MEDICATION RECONCILIATION
IN THE ICU

Change Package
Background
The ultimate goal of medication reconciliation is to prevent adverse drug events (ADEs) at all interfaces of care, for all patients. The aim of this Collaborative is to eliminate undocumented intentional discrepancies and unintentional discrepancies by reconciling all medications at ICU admission and transfer for all eligible patients. This is a system change that requires time and commitment.

Overall Medication Reconciliation, in the ICU setting, is a formal process of:
1. Obtaining a complete and accurate list of each patient’s current home medications—including name, dosage, frequency and route (known as a Best Possible Medication History or BPMH),
2. Using the BPMH to:
   • generate ICU admission and transfer (out of the ICU) orders and/or
   • compare to the ICU admission and transfer orders in order to identify discrepancies between the BPMH and the orders to the attention of the prescriber and as appropriate addressing these discrepancies by modifying the orders or documenting a rationale for discrepancies.

Med Rec at Admission to ICU
The Best Possible Medication History (BPMH) forms the foundation for medication reconciliation activities at the various transitions of care. BPMH requires documentation of all medications that a patient has been taking at home including drug name, dose, frequency and route. On admission, the BPMH is compiled and compared to the admission medication orders (AMOs). Undocumented or unexplained discrepancies are brought to the attention of the prescriber.

Med Rec upon Transfer out of ICU
This includes when there are changes in level of care or internal transfer within the hospital. Internal transfer medication reconciliation involves assessing and accounting for:
- medications the patient was taking prior to admission (BPMH);
- medications from the ICU (medication administration record (MAR)); and
- new post-transfer medication orders.
### MedRec in the ICU Change Package

#### Change Concept: Standardization (create a formal process)
- Design a Medication Reconciliation [process that fits into existing ICU admission processes](#).
- Create a Best Possible Medication Transfer Plan (BPMTP), which includes clear and comprehensive information for the patient and other care providers either electronically or on paper.³, ⁵
- Develop a policy that designates who is responsible for completing the various Med reconciliation processes and when the processes should occur.⁴ (See GSK Process Owner’s Matrix Appendix D)

#### Change Ideas
- Complete process mapping to build understanding (consider using a Deployment Flowchart)
- Trial the Medication Reconciliation process with patients being admitted to the ICU via other units and the Emergency Department and at different times of the day and days of the week.
- Trial a transfer form - use feedback to make adjustments to the form and the process
- Follow the policy to identify possible barriers or problems.
- Assign responsibility for completing the Medication Reconciliation transfer process

#### Examples to Test
- Conduct Training
  - Develop a training package for clinicians on how to conduct medication reconciliation at ICU admission and transfer and the process.⁶
  - Focus on skill building in doing med rec. (See Getting Started Kit³ Appendix E)
  - Provide patient education and materials on the importance of keeping an accurate medication record.⁵

- Education: post medication reconciliation articles in unit staff areas, communication books or in medication rooms.⁶
- Customize education and awareness to meet the various needs of members of the team and various disciplines.⁶
- Use Simulation and/or Patient Safety Laboratory- hold simulated Transfer from ICU
- Staff recertification and orientation days- work with unit educators and managers.⁶
- Educate involved staff on the pilot forms and get feedback ⁶
- Use Case Studies - Conduct a case study or use the case study method (a “chunk of reality”) allowing others to engage with issues.³
- Complete a mock form/process for staff to see how it should be completed³
- Examples of patient materials include: It’s safe to ask - Manitoba, Knowledge is the Best Medicine.
# MedRec in the ICU Change Package

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<td>Educate the patient to see the community pharmacist and family physician as important partners in the community. Share local stories</td>
<td>Review &amp; evaluate patient/family education materials to ensure patient learning. Provide patients with a list of discharge medications or medications changed. Use Actual Event Scenarios - use video, slides and other media to recreate and communicate incidents that happen in your own facility with people you know, to create believability and a sense of personal vulnerability needed for change. Keep privacy issues in mind when sharing stories.</td>
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<td>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 transfer order sheets. Embed the transfer medication reconciliation process into normal processes of care and work towards electronically generated reconciliation forms that result in orders.</td>
<td>Trial the software links. Test the flow of the process for Med Rec at Transfer from ICU.</td>
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<td>Use knowledge of the current process to establish a sampling plan (Judgment Sampling) to inspect the quality of medication reconciliation.</td>
<td>Weekly monitoring of the Med Rec at Transfer from ICU process by gathering data during high and low demand periods, or at different times of the day, or different days of the week. Create a run chart to keep track of progress towards the aim or goal of the initiative.</td>
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| Give People Access to Information  | ▪ The best possible medication transfer plan (BPMTP) should be communicated to:  
▪ Patient, physician, pharmacist, or other healthcare providers.  
▪ Follow-up on monitoring plans (such as consultation assessment and labs) and dates.  
▪ Create a portable patient medication list for the patient and for communication to health care professionals.  | ▪ Test the BPMTP plan - obtain feedback from end users and incorporate feedback to develop an appropriate form and process.  
▪ Create and test a transfer checklist of questions to ensure a systematic review of patient’s medications at transfer.  
▪ Follow-up on transfer medications with the patient/family to see if there are any medication-related issues.  
▪ Test the patient medication list and ask patient for evaluation and feedback. |
| Taking Care of Basics              | ▪ Document how discrepancies found at transfer were reconciled and resolved. | ▪ Incorporate identification of discrepancies on the BPMTP form                   |
| Use a Co-ordinator                 | ▪ Assign a coordinator/case manager to manage the flow of the processes to prevent problems and wait time for transfer. |                                                                                   |
| Consider people as in the same system | ▪ Partner with a referring facility to engineer improved communication systems. | ▪ Involve Emergency Department, ward or step down units                           |
| Reduce Setup/Start-up Time         | ▪ Work with teams who are doing MedRec at Admission to improve the quality and the percentage of patients reconciled in order to reduce re-work during Med Rec at Transfer from ICU. | ▪ Ask a clinician working at admission to test the transfer process              |
| Listen to Customers (End Users)    | ▪ Understand the importance of the end user’s needs and expectations.        | ▪ Survey end users of transfer medication information to improve the process and quality of Med Rec at Transfer from ICU. |
| Focus on the outcome to a customer | ▪ Ensure that the expectations about the medication information provided to the patient at transfer are clear to their care providers/organizations. | ▪ Inform patients to expect to have their medications reviewed at the time of admission (and transfer?)  
▪ Inform care providers/facilities the medication information to expect at transfer. |
## MedRec in the ICU\(^1\) Change Package

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<td><strong>Evaluate existing processes by creating a high level flowchart and assess where problem areas exist.</strong> (^6)</td>
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<td><strong>Evaluate with the patient/family the usefulness of reviewing medications on admission (And transfer)</strong></td>
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<td><strong>Discuss with patients how they will use the information</strong></td>
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<td><strong>Coach Patients to use a Service</strong></td>
<td><strong>Inform the public about medication reconciliation and to ask for it when they are admitted or transferred from ICU.</strong></td>
<td><strong>TV ads, newsletters, radio spots, waiting room brochures</strong></td>
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| **Eliminate Multiple Entry** | **Have a designated place to keep one source of the BPMH and the BPMTP to eliminate re-work.**  
**Reduce the number of transcriptions and recopying/re-copying of information through electronic solutions or carbon paper.** | **If you have a paper chart, try keeping the BPMH on the left side of the chart (hole punched on right) always facing the most recent orders so that they can be readily available to be reviewed at discharge.** \(^9\) |
| **Minimize handoffs/Cross-train** | **Cross train other healthcare professionals to prepare the BPMH and BPMTP. Refer to pharmacist for complex/challenging cases.**  
**Utilize ICU Outreach team for med rec at transfer to step-down ward.** | **Observe process used by other healthcare professionals across different days and units.**  
**Identify criteria for when to consult with pharmacist**  
**Have outreach team confirm order reconciliation at follow-up** |
| **Find and remove bottlenecks** | **Apply a time limit to each of the steps in the transfer process to ensure the flow of each step.** \(^9\) | |
| **Smooth Work Flow** | **Balance the number of transfers per day to re-distribute the demand for Med Rec at Transfer from ICU rather than increase staffing to handle the demands.**  
**Have unit clerk prepare package of forms and information to facilitate Med Rec in the ICU** | **Review the impact on ALC and bed access** |
| **Focus on core processes and purpose** | **Document the discrepancies that were identified and how they were reconciled during the medication reconciliation process.** \(^5\) | **Review the discrepancies and determine how to reduce the number and type.** |
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<td>▪ Create a different process for patients unable to speak for themselves e.g. coma</td>
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<td>Develop Alliances and co-operative relationships</td>
<td>▪ Partner with community pharmacists, long-term care facilities, ambulatory care clinics, home care clinicians to work on improving communication at handoffs.</td>
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<td>Extend Specialists Time</td>
<td>▪ BPMTP to be created prior to physician assessment at transfer. Physician role to assess patient, address discrepancies identified and to write prescription medications.</td>
<td>▪ Have BPMTP ready for physician prior to transfer</td>
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<td>▪ Maximize resources - where there are limited resources for doing BPMH/BPMTPs, develop criteria for those patients which require specialized attention.</td>
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<td>Use Affordances (make it easy to do best practice with visual prompts without the need for explanation.)</td>
<td>▪ Develop an intuitive BPMH/BPMTP form that prompts the clinician to use a standardized process to obtain the BPMTP.</td>
<td>▪ Create cards to remind clinicians of questions to ask during Med Rec at Transfer from ICU.</td>
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<td>▪ Use special colour paper for BPMTP form.</td>
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<td>▪ Place the reconciling form in a consistent, highly visible location within the patient chart, easily accessible by clinicians writing orders.</td>
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<td>▪ Flag Eligible Clients - educate Unit Clerk on patient criteria for BPMTP and have the clerk flag the charts with a coloured sticker, contact the pharmacist or professional delegated to complete the BPMTP.</td>
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Acknowledgements

Material for this change package includes material and change ideas from the following documents:

- Atlantic Node Medication Reconciliation Collaborative in LTC Change Package
- Western Node Breakthrough Series Collaborative: Change Package: Coming Full Circle: MedRec Across the Continuum Long-term Care and Acute Care 2007
- Atlantic node VTE Change package.
- Medication Reconciliation Appropriateness in Long Term Care Change Package (QHN/ISMPC)
- Appendix One: SHN Improvement Frameworks. Bruce Harries & Leanne Couves, Improvement Associates Ltd.

Resources


References

1. Initial sources for this material - SHN Medication Reconciliation in Acute Care Getting Started Kit - Acute Care, Sept 2011; and SHN Med Rec to Go Virtual Action Series, 2011
2. For the purposes of this Collaborative, medication reconciliation at hospital discharge will not be considered. For information on the latter, the reader is directed to initial sources cited in footnote #1. Safer Healthcare Now! Getting Started kit: Medication Reconciliation Prevention of Adverse Drug Events. March 2007
5. Medication Reconciliation Change Package 2006: Western Node Collaborative
8. Western Node Collaborative Medication Reconciliation Change Package - T.Rollefstad SIA for Western Node SHN Adapted from the IHI template for change packages, with permission.
10. Medication Reconciliation Across the Continuum: Change Package for Home Care.