadian Version. CCRS Full Assessment Form. CIHI, 2002)

SECTIO	ON O: MEDICATIONS								
01	NUMBER OF MEDICATIONS *	Record the NUMBER of different MEDICATIONS used in the LAST 7 DAYS. Enter "00" if none used.)							
02	NEW MEDICATIONS	Resident currently receiving me initiated during the LAST 90 DAYS.							
		0. No 1. Yes 9. Unk	nown (admission only)						
О3	INJECTIONS O	Record the NUMBER OF DAYS injections of any type were eceived during the LAST 7 DAYS. Enter "0" if none used.)							
04	DAYS RECEIVED THE FOLLOWING MEDICATION	(Record the NUMBER OF DAYS during "0" if not used. N.B. Enter medications used less than weekly.)							
		a. Antipsychotic *	d. Hypnotic *						
		b. Antianxiety *	e. Diuretic U						
		c. Antidepressant ∗	f. Analgesic U						

SECTION U: MEDICATION LIST

List all medications that the resident received during the LAST 7 DAYS. Include scheduled medications that are used regularly, but less than weekly

- 1. Medication name and dose ordered.
- 2. Route of administration (RA). Code the route of administration using the following codes:

01=by mouth (PO) 02=sublingual (SL) 03=intramuscular (IM) 04=intravenous (IV) 05=subcutaneous (SC) 06=rectally (PR) 07=topical 08=inhalation 09=enteral tube 10=other

- 3. Frequency. Code the number of times per day, week or month that the medication is administered using the following list:
 - prn=as necessary q1h=every 1 hour q2h=every 2 hours q3h=every 3 hours q4h=every 4 hours
 - q6h=every 6 hours q8h=every 8 hours od=once a day hs=at bedtime bid=two times daily
 - tid=three times daily qid=four times daily eod=every other day 1wk=once a week 2wk=twice a week 3wk=three times a week 4wk=four times a week 5wk=five times a week 6wk=six times a week 1mo=once a month 2mo=twice a month cont=continuous othr=other
- 4. Amount Administered. Record the number of tablets, capsules, suppositories, or liquid (any route) per dose administered to the resident. Code 999v9 for topicals, eye drops, inhalants and oral medications that need to be dissolved in water.
- 5. PRN—number of doses. If the frequency code for the medication is "PRN" record the number of times during the last 7 days that each PRN medication was given. Code "99" for STAT medications given once.
- 6. **DIN Number**—Drug Information Number for each medication given. Be sure to enter the correct DIN for the drug name, strength and form. The DIN must match the drug dispensed by the pharmacy.

Medication Name and Dose Ordered	2. RA	3. Frequency	4. Amount Administered	5. PRN Number of Doses	6. DIN Number
A	•				
В					
С					
D					
E					
F					
G					
Н					
J					
K					
L					
M					
N					
0					
Р					
Q					
R					
S					
Т					

Appendix F - Sample Policies and Procedures

Used with Permission

DRAFT

THE GOOD SAMARITAN SOCIETY PROCESS MANUAL

Title: Medication Reconciliation	Page Number: Page 1 of 4
Approved: Executive Management Com	Category: RCC-Medication Administration
(Signature):	Original Date: 2007 December 6
Designation: CC - Capital Health Region	Reviewed:

Keeping the spirit of service alive....making a difference!

PURPOSE

To ensure that medication reconciliation is completed for all admissions or transfers of residents in Good Samaritan Society facilities. The development of a best possible medication history (BPMH) will assist with the writing of an accurate medication list for a resident. Medication reconciliation is an interdisciplinary process designed to decrease actual and potential adverse drug events for the resident. This policy helps to strengthen partnerships with our community connections and to ensure a safe environment for our residents in keeping with GSS Mission, Vision and Values.

DEFINITIONS

AMO - Admission medication orders are written on the physician's order sheet (green) by the nurse and approved by the physician through phone or fax.

BPMH - Best possible medication history is written on an approved regional form. The pharmacist and/or nurse will complete the BPMH section and identify the source of the information and add appropriate comments as described in the procedure.

Reconciled AMO - are the final changes in the resident's orders after the medication reconciliation process. The physician reconciles the AMO and the BPMH and creates the final medication list (reconciled AMO) and documents the changed or new medication orders on the green physician order sheet.

Baseline Audit - Compares the BPMH to the AMO prior to implementation of the medication reconciliation process. Each facility will establish a baseline.

Audit - The medication reconciliation process is audited using a GSS Audit template to compare the BPMH list and the final reconciled AMO. The Corporate Medication Reconciliation Team will conduct the baseline and monthly audits at each site and be responsible to submit this data as required. The audit measures the number of:

Undocumented Intentional discrepancies (missed documentation)

Unintentional discrepancies (errors)

Number of residents with BPMH completed and reconciled

THE GOOD SAMARITAN SOCIETY PROCESS MANUAL

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PROCESS

Pre-admission

A blank Home Medication List Form (see GSS Intranet Health Records AB Forms Folder #____) will be provided to the resident/family to complete prior to admission.

Admission (day 1)

Admission medication orders (AMO) would be written as standard process based on the discharge or transfer orders received from active treatment hospital or the information provided by the family/pharmacy if the resident was admitted from home. The nurse would contact the physician to confirm the AMO.

Information Gathering (by day 3)

Facility pharmacist/nurse would review and gather further information (up to the previous 6 months) about medication use and create a BPMH medication list within 3 days of admission. For example with an admission from hospital the BPMH will first include the transfer orders and then any other medications used by the resident in the home prior to the hospital admission.

The guidelines for information gathering differ with the specific types of admission:

Hospital

- Transfer orders **and** medication administration record (MAR)
- Review the "home medication list", if available
- Interview family/resident, check medication vials, blister pack medication list, etc.
- Community pharmacy profile or the Alberta Health's electronic health record PIN

Transfer back from Hospital

- Transfer orders and MAR
- GSS MAR prior to hospital transfer

Other Long Term Care Facility

MAR

Community or Assisted Living

- Review the completed Home Medication List form, if available
- Interview family/resident and check medication vials, blister pack medication lists, etc.
- Community pharmacy profile or the Alberta Health's electronic health record PIN may be used.

All information gathered (hand written list, pharmacy profile) is to be labelled, dated and signed by the reviewer and kept as part of the permanent record. Smaller supporting documents should be taped to a blank 8" x 11" page. The information will be stored in a pocket sheet protector and filed in the back of the consultation section of the chart along with the completed BPMH form. This information should not be thinned from the chart.

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If during this information gathering a serious discrepancy is detected the pharmacist or nurse would contact the physician immediately and not wait until the physician completes the reconciliation process.

Reconciliation (by day 7)

The reconciliation of medication orders is to be completed by the physician, preferably at their next routine facility visit. The physician will compare the initial AMO and BPMH and complete the Physician Reconciliation /Order of Medication section. Any changed or new orders will need to be written on the physician's order sheet. If physician availability at the facility is problematic, alternate communication by phone or fax is acceptable.

PROCEDURE FOR COMPLETING THE MEDICATION RECONCILIATION FORM

The BPMH section is to be completed by the nurse or pharmacist following these steps:

- 1. Apply resident's label
- 2. If resident in not on any medications, initial the 'no meds' box
- 3. In the BPMH section, list all the prescription medications, over-the-counter (OTC) medications and herbal medications used by the resident on a regular or PRN basis and the source(s) of this information. For a hospital admission the RN or pharmacist will indicate on the first line "Hospital Discharge Medications" and list those medications first. Then draw a line and sign and date this list.
- 4. Identify the next section as "Home Medications" and list those additional medications found after completing the history. Sign and date immediately below your last entry.
- 5. Check all applicable boxes for information sources
- 6. Add in any pertinent comments about a medication that would assist the physician in the medication reconciliation process to the right of the medication entry in the Physician's Reconciliation/Order of Medication comment section.
- 7. If the physician has made any changes to the AMO before the BPMH is completed, those changes must be recorded in the Physician Reconciliation/Order of Medication section.
- 8. If the pharmacy has made any changes to the AMO before the BPMH is reconciled i.e. an auto substituted medication. The changes will be documented as follows:
 - original medication order will be recorded
 - comment section will be completed with details of the formulary substitution
 - a check mark placed under "Discontinue" column
 - newly substituted medication will be added to the BPMH list
 - comment section will be completed with details of the formulary substitution
- 9. If two pages are required, indicate the page number on the lower right hand corner (1/2, 2/2)

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Physician Reconciliation of Resident's BPMH and AMO

- 1. Review each medication listed and check the appropriate direction
 - Continue if the medication is to continue as written
 - Discontinue if the medication is to stop or if a home medication is not to be restarted and indicate the reason.
 - Change in current order write the change on the resident's green physician order sheet and include the reason for the change.
- 2. Sign and date in the Physician's signature box. Once the form is signed by the physician no further modifications can be made to this form.
- 3. Any new or changed orders must be written on the physician's order sheet. If the physician is not on-site the order must be faxed/phoned in to the unit.

FAXING TO THE PHYSICIAN'S OFFICE

- If the physician is not available to review the Medication Reconciliation form at the facility within the week the nurse of pharmacist must fax the unsigned form along with the AMO for the resident.
- The physician will then reconcile the two medication lists on the Medication Reconciliation form and make any necessary changes.
- The signed and dated form needs to be faxed back to the facility as soon as possible.
- Any changes to medication orders are to be transcribed onto the physician order sheet (green sheet) and identified as "Transcribed Orders". These new orders will be processed in the standard manner.
- The completed faxed form is then to be filed on the resident's chart.

GUIDELINES

- Admission orders must include only complete medication orders (drug name, dose, route and interval). A complete prescription would also include the indication for each medication.
- Statements such as 'continue previous medications' or 'resume all meds' will not be accepted for AMO.

[Name of facility] Medication Reconciliation [Template]

Revision Date:	

<u>Purpose</u>: The medication reconciliation process is intended to develop a best possible medication history (BPMH) to assist with the development of the most accurate medication list available, especially at the transitions of care. Medication reconciliation is an interdisciplinary process designed to decrease actual and potential adverse drug events (ADE) on all nursing units.

<u>Policy:</u> A BPMH will be completed for all residents admitted to [name of facility] by the nurse and/or pharmacist, and reconciled by the prescriber/ attending physician with the [transfer], admission [or discharge] medication list. Any differences between the two medication regimens will be reviewed by the prescriber/attending physician, and if appropriate, changes are made to the orders and documented on the BPMH form or on the physician's order sheet.

The following sections shall contain centre specific information and details on:

What needs to be done? How is it going to be done? Who does it? When does it need to be done (if applicable)?

Procedure: (shall include, but not limited to):

- 1. Clear procedures for each step in the reconciling process.
- 2. Back-up procedures for special situations such as unavailability of attending physician, evening/weekend admissions.
- 3. Process for nurses to pass off non-reconciled meds at shift change for follow up by nurse on the next shift.
- 4. Identifying pharmacist involvement and consultation in a timely manner [specific timeframe] in special situations such as (but not limited to): high risk medication management, special resident populations (e.g. renal resident).
- 5. Identifying high-risk situations for involving specialist consults or management involvement.
- 6. Plan of integrating the medication reconciliation process to usual activities when the process is spread to other units.
- 7. Prohibition of blanket orders such as "Continue previous medications," "Resume all medications."
- 8. Details on documenting the process, and provision of necessary forms for documentation.

Roles and Responsibilities (of interdisciplinary team member):

Nurse

Pharmacist

Physician

Unit Clerk

Educator

Orientation and Ongoing Staff Education

- 1. Orientation and ongoing staff education, teaching critical thinking skills, and quality improvement techniques and strategies pertaining to the implementation and development of the medication reconciliation process.
- 2. Residents and families are informed and participate in monitoring medications and assist in maintaining accurate medication lists.

Communication and Feedback

- Adopt a systems approach
- Create a non-punitive environment
- Learn from mistakes (e.g. using the "plan, do, study and act' (PDSA) approach)
- Promote and foster teamwork

Accountability

Submissions to CH regional medication reconciliation team:

- Baseline data
- Monthly discrepancy measurement work sheets
- Number of medication reconciliation completed
- Documentation of medication reconciliation education sessions

Additional Sample Polices and Procedures

The Communities of Practice (CoP) for Medication Reconciliation has some additional sample polices and procedures. The list is as follows:

LTC Policies and Procedures

Appendix G - Sample Tools for Admission Medication Reconciliation

Examples from Seaview Manor Corporation, Chinook Health, Capital Health Edmonton and BC Providence Healthcare are provided below. Permission has been received from these facilities for inclusion in this Medication Reconciliation Getting Started Kit.

Recordination Section	5 50	<u> </u>	.u it											
SEAVIEW MA	NOI	R		Addre	essogr	aph								
CORPORATI	ON													
RESIDENT BEST POSSIBLE HISTORY and ADMISSION M ORDERS and RECONCILIAT File this form with the Physician Orders	EDICA													
Source of Medication Information (C Review of resident medication list Review hospital records Resident MAR from another facility Community pharmacy & Pharmacy (0 F 0 F 0 C	Review amily l amily/ Other:	of med Physicia caregive	lication an er		_	O IH	D iB F mentia		Record R	nritis o	Epileps Anxiet Depres Diabete	y sion	
Weight:kg Height:cm	,	Allerg	ies:											
Medication Hist	orv/Oi	rders							Phy	vsician Orders:	$\overline{}$	Recor	ciler	
							To complete upon admission					complete		
Medication Name & Strength (List all prescriptions and reqularly taken OTC & PRN medications prior to admission).	Dose	Route	Dosing Interval	Quantity	Refills	Continue	Change in Dosage	New Med Order	Discontinue	Reason for Change In dose/Discontinuation/ New C)rders	Undocumented Intentional Discrepancy	Unintentional Discrepancy	
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						L								
History obtained by : Date: Time:				_			Presci Date:	ribing	Phys	sician: Time				
Orders noted by:		(Signa	ature/o	design	nation		Secon	d Ch	eck b		ture/des	ignati	on)	



LTC Best Possible Medication History for Medication Reconciliation

Date:									
Implementation Baseline	_	nentation 🗖 Full	Resident Identification (initials):						
☐ Admission☐ Transfer☐ Discharge		Point of Transfer: To:	Fror	n:					
ALLERGIES:									
Best Possible Medication History (BPMH) Diagnosis/Indication:									
Diagnosis/in	dication:	Medication		Dose	Route	Frequency			
1.									
2.									
3.									
4.									
5.									
6.									
7.									
8.									
9.									
10.									
11.									
12.									
13.									
14.									
15.									
16.									
17.									
Sources:									
☐ MAR from and	other facility/	unit							
	-								
		Other:							
		Signature:							

INSTRUCTIONS:

- This form may be used to collect medication reconciliation data at a variety of transfer points within the organization e.g., CC, Acute Care, ER to CC, Home to CC etc.
- The <u>Best Possible Medication History</u> (BPMH) is based on resident medication list (MAR and Doctor's Order's) prior to transfer.
- Compare the BPMH to all prescription and non-prescription medications ordered for this resident within the first 24 hours following admission, transfer or a discharge including new medications.
- Use the Medication Reconciliation/Communication Form (Draft 8) to record and clarify Undocumented Intentional Discrepancies and Unintentional Discrepancies and place the form in front of the Physician Orders.
- For all additional (new) medications found during the BPMH process, note *****ADDITIONAL** at the end of the list, record medications and score discrepancies appropriately.

Note:

Type 1= <u>Intentional</u> <u>discrepancy</u> - physician has made an intentional choice to add, change or discontinue a medication and is clearly documented.

Type 2= <u>Undocumented Intentional</u> <u>Discrepancy</u> - physician has made an intentional choice to add, change or discontinue a medication, but this choice is not clearly documented.

Type 3= <u>Unintentional</u> <u>Discrepancy</u> - physician unintentionally changed, added or omitted a medication the patient was taking prior to admission.



DRAFT 8

Medication Reconciliation/Communication Form

Date:		Tim	ne:								
Please Clarify the	Physicia		Acti on	Tra	nscription	Pharmacy Use Only					
Following Medication Orders	Please	e com	nplet	9		NCP	MAR	DATE/ TIME	INITIALS	Undocumented.	Unintentional
#	D/C CHANGE (explain)	Continue	New								
ш	D/C (Continue	New								
#	CHANGE (explain)										
			⇒								
#		Continue	New								
	CHANGE (explain)		⇔								
#	D/C	Continue	New								
	CHANGE (explain)		⇔								
						<u> </u>		Sub	Total Meds		
									Total Meds		
Physician's S	ignature	_									

Page _____ of ____ Blue Copy - Pharmacy

Draft 8 June 15, 2007

INSTRUCTIONS FOR USE OF THE MEDICATION RECONCILIATION / COMMUNICATION FORM (MRCF)

Pharmacist

- Review sources of data (nursing data base, patient/family interviews, Community pharmacy, physician progress notes, etc) and identify discrepancies.
- List any medications that require clarification on the MRCF
- Identify which medication discrepancy (undocumented or unintentional) the listed meds are and track the numbers out of the total meds ordered in the shaded "Pharmacy Use Only" section
- Place the MRCF at the front of the chart in the Physician's Orders section
- Complete the rest of the MRCF as much as possible
- Sign off any medication orders as verbal orders or phone orders on the MRCF

Nursing (RN / LPN)

- Complete the medication section of the admission data base and the Home Medication Reconciliation Form utilizing all sources of data available (Physician Office Profile, patient medication booklet or list, community Pharmacy, patient/family interview)
- Attach any lists used to the admission data base

RN

- List any medications that require clarification on the MRCF
- Bring any clarifications on the MRCF to the physician's attention
- Sign off any verbal or phone medication orders

Physician (Attending)

- Clarify the listed meds under the section "Physician Use Only Please Complete"
- · Sign off the medication orders on the MRCF

^{***}It is preferred that the Physician complete and sign off the MRCF whenever possible rather than verbal or phone orders***

Patient Registration





Facility Living - Medication Reconciliation and Physician's Orders

denicy Living Medicacion Nece	onemacion and	i ilysiciai	i 3 Oracis									
Best Possible Medication History (BPMI Include regularly scheduled and PRN medication as taken at previous care setting (Include regularly scheduled and PRN medication as taken at previous care setting (Include regularly scheduled and PRN medication, injections, inhalers, herbal)				ng (Include Insulin, OTC, drops, patches, creams,		Physician Reconciliation / Order of Medications (Please initial selection) Write all changes / new orders on Physician's Orders				Processed	Ou	Discharge
Date:	11me:			■ No medication	1S					Į,	<u> </u>	_
Date: Time: SIGN IMMEDIATELY BELOW YOUR LAST ENTE Late Additions: Separate physician order required. Sign ar						Continue	Discontinue	Change (see New Order)	Reason for Discontinue / Change; goal of therapy, review date and	Orders F	Continue	inue
Medication	Dose	Route	Frequency	Comments	Indication / Diagnosis	Cont	Discor	Chang New C	length of therapy.		Cont	Discontinue
										₽	\square	┡
										H		
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Faxed To Physician:		_	l	Physician Sigi	nature:				Dat	e/T	ime	e:
Information Source: ☐ Patient Recall ☐ Medication Vials	Family Recal Resident's P			ders to Pharmacy	<i>y</i> :	Com	ment	s:				
☐ MAR, Discharge orders from	-		Pr	ocessed:								
☐ Pharmacy / ph #			Dat	e / Time / Signature								

Version 33: September 19, 2007

TRIAL FORM TO REMAIN PART OF THE PERMANENT MEDICAL RECORD

PAGE _____ OF ____

Suggested Instructions for completion of the Medication Reconciliation and Physician's Orders (Can be modified to reflect centre specific procedures)

Guidelines:

This is a best possible medication history and may be used as physician order form. To be completed to **ALL** residents on admission. Review, label, date, and sign copies of all handwritten lists, pharmacy profiles, blister pack backings or Medication Administration Records (MAR) from other facilities and keep as part of the permanent record.

Procedures: (Nurse, Physician, Pharmacist)

- Put resident label in the designated area
- In the 'Best Possible Medication History (BPMH)' section, list all medications (including Insulin, over the counter drugs (OTC), drops, patches, creams, injections, inhalers, vitamins, herbal) used on a regular and/or PRN basis including dose, route frequency, and indication
- If there is inadequate space for all medications, use a second sheet and indicate the page number in the bottom right hand corner.
- If resident is not on any medications, initial the box 'no meds'
- Sign and date immediately below your last entry on all medication lists
- In the section labelled 'Information Source' check ALL applicable boxes
- For residents admitted from an acute care facility, a Home BPMH must be completed listing the medications as taken at home prior to the resident's admission to the acute care facility.
- Transfer orders from acute care to continuing care facility will be compared to the Home BPMH, reviewed and approved by the attending physician. Any pertinent changes will be documented in the physician's order sheet

Prescriber Instructions: (Physician or Nurse Practitioner)

- Review each medication and initial the appropriate box
 - Initial 'Continue' box if the medication dose, route, frequency, and indication are to continue as written
 - If there is any change in the medication dose, route, frequency, or indication, initial the 'change' box, <u>complete the reason for change</u> in the 'Reason for Discontinue/Change' column, and write the revised order on the usual Physician's Orders form
 - o For any medications that are discontinued, the 'Discontinued' box must be initialed. Write the reason for not ordering in the 'Reason for Discontinue/Change' column
- Draw a line from the last medication ordered on the form to the physician signature box to prevent further medications from being added
- Sign, date and time in the 'Physician Signature' Box
- Indicate on usual physicians order form to 'see MedRec form for orders'

NOTE: Any <u>new</u> medication must be written on regular Physician's Order form.

Late Additions: (Nurse, Physician, Pharmacist)

Once the Medication Reconciliation and Physician's Order form is signed by the physician, no further
modifications can be made in the main body of the form. Any new information regarding drug, dose,
or frequency is to be recorded in the physician's order sheet. This new information requires approval
and follow-up with the responsible individual.

IF YOU RECEIVED THIS FACSIMILE IN ERROR	, PLEASE CALL 604-322-2640 IMMEDIATELY
Providence MOVING IN MEDICATION RECONCILIATION ORDERS (Residential Care/Rehab)	
(Page of)	

List all of the medications (including nonprescription medications) that the patient was taking on a regular basis prior to admission and indicate the action to be taken for each medication on admission.

*Please note that PharmaNet is **NOT all-inclusive**. It may contain discontinued medications and does **NOT** contain updated instructions the patient may have received from their physician or such items as non-prescription drugs, samples, investigational or clinical trial drugs, complementary and alternative therapies, selected prescriptions obtained through provincial programs (e.g. antiretrovirals), or prescriptions obtained from outside the province or over the Internet. All medications listed on PharmaNet should be validated with the patient or their caregiver.

Medications for which no action is indicated will be DISCONTINUED

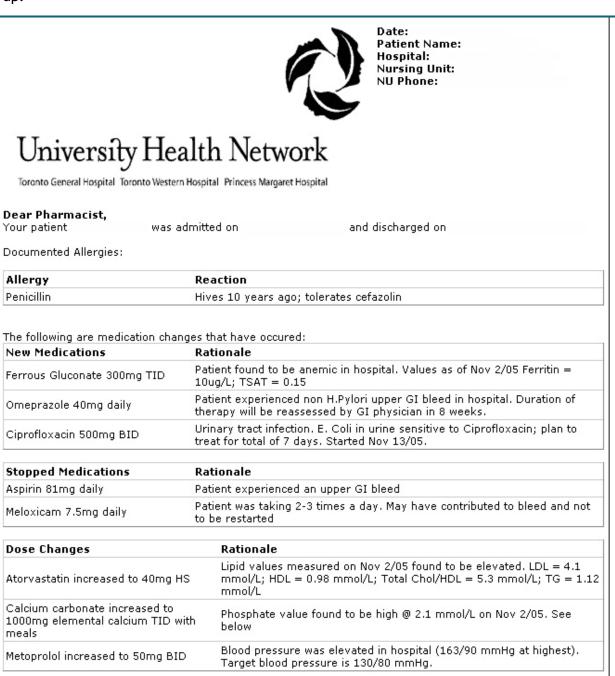
Information Obtained and Verified by:

ate)	(Printed Name and De	esignation)	(Phone/Page			
Medication	ns Taken Prior to Admission:	Verified Use:	Upon Admission:			
Source of nformation:	Medication dose, route and frequency:		Indicate Action:	Revised Dose/Directions/Comment		
☐ PharmaNet* ☐ Patient ☐ Facility MAR Other:		actual dose: discontinued (reason): unable to verify	continue as verified change to: hold pending further evaluation discontinue			
☐ PharmaNet* ☐ Patient ☐ Facility MAR Other:		actual dose: discontinued (reason): unable to verify	continue as verified change to: hold pending further evaluation discontinue			
☐ PharmaNet* ☐ Patient ☐ Facility MAR Other:		actual dose: discontinued (reason): unable to verify	continue as verified change to: hold pending further evaluation discontinue			
☐ PharmaNet* ☐ Patient ☐ Facility MAR Other		actual dose: discontinued (reason): unable to verify	continue as verified change to: hold pending further evaluation discontinue			
☐ PharmaNet* ☐ Patient ☐ Facility MAR Other:		actual dose: discontinued (reason): unable to verify	continue as verified change to: hold pending further evaluation discontinue			
PharmaNet* Patient Facility MAR Other:		as listed actual dose: discontinued (reason): unable to verify	continue as verified change to: hold pending further evaluation discontinue			

Appendix H - Examples of Best Possible Medication Discharge Plan

Information Transfer Letter

Summarizes changes since the BPMH to post-discharge regimen. This letter can include a list and rationale for discontinued medications, medications initiated in hospital, adjusted medications (dose and frequency changes) as well as outstanding patient issues that require ongoing monitoring and follow-up.



Please find a current list of medications attached.

The following are unresolved/ongoing medication related issues

- High lipid values
 - O Please re-check lipids in 3 months and suggest adjustment of atorvastatin dose accordingly
- Patient was taking Aspirin 81mg EC tablet daily for caridac protection. It was stopped due to GI bleed.
 to reassess restarting ASA at next appointment
 - O Please follow-up with re-initiation of ASA

Other issues include:

Education/Counseling

Patient may benefit from additional discussion on use of NSAIDs for pain. Meloxicam was being taken at higher doses then prescribed. Patient was educated on adverse effects of NSAIDs and instructed to use acetaminophen for pain in the future.

Monitoring needed

Continue to monitor blood pressure and suggest titration of medications accordingly. Monitor phosphate levels and suggest adjustment of phosphate binder accordingly. Re-check iron profile in 3 months.

Please attach this document with the patient's prescriptions if possible Feel free to contact me if you have any questions or concerns.

Τl	nan	k :	yo	u,
----	-----	-----	----	----

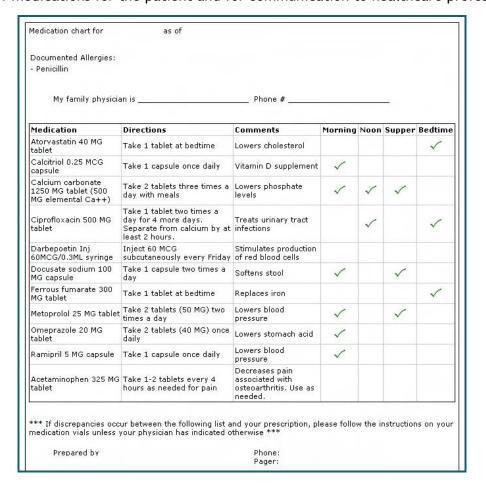
Phone:	
Pager:	

Verbal consent was obtained from the patient to release the above information on

Drug and dose	Directions
Atorvastatin 40 MG tablet	Take 1 tablet at bedtime
Calcitriol 0.25 MCG capsule	Take 1 capsule once daily
Calcium carbonate 1250 MG tablet (500 MG elemental Ca++)	Take 2 tablets three times a day with meals
Ciprofloxacin 500 MG tablet	Take 1 tablet two times a day for 4 more days. Separate from calcium by at least 2 hours.
Darbepoetin Inj 60MCG/0.3ML syringe	Inject 60 MCG subcutaneously every Friday
Docusate sodium 100 MG capsule	Take 1 capsule two times a day
Ferrous fumarate 300 MG tablet	Take 1 tablet at bedtime
Metoprolol 25 MG tablet	Take 2 tablets (50 MG) two times a day
Omeprazole 20 MG tablet	Take 2 tablets (40 MG) once daily
Ramipril 5 MG capsule	Take 1 capsule once daily
Acetaminophen 325 MG tablet	Take 1-2 tablets every 4 hours as needed for pain

Patient Medication Grid

A Portable list of medications for the patient and for communication to healthcare professionals



Patient Wallet card

Current medication list for as o	of .
Drug and dose	Directions
Atorvastatin 40 MG tablet	Take 1 tablet at bedtime
Calcitriol 0.25 MCG capsule	Take 1 capsule once daily
Calcium carbonate 1250 MG tablet (500 MG elemental Ca++)	Take 2 tablets three times a day with meals
Ciprofloxacin 500 MG tablet	Take 1 tablet two times a day for 4 more days. Separate from calcium by at least 2 hours.
Darbepoetin Inj 60MCG/0.3ML syringe	Inject 60 MCG subcutaneously every Friday
Docusate sodium 100 MG capsule	Take 1 capsule two times a day
Ferrous fumarate 300 MG tablet	Take 1 tablet at bedtime
Metoprolol 25 MG tablet	Take 2 tablets (50 MG) two times a day
Omeprazole 20 MG tablet	Take 2 tablets (40 MG) once daily
Ramipril 5 MG capsule	Take 1 capsule once daily
Acetaminophen 325 MG tablet	Take 1-2 tablets every 4 hours as needed for pain

Additional Patient wallet cards are available on the Medication Reconciliation Communities of Practice and can be retrieved by using the following link: Patient Brochures and Education Packages

Dear Doctor/Community Pharmacist Letter

This Structured Discharge Prescription communicates changes to a patients' medication regimen relative to the BPMH.

Draft Template



University Health Network

Toronto General Hospital 200 Elizabeth Street, Toronto, ON, M5G 2C4 (416) 340-4800

Date: 1-May-2006

Patient Name: Fork, Knife

Patient Address: 123 Some Street, Toronto, ON, M5B 2R4

Patient Phone #: (416) 555-1234

Hospital Discharge Prescriptions

#	Medication	Dose	Route	Frequency	Qty	Rpts	LU code
1	furosemide	40mg	PO	daily	30	1	
2	enalapril	20mg	PO	BID	30	1	
3	ASA (coated)	325mg	PO	daily	30	0	

Qty= Quantity

Rpts= Repeats LU code= Limited Use code

Physician Name: x CPSO Number: ___

XXXXX Physician Phone #: xxx-xxxx

Physician Signature: Hand write

Please contact family physician for repeats.

Summary of Medication Allergies:

Penicillin - Hives

Summary of Medication Changes Since Admission:

New Medications:

Discontinued Medications:

Metformin 500mg PO at Brkfst

Adjusted Medications:

 Furosemide 20mg PO daily increased to 40mg PO daily

Unchanged Medications to be Continued:

- ASA (enteric coated) 325mg PO daily
- Enalapril 20mg PO BID

Additional Comments:

E.g. Section 8 filled for xxx drug.

An inpatient pharmacist helped to prepare this prescription.

The above form serves as a Best Possible Medication Discharge Plan (BPMDP). It is developed using the last 24 hour MAR and considering new medications required. It includes:

- New medications started in hospital
- Discontinued medications (from BPMH)
- Adjusted medications (from BPMH)
- Unchanged medications that are to be continued (from BPMH)
- New medications started upon discharge; and
- Additional comments as appropriate for example, status of herbals or medications to be taken at the patient's discretion

Appendix I - Keys to Successful Implementation of Medication Reconciliation

Tips for Successful Implementation of Medication Reconciliation

- 1. Evaluate existing processes by creating a high level flowchart of existing processes and assess where problem areas exist, identification of need for reconciling activity.
- 2. Actively engage leadership by demonstrating the need: ADE prevention, reductions in work and rework associated with the management of medication orders. Present progress to healthcare leadership monthly: discuss adverse events that have been prevented by medication reconciling process, present charts displaying change measures, resourcing needs.
- 3. Start small Begin your small projects with one nurse, one patient, one ordering physician, on one unit. Test how the medication reconciliation process can be integrated most effectively with current work processes. Engage early adopters first for testing and act as champions, then spread to others. Next thoroughly test forms in paper format before automating. Moving too fast to spread change to other areas can be a mistake; ensure a smooth process first.
- 4. **Teamwork** is important as commitment to the process by nurses, pharmacists and physicians is integral to achieving success. Clinical champions are also required to achieve success.
- 5. Work towards Information Technology solutions (computerization and automation of the process) Create software links integrating process into usual activities link with pharmacy systems (Meditech, Cerner, etc.) and Medication Administration Records (MAR) for creating discharge/transfer order sheets. Embed the medication reconciliation process into normal processes of care and work towards reconciliation forms that result in orders.
- **6. Provide access to drug information and pharmacist advice at decision points** In addition, if pharmacist availability is an issue, develop criteria (e.g. > 4 medications, complex medical conditions) for pharmacist referral to complete the medication history.
- **7. Provide structural support** Develop policies and procedures to govern the medication reconciliation process, provide standardization and quality in the process; ensure consistent policies for all disciplines.
- **8. Provide documentation tools** Have the necessary forms available to document the process: "continue, change, discontinue," medications.
- **9. Educate Staff** Involve the education department in the project planning phase (include the nurse education coordinator on team). Ongoing staff education is integral to maintaining gains; teach critical thinking skills, and quality improvement techniques.
- 10. Partner with patients/family Include a patient as a member of the reconciling implementation planning team. Strategies are required to educate patients/families to participate in monitoring medications and maintaining accurate medication lists.
- **11.Celebrate successes** share, recognize and publicize success stories and potential adverse events that were prevented.

Appendix J - Lessons Learned - the Canadian Experience

- Teams found it useful to map the current process early on in the implementation to identify redundancies and inefficiencies and the target areas needed for change.
- Ensure senior administrators, leaders and team members are well informed about the time commitment in advance. Consider a sign-off to confirm responsibilities, buy-in and active engagement.
- The Canadian SHN definitions of <u>unintentional</u> <u>discrepancies</u> and <u>undocumented</u> <u>intentional</u> <u>discrepancies</u> were new and therefore, some resistance was anticipated. However, these terms have provided a useful measure of progress toward improving resident care.
- Medication Reconciliation will not be achieved using a single specific model. Medication reconciliation must be tailored to fit the organization or system, considering human resources, resident population, current admission process, culture of staff, etc.
- Medication reconciliation is not simply a process of matching medication lists. The process offers professionals an excellent opportunity to apply their clinical expertise and resolve longstanding issues in appropriate medication therapy.
- **Engage clinicians** in making decisions on measurement definitions and the clinical underpinnings that constitute *unintentional discrepancies* and *undocumented intentional discrepancies*.
- Ensure data is collected to track progress. Data will drive commitment! Each organization must look closely at the types of discrepancies occurring and what may be contributing to the occurrence of these discrepancies. Let your data be the "voice" for your medication reconciliation initiative. Its compelling story will capture attention and support from all levels of the organization. Provide data in a timely manner during testing to show success and opportunities for improvement.
- Presentations on the rationale for medication reconciliation are critical when the initiative is being established. An orientation process and regular communication including organizational data and recommendations should be developed. This will serve to reinforce the significance of the medication reconciliation initiative in reducing adverse drug events. Need continual discussions (formal and informal) as it will take time for some individuals to adopt and accept the process willingly. Need time for cultural change. Cannot expect everyone to buy-in based on one meeting or presentation.
- Medication reconciliation is a system change which will contribute to seamless care across all healthcare settings. Collaboration with community pharmacists, long-term care facilities and homecare is mandatory to ensure appropriate medication monitoring is present across all transition points.
- Medication Reconciliation is a multi-disciplinary approach. To be successful, medication reconciliation must be done by different professionals at different transition points.
- Do not underestimate the time and resources required. The medication reconciliation intervention appears simple but it is extremely complex and involves multiple processes and people.

• At first, medication reconciliation appears to require a lot of time and resources. However, in the early stages of the SHN, it has become evident that patients regularly experience <u>unintentional</u> discrepancies (medication errors). In the current medication process (without medication reconciliation), there is significant rework required when discrepancies occur and must be resolved. Additionally patients are not well informed or prepared regarding their medications when transitioning across the healthcare system.

Appendix K - Examples of Change Concepts

(Adapted and used with permission from: Western Node, Safer Healthcare Now! Change Package: Coming Full Circle: AMI & Med Across the Continuum Breakthrough Series Collaborative, 2007.)

Change Packages: A Collaborative Tool for Improved Care

Change concepts are "general ideas - with proven merit and sound scientific or logical foundation - that can stimulate specific ideas for changes that lead to improvement."

In this package you will find high leverage change concepts. These are ideas with "a pedigree", either having evidence in the literature or from credible expert opinion to support their validity. This change package is designed to provide teams with 'tried and true' general ideas that they are able to customize to their environment and generate ideas to test.

Multiple rapid cycle trials or PDSA cycles (Plan-Do-Study-Act) are a major factor in accelerating system change and "are the primary means to turn planning into action and to connect action to learning". ²⁸ By using different general change concepts, generating ideas from those high level concepts and developing iterative PDSA cycles to try in your environment "teams are more likely to develop changes that lead to improvement and increase the pace of improvement in their system". ²⁹

Teams often fail to properly "turn" the PDSA cycle. They should aim to run through it 5 - 15 times quickly instead of one huge run through the PDSA. One slow turn is much less effective than using it as intended to quickly test and adapt, and then test and adapt again. As well, at times there is difficulty articulating a theory to test which in turn limits the learning that can be gained. A strategy to help overcome this is to write down the key outcome that is desired. Then, list the main drivers that impact that outcome, followed by a list of the changes for each outcome to be tested with the PDSA cycle. This simple process will help to improve the use of the PDSA cycle. When a PDSA does not involve testing a theory, it becomes really just trial and error (try one thing, then another, and another). ³⁰

This document outlines change concepts and ideas under each of the processes of patient care across the continuum. Select a change concept and modify/adapt an idea through the use of PDSAs.

The following tables are the key elements of the Change Package for prevention of adverse events by implementing a formal process of medication reconciliation in all facilities at admission, transfer and discharge.

Admission³¹

Obtaining the Best Possible Medication History (BPMH) forms the basis of reconciliation from admission through to discharge in <u>every</u> setting: acute care, home care and long-term care.³² The key to the success of medication reconciliation is to first have the process working at admission to the healthcare facility. This will facilitate appropriate reconciliation at transfer and discharge.³²

Key Change Concepts	Key Change Ideas	Examples to Test
Take Care of Basics	 Reconcile the resident's medications upon admission to the facility with the involvement of the resident. ^{23, 33} Eliminate any undocumented intentional discrepancies. ³³ Eliminate any unintentional discrepancies. ³³ Document how the discrepancies were reconciled in the orders. ^{34, 35} Develop a monthly measurement system for identifying and documenting the 2 types of discrepancies. 	Trial a BPMH form (customize from one posted on the medication Reconciliation Community of Practice www.saferhealthcarenow.ca)
Reduce Variation	 Involve physicians in validating the home medication list. In particular, doses and complex medication regimens must be an important part of the strategy.³⁴ Require pharmacist involvement for special situations (e.g., on high-risk meds, >10 meds, elderly, etc.).³⁴ 	
	 Ensure accountability: verify signatures to indicate who collected the information on the BPMH.³⁴ Develop a comprehensive list of questions for resident interviewing to reduce variation between disciplines obtaining the BPMH. 	Use a checklist when interviewing a resident.
Conduct Training	Develop an education package for obtaining a BPMH.	 Develop a video/DVD showing a pharmacist conducting a BPMH interview.³⁶ Role play collecting a BPMH.³⁷

Key Change Concepts	Key Change Ideas	Examples to Test
Standardization	 Standardize the process for obtaining a BPMH. Assign accountability and responsibility for obtaining BPMH. 32 Develop a policy that designates who is responsible for completing the reconciliation and when it should occur. 32 Develop clear policies and procedures for each step in the reconciling process. Policies should be developed covering procedures for: Generating resident's home medication list; Comparing that list to physician orders; Specifying when to call/stat page physician to review discrepancies; Back-up procedures for special situations: unavailability of ordering physician, evening/weekend admissions; Process for nurses to pass off non-reconciled meds at shift change for follow-up by next shift; Identifying high-risk situations requiring pharmacist involvement (e.g., on high-risk meds, >10 meds, elderly, mental health); and Identifying high-risk situations for involving specialist consults, case managers. 34 Get the team to agree to discontinue blanket orders such as "continue home medications" or "resume all medications". 34 	 Develop a standard list of sources for obtaining medication information for the BPMH that are relevant to your setting. Use a 3rd year pharmacy student in the ED.³⁷ Have a medication reconciliation physician champion to educate other physicians on the benefits.

Key Change Concepts	Key Change Ideas	Examples to Test
Use Affordances - make it easy to do the best practice. A visual prompting without the need for further explanation.	 Incorporate the BPMH form into the physician admitting order sheet - hospitals using their reconciling form as an order sheet still need to follow through on the verification step: were all home meds ordered unless specifically discontinued or held?³⁴ Place the reconciling form in a consistent, highly visible location within the resident's chart, easily accessible by clinicians writing orders.³⁴ Flag Eligible Charts - educate Unit Clerk on patient/resident criteria for BMPH and have her flag the charts with a coloured sticker as well as contact the pharmacist or professional delegated to complete the BPMH.³⁴ Use special color paper for the form - teams report strong recognition of "that yellow form" ³⁴ 	 Keep the BPMH next to the admitting order sheet in the chart.³⁴ Identify the most common place that ordering prescriber's reference (e.g., first page of physician progress notes, first sheet in chart, and clip on top of chart).³⁴
Develop Operational Definitions	Identify criteria for those residents who should receive and those who don't need to receive an in-depth BPMH and in what time frame. 32	 Residents on > 5 medications must have a BPMH within 48 hours of admission.³²
Reach Agreement on Expectations	Establish the expectation that patients/residents come with all their medications upon elective admission. 34	• Incorporate this expectation into preoperative clinic education, discharge teaching and work with family physicians and communication departments re: "about your visit" materials, partner with community. 34

Key Change Concepts	Key Change Ideas	Examples to Test
Use Automation	 If one person is doing BPMH over several units, have a paging code to identify priority.³⁴ Incorporate BPMH into the physician order entry system. 	
Smooth Work Flow	 Use a stamp to eliminate duplication in workload.³⁶ Include the BPMH within the admission package. 	

Transfer

Medication Reconciliation at transfer clarifies the medications the patient should be taking on the new unit and may involve restarting home medications held in the previous level of care. Transfer reconciliation involves comparing:

- Best Possible Medication History AND Transferring Unit's Medication Administration Record (MAR) with the Transfer Orders.
- Identify, document and reconcile discrepancies.³²

Key Change Concepts	Key Change Ideas	Examples to Test
Take Care of Basics	 Employ effective mechanisms for transfer of information at all interface points. ^{35, 38} Reconcile medications with the resident at referral or transfer. ^{32, 38} Communicate the resident's medications to the next provider of service at referral or transfer to another setting, service provider or level of care within or outside the organization. ^{38, 39} Ensure the following questions have been answered to reconcile transfer orders: have pre-hospital orders been reconciled to transfer orders? have all discrepancies been resolved prior to transfer? are allergies correctly listed on transfer orders? ³² are medications on hold clearly identified? 	
Standardization	 Use a standardized paper or computerized form to generate a current medication list at the time of transfer that allows the prescriber to select the medications that should continue at the next level of care.³² Ensure BPMH form is in the same place as where transfer orders are written Develop a policy that designates who is responsible for completing the reconciliation and when it should occur.³² 	 Trial transfer form incorporating transfer orders. Staff completes BPMH and physician reconciles orders.
Conduct Training	Develop an education package on how to use the form and the process.	Use in-services to educate staff with "just in time" learning.

General Processes

Key Change Concepts	Key Change Ideas	Examples to Test
"An up-to-date and accurate medication list is essential to ensure safe prescribing in any setting." 35	 Create the most complete and accurate list possible of all home medication for each patient, involve the patient/resident as per CCHSA Required Organizational Practices through obtaining a Best Possible Medication History (BPMH).³² Use the BPMH list when writing medication orders.³⁵ Compare the BMPH against the physician's admission, transfer and/or discharge orders.³² Identify and bring any discrepancies to the attention of the physician and, if appropriate, make changes to the orders.³⁵ Record the 3 types of discrepancies on a document adapted for your institution.³² Focus initial work for medication reconciliation on small portion or your population.³⁴ 	 Choose a pilot population to begin testing the medication reconciliation process. Use a process map to discover the highest volume or most vulnerable patient population.
Give People Access to Information	 Identify stakeholders early and get buy-in with nursing, pharmacy, physicians, senior leadership and other key groups. 40 Identify all partners in the process; pick the right members of the team. 40 Use data to build will, monitor concerns and communicate progress. Data can be more than just numbers. 40 Seeing progress motivates a team. Use data stories and anecdotal comments in team meetings. QI can be fun. 40 Post results to gain expanded audience. 41 Downturn in results is an opportunity to create treasures from defects - investigate those cases and find out where to focus improvements. 40 Small bites of data collected consistently allow the team to identify problems sooner. 40 	 Meet with stakeholders to identify concerns, communicate intent of team - use data. Process map routes of patient/resident from intake to discharge. Incorporate stakeholder concerns in balancing measures. Present team progress and results at research days, forums for staff education, and /or directors meetings.³⁴ Use a sampling technique to foster more frequent data collection and reduce burden of data collection.

Key Change Concepts	Key Change Ideas	Examples to Test
Consider Other People in the Same System	• Teamwork is important as commitment to the process by nurses, pharmacists and physicians is integral to achieving success. Clinical champions are also required to achieve success. ³⁴	Develop a multidisciplinary team.

Appendix L - Individual Medication Reconciliation Audit Tool

Individual Medication Reconciliation Audit Tool - Use the results to compete the measurement worksheets

Implementation Stage:						Resid	dent lo	denti	fication
☐ Baseline ☐ Early	implementa	tion [3 Full implem	entati	on				
Resident Sample:									
INSTRUCTIONS:									
• A clinical pharmacist	or designat	e comp	iles the <u>Best</u>	Possib	ole Me	dicatio	on His	tory	(BPMH) based on resident
interview, medication									
	all prescribed	medicat	tion ordered (A	MOs) f	or this	reside	nt with	nin th	e first 24 hours of the index
healthcare facility stay. • To complete the RPMH I	discrenancy co	olumns fo	or each medicat	ion ch	ock the	a annro	nriate	hov T	Гуре 0= NO discrepancy; Туре
							-		nintentional Discrepancy and
comment as applicable.	,					, , ,	.,,,	- <u></u>	
 Indicate for all Type 2 ar 	nd Type 3 disc	repancie	s whether they	were r	esolve	d by pla	cing a	✓ in t	he "Resolved" column.
					.	>			
					anc	anc			
					rep	rep			
				ıncy	Disc	ted Disc	<u>a</u> ,		
				ера	nal	nen Jal	tion	>	
				discrepancy	tio	tiol	epa	lvec	
				P ON	<u>Intentional</u> Discrepancy	<u>Undocumented</u> <u>Intentional</u> Discrepancy	Unintentiona Discrepancy	Resolved	
Best Possible Medication I	History (BPMI	1)	Γ	Z	=) <u>=</u>		~	Clarification of discrepancies
Medication	Dose	Route	Frequency	0	1	2	3		should be recorded in Resident
									Record
BPMH Discrepancy Total									
BPMH Discrepancy Type				0	1	2	3		
	oancy - physic	ian has n	nade an intentio	l nal cho	ce to	l add, ch	ange or	disco	ntinue a medication and is clear

documented.

Type 2= <u>Undocumented Intentional Discrepancy</u> - physician has made an intentional choice to add, change or discontinue a medication but this choice is not clearly documented.

Type 3= <u>Unintentional Discrepancy</u> - physician unintentionally changed, added or omitted a medication the resident was taking prior to admission.

Example of a Completed Individual Medication Reconciliation Audit Tool

Individual Medication Reconciliation Audit Tool - Use the results to compete the measurement	ement worksheets
--	------------------

□ Baseline □ Early implementation □ Full implementation □ Society Identification									
Resident Sample:	— R	Resident Identification							
INSTRUCTIONS:					•				
 Medication vial review Compare the BPMH to healthcare facility storm To complete the BPM 	ew, resident n to all prescrib ay. MH Discrepand discrepancy;	nedication ped medica cy columns	list, communi ation ordered s for each med	ty pha (AMOs dicatio	rmacist) for th n, chec	t, famil nis resid ck the	y phys dent w approp	ician ithin riate	based on resident interview, , etc the first 24 hours of the index box. Type 0= NO discrepancy; a 3= <u>Unintentional</u> Discrepancy
				NO discrepancy	Intentional Discrepancy	<u>Undocumented</u> <u>Intentional</u> Discrepancy	<u>Unintentional</u> Discrepancy	Resolved ~	
Medication	Dose	Route	Frequency	0	1	2	3		Clarification of discrepancies should be recorded in Resident Record
Digoxin	0.125mg	ро	daily	✓					
Enalapril	20 mg	ро	bid				✓	✓	Incorrect dose 10 mg bid was ordered
Metformin	500 mg	2 tabs	at brkfst	✓					
Metformin	500 mg	2 tabs	at supper	✓					
Metformin	500 mg	i tab	at lunch		✓			✓	Reduce dose based on blood glucose
ECASA	325mg		qhs	✓					
Temazepam	30 mg	ро	daily	✓					
**ADDITIONAL									
Lactulose	667 mg/mL		qhs			✓		✓	
Furosemide	60 mg	ро	bid			✓		✓	
PDMU Diagrama - T	tal.			5	1	2	1	-	
BPMH Discrepancy To BPMH Discrepancy Ty				0	1	2	3	-	
- Mili Discrepancy Ty	, he			Ĺ.,	<u> </u>]	

Type 1= <u>Intentional</u> <u>discrepancy</u> - physician has made an intentional choice to add, change or discontinue a medication and is clearly documented.

Type 2= <u>Undocumented Intentional</u> <u>Discrepancy</u> - physician has made an intentional choice to add, change or discontinue a medication but this choice is not clearly documented.

Type 3= <u>Unintentional Discrepancy</u> - physician unintentionally changed, added or omitted a medication the resident

Appendix M - Technical Descriptions and Worksheets

(Adapted from IHI 100K lives)

Implementation Stages - Definitions apply to all interventions and measures:

Baseline Stage: Pre-intervention - Data collected for Baseline should be collected prior to implementing small tests of change and reflect the current process.

Early (Partial) Implementation Stage - The team has: set a clear aim(s) for this intervention; identified which measures will indicate if the changes will lead to improvement; and started to implement small tests of change (PDSA) to identify and refine processes, procedures and practices which will lead to improvement and achieving the aim. When the team is close to goal they are ready to move to Full Implementation.

Full Implementation Stage - The processes, procedures and practices are refined and finalized and have lead to significant improvement. All team members in selected units are consistently implementing the processes, procedures and practices and continue to monitor and maintain their sustained performance which remains at or close to goal. They achieved their aim and are ready for spread to other units.

Core Measures

1. Mean Number of Undocumented Intentional Discrepancies - (Documentation Accuracy)

Mean number of undocumented Intentional discrepancies Number of undocumented intentional discrepancies

Number of residents reconciled

Goal: Reduce the rate of <u>undocumented intentional</u> <u>discrepancies</u> in your area of focus (admission, transfer, or discharge) by 75% or more. It is anticipated that each organization will ultimately address all three areas related to reconciliation (admission, transfer, and discharge). It is best to start with admission reconciliation.

Numerator Definition: Number of <u>undocumented intentional</u> discrepancies on reviewed charts (Note: This is a count of medications, not doses.)

Numerator Exclusions: The recommended approach is to focus on reconciling medications the resident was taking at home. Over-the-counter (OTC), herbals, and other medications are counted as per institution discretion (for purposes of the *SHN*, teams that excluded OTC's and herbals in their original data should continue to do so).

Note: Organizations should decide which OTC medications are relevant in their setting and should be counted. For the purpose of the *SHN*, we require consistent reporting of prescribed medications.

Denominator Definition: The denominator is the *number of residents* in the monthly sample.

Mean Number of <u>Undocumented Intentional</u> <u>Discrepancies</u> - Measurement Worksheet

Prevention of Adverse Drug Events Through Medication Reconciliation									
Interv	venti	on:	Prevention of Adverse Drug Events (Medication Recond	ciliation)					
Definition: intentional choice to add, ch			An <u>undocumented intentional</u> discrepancy has occurre intentional choice to add, change or stop a medica clearly documented in the resident chart.	-	-				
Goal:	75% in one	year (as							
Data	Data Collection Details								
Healt	Health Region Health Region Specify								
Year:			the year for which the data was collected: 2008 Other (specify):	Collection Method:	☐ Conc	urrent			
Month	h ։ լ		he month for which the data was collected: Feb. Mar. Apr. May June July Au	ıg. □ Sept.	□ Oct. □	Nov. □			
Stage: B C iii		tation	□ Baseline stage □ Collected for Baseline should be collected prior to implementing small tests of change and reflect the current process. □ Early implementation stage The team has set aims, started to implement small tests of change (PDSA) to identify and refine processes, procedures and practices.	mentation standers in selection implemented occedures and item to mone their Ready for a	cted units nting the practices itor and sustained				
Point	of Tı	ransfer	☐ Admission ☐ Transfer <i>specific</i> From: To		J Discharge				
Resident Sample: 1 worksheet/sample Describe the source of the resident sample e.g., Residents >75 yo; Resident >4 pre-admit meds etc.						itted with			
Calculation of Denominator						Answer			
Complete a SHN Individual Medication Reconciliation Audit Tool for each resident in the monthly sample(s). Using the information recorded on the audit tool complete the following cells on the worksheet. Do not mix data from one resident sample (e.g. specific age group, disease, or number of meds) with data from another resident sample.									
What is the total number of residents in the previous month's resident sample? (An Individual Medication Reconciliation Audit Tool should be completed for each resident)									

Calcu	lation of Numerator	Formula	Answer
	Add the total number of Type 2 - Undocumented Intentional Discrepancies recorded for the residents in # 1.1 from the Individual Medication Reconciliation Audit Tools.		
Final	Calculation	Formula	Answer
1.3	Divide # 1.2 by #1.1.	(1.2 / 1.1)	

2. Mean number of UNINTENTIONAL discrepancies - (Rate of Error)

Mean number of unintentional
discrepancies=Number of unintentional discrepanciesNumber of residents reconciled

Goal: Reduce the rate of <u>unintentional</u> discrepancies in your area of focus (admission, transfer, or discharge) by 75% or more. It is anticipated that each organization will ultimately address all three areas related to reconciliation (admission, transfer, and discharge). It is best to start with admission reconciliation.

Numerator Definition: Number of *unintentional discrepancies* on reviewed charts (Note: This is a count of medications, not doses.)

Numerator Exclusions: The recommended approach is to focus on reconciling medications the resident was taking at home. Over-the-counter (OTC), herbals, and other medications are counted as per institution discretion (for purposes of the *SHN*, teams that excluded OTC's and herbals in their original data should continue to do so).

Note: Organizations should decide which OTC medications are relevant in their setting and should be counted. For the purpose of the *SHN*, we require consistent reporting of prescribed medications.

Denominator Definition: The denominator is the *number of residents* in the monthly sample.

Mean Number of <u>Unintentional</u> <u>Discrepancies</u> - Measurement Worksheet

Prevention of Adverse Drug Events Through Medication Reconciliation								
Intervention:		n: P	Prevention of Adverse Drug Events (Medication Reconciliation)					
Definition:			An <u>unintentional</u> discrepancy has occurred when the physician has unintentionally changed, added or omitted a medication the resident was taking prior to admission.					
Goal: Decrease the rate of <u>unintentional</u> discrepancies by 75% or more in						ne year		
Data	Collec	ction D	etails					
Healthcare Facility Name: Specify Re							-	
Year			the year for which the data □ 2008 □ Other (specify):	Collection Method:	☐ Cor	ncurrent		
Month	h· Indicate the month for which the data was collected:							
				,	□ Sept. □ 0			
Imple		ation	☐ Baseline stage	☐ Early implementation stage	☐ Full implementation stage		tage	
Stage:			Data collected for Baseline should be collected prior to implementing small tests of change and reflect the current process.		All team members in selected units are consistently implementing the processes, procedures and practices and continue to monitor and maintain their sustained performance. Ready for spread to other units.			
Point		of				ischarge		
Transfer			From: To:					
Resident Sample: 1 worksheet/ sample		sheet/	Describe the source of the resident sample e.g., Residents admitted >75 yo; Residents admitted with >4 pre-admit meds etc.					
		n of De	nominator			Formula	Answer	
Complete a SHN Individual Medication Reconciliation Audit Tool for each resident in the monthly sample(s). Using the information recorded on the audit tool complete the following cells on the worksheet. Do not mix data from one resident sample (e.g. specific age group, disease, or number of meds) with data from another resident sample.								
What is the total number of residents in the previous month's resident sample? (An Individual Medication Reconciliation Audit Tool should be completed for each resident)								
Calculation of Numerator						Formula	Answer	
	Add the total number of Type 3 Unintentional Discrepancies recorded for the residents in # 2.1 from the Individual Medication Reconciliation Audit Tools.							
Final Calculation					Formula	Answer		
2.3	2.3 Divide # 2.2 by # 2.1.				(2.2 / 2.1)			

3. Percentage of Residents Reconciled upon admission

Percentage of Residents=Number of residents reconciledx 100Reconciled at AdmissionNumber of residents admitted

Goal: To have 100% of residents reconciled upon admission

Numerator Definition: Number of *residents reconciled upon admission* (An individual medication reconciliation audit tool should be completed for each resident)

Denominator Definition: The denominator is the *number of residents admitted*.

Percentage of Residents Reconciled at Admission- Measurement Worksheet

Prevention of Adverse Drug Events Through Medication Reconciliation											
Intervention:		Pr	Prevention of Adverse Drug Events (Medication Reconciliation)								
Definition:		Pr	Process measure which evaluates whether the system is performing as planned.								
Goal:			The goal of this measure is to have 100% of residents reconciled upon admission								
Data	Collection	n Deta	ails								
Health Reg						ion: □ NA or					
Healthcare Facil			ity Name:			Specify Region:					
Year:	Indica	te the	the year for which the data was collected:		Collection		ırront				
ieai.	□ 2007 (☐ 2008 ☐ Other (specify):		Method:						
	Indica	Indicate the month for which the data was collected:									
Month	Tar Dec.	. 🗖	Feb. □ Mar. □ Apr.	□ May □ June □ July □ Au	g. □ Sept.	□ Oct. □	Nov. □				
Imple	mentatio	1 🗆	Baseline stage	☐ Early implementation	on		ige				
Stage	:	Do	Data collected for stage			All team members in selected units					
			Baseline should be The team has set aims, are consistently implementing				_				
			collected prior to started to implement small processes, procedures and primplementing small tests tests of change (PDSA) to and continue to monit								
			of change and reflect the identify and refine processes,		maintain their sustained						
			rrent process.	procedures and practices.	performance.	Ready for	spread to				
					other units.						
Point	of Transf	or	☐ Admission ☐ Transfer specific ☐				☐ Discharge				
TOILL	or mansi	Ci	From: To:								
Resident Sample:			Describe the source of the resident sample e.g., Residents >75 yo; Residents admitted with								
1 worksheet/sample >4 pre-admit meds etc.											
Calculation of Numerator						Formula	Answer				
•				ation Audit Tool for each reside							
monthly sample(s). Using the information recorded on the audit tool complete the following											
cells on the worksheet. Do not mix data from one resident sample (e.g. specific age group, disease, or number of meds) with data from another resident sample.											
3.1 What is the total number of residents who were reconciled upon admission? (An											
individual medication reconciliation audit tool should be completed for each resident)											
Calculation of Denominator					Formula	Answer					
3.2	What is total number of residents admitted in the last month										
Final Calculation							Answer				
3.3	Divide # 1	1 by #	by # 1.2.								

Appendix N - Creating a Business Case for Medication Reconciliation

Sample business cases are available on the Medication Reconciliation Communities of Practice.

Link: https://communities.saferhealthcarenow.ca/medrec?go=z1107765

What are the expected benefits of implementing medication reconciliation?

Creating a formal, systematic process for medication reconciliation has the following potential benefits:

- Preventing or identifying/correcting medication errors at admission thereby reducing the risk of patients experiencing ADEs.
- Reducing confusion for patients and families at the time of admission by streamlining the process
 for obtaining an accurate and complete Best Possible Medication History (BPMH) (rather than
 having multiple clinical staff at multiple locations asking for the same information of the
 patient).
- Decreasing the amount of work and rework to clarify medication orders.
- Improving patient satisfaction by creating a system that allows residents to be more readily and accurately informed, where cognition allows it to be possible, about their medication regimen and changes during their LTC stay.
- Meeting CCHSA expectations for resident safety and ROPs for medication reconciliation.

What are the risks of implementing medication reconciliation?

Staff may be unaccustomed to the environment of shared responsibility/accountability. Medication reconciliation requirements and initiatives at first may appear to be a burden to clinical staff.

Residents and families require education to ensure understanding of the need and process.

What are the risks of not implementing medication reconciliation?

- Continuing high number of adverse drug events
- CCHSA Accreditation status may not be obtained
- Lack of clarity for residents particularly at transitions in care
- Staff continue wasting time with inefficient processes of clarifying medication lists and ordering medication and resolving ADEs

What are the expected up-front costs?

Initially, implementing medication reconciliation will take time. Once the process is in place and staff are educated the time involved should be reduced.

According to the Canadian Study by Vira, T. et al, the mean cost of reconciling medications at admission is \$11 per resident or \$63 per clinically important unintended admission medication variance. ³³

Most hospitals find it takes 15-30 minutes per patient to create a Best Possible Medication History (BPMH) at admission and see approximately 4000-8000 patients per year. A successful medication reconciliation process can detect up to 85% of discrepancies.⁴¹

The Cost for Implementing Medication Reconciliation:

The cost of "doing it" - implementation resources

Mandatory Staff education - 1 hour/staff member

- Quality Analyst/Project Manager: data collation, analysis and reporting, and project management activities approx 15 hours/week
- Pilot Unit Leader/Project Manager: Dedicated time for data collection, front-line implementation support and project management activities approx 15 hours/week
- Implementation team members: meetings 1 hr/week
- Nurse Educator/Facilitator/Consultant Pharmacist: Provide education to staff and physicians 20 hours/month
- Consultant Pharmacist incorporating medication reconciliation as part of their responsibilities

The cost for reconciling medications on a per resident basis:

Conduct a BPMH	15-20 minutes x # admissions meeting criteria x salary
Reconcile discrepancies	10 minutes x # admissions meeting criteria x salary

What are the Costs/Benefits?

The net savings will depend on the type of staff used to perform medication reconciliation.⁴²

Cost Benefit Analysis Measurements:

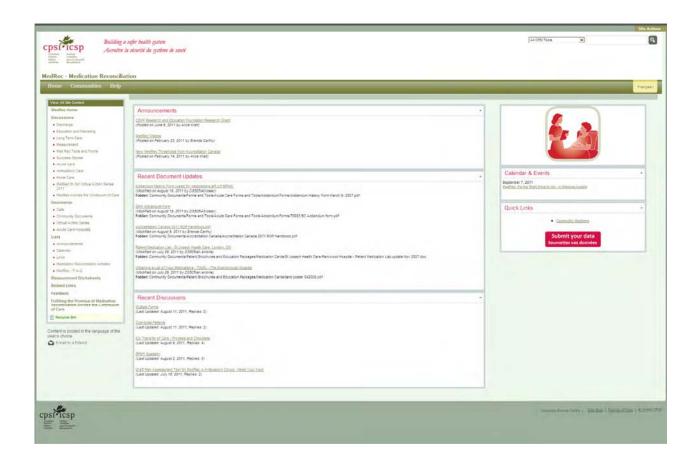
- Benefit or Avoided Cost
 Cost of Intervention
- A ratio greater than one indicates a net profit return on investment
- Cost of Intervention
 Anticipated Avoided Events
- Cost of Intervention Measure will determine Cost effectiveness of the intervention

Appendix O- Communities of Practice Communities of Practice (CoP)

The Safer Healthcare Now! Medication Reconciliation CoP is an online neighbourhood for healthcare professionals to discuss, debate, share and get support for ideas, insights and practices related to Medication Reconciliation. This online community is a virtual gathering spots to facilitate group communications and enable SHN team members to collaborate with and learn from each other. The CoP will facilitate:

- 1. Shared Knowledge: support Medication Reconciliation teams across Canada, to provide a mechanism of communication between teams across Canada, and between team members and the Medication Reconciliation faculty, and SHN constituents.
- 2. Shared Practice: To encourage the sharing of forms, documents, policies, processes, learning's and successes amongst participating hospitals.
- 3. *Common Knowledge*: Provide online discussion forums, intervention-specific resources, calendar of scheduled events and a database of searchable, frequently asked questions.

The CoP contains valuable information to assist teams in successfully implementing Medication Reconciliation.



CoP Help Videos:

Link: http://tools.patientsafetyinstitute.ca/help/CoP%20Help%20Videos/Forms/AllItems.aspx

CoP Help FAQs:

Link: http://tools.patientsafetyinstitute.ca/help/Lists/CoP%20FAQs/FAQ%20Grouped.aspx

- 1. Click the "Access Now" button
- A new page appears. Click on the button: Register Now!

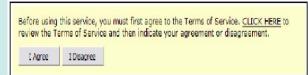




3. The Create a
Communities of Practice
User Account page
appears. Complete the
fields on this page.
Questions or boxes
marked with a red
asterisk * are mandatory.



4. Review the Terms of Service - if satisfactory, click the "I Agree" button.



5. Congratulations - you are now a member and you will receive an e-mail welcoming you.

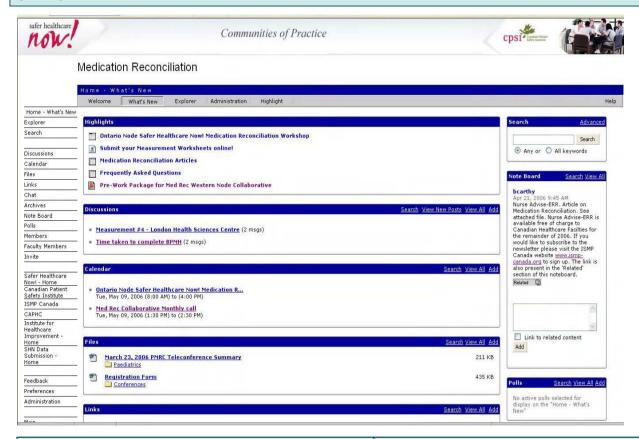
You Are Now a Member

You have successfully joined this community and have membership privileges as decided by the community founder.

Enter the community

What's New Page

When first entering a community, a summary of all the new and recently added content is presented on the What's New page. It provides access to on-going opinion polls and offers the most recent note board postings. A CoP is an intuitive web-based online application that enables group collaboration and knowledge management. The application complements existing static web sites by providing groups with a complete infrastructure to instantly establish online areas for temporary or ongoing group collaboration. Each community contains a series of powerful tools to facilitate group interaction. Tools exist to share text content, images and files while others, such as chat and instant messaging, enable real-time communications. No software needs to be installed by users, nor will they need training in order to participate.



DISCUSSIONS: Discussions provide an automated way to centralize conversations and decisions. All discussions are recorded for future reference. Discussions contribute greatly to an organization's ability to manage collective knowledge and experiences. Discussions can be organized into user-defined folders and offer a full-text search.

POLLS: Polls allow community members to be surveyed. It can help bring consensus in a discussion or help organizers understand what dates are best suited for a meeting. Polls can be anonymous or can be set to track voter identity and results can be shared with members in real-time.

SEARCH: Search allows members to search the CoP. This is accessible from the *What's New* page.

FILES: Files can be stored securely and shared amongst members. Files can be organized in user-defined folders and restrictions can be set to allow or disallow access. For example, file folders could be set to only allow uploading or downloading of files if desired. Files can be searched by name and description. Another feature available to files is version control: revised files can be versioned to track changes.

CALENDARS: The calendar is an ideal location to store time-sensitive information including meetings, reminders and project milestones. It supports recurring entries for regular events or meetings as well as full support for international time zones. Email event reminder features are available.

PREFERENCES: The Preferences section allows members to specify how much of their personal information will be disclosed in their profile. Members can choose the type and quantity of e-mail they wish to receive from the community. Automatic community e-mail updates are periodically sent to members to summarize all new content in a community since the last update.

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