Medication reconciliation: A look within and beyond the hospital walls

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Disclosure

Vince Teo

• None to declare

Patti Madorin

• None to declare

… we both feel MedRec is very important!
Learning objectives

• Describe the rationale for medication reconciliation and associated interventions across the health care spectrum
• Describe what is known about the spread and degree of uptake of these interventions in the hospital sector
• Describe current gaps and barriers to integration of medication reconciliation across all spectrums of healthcare
• Describe one organization’s experience (Sunnybrook’s journey) in medication reconciliation
Nature of the problem in hospital

• 50% of patients will have at least one medication discrepancy (error) on admission
  → 39% have the potential to cause moderate to severe harm
• Similar at transfer and discharge
• Patients admitted to hospital are at greater risk of unintentional discontinuation of evidence based chronic therapies resulting in increased risk of death, hospitalization and ED visits in the following year

What happens to the accuracy of the medication history in community?

- Only 44% of primary care physicians reported medications prescribed by an external physician on their patient’s profile
- Primary care provider medication lists were completely accurate only 1-8% of the time

Spina JR. Med Care 2011; 49:904-910.
What’s happening - selected

• Accreditation Canada
  – MedRec across all transitions in all services by 2018
  – Includes selected patients in ambulatory care and selected non-admitted ED patients

• Safer Healthcare Now!
  – Getting Started Kits (GSKs) for Acute Care, Home Care and Long-Term Care
What’s happening - selected

• ISMP/ Health Quality Ontario (HQO)
  – Ontario Primary Care MedRec Guide
    (http://www.ismp-canada.org/download/PrimaryCareMedRecGuide_EN.pdf)

• Health Quality Ontario
  – Quality Improvement Plans (Admission and Discharge MedRec)
  – bestPATH supporting Healthlinks (coordinated care for complex patients)
How are we doing?

– Hospital
– Community
Hospital

– Audit methods and measurement criteria vary making comparisons of MedRec rates difficult

• Accreditation Canada
• National MedRec Quality Audit
• Health Quality Ontario (Quality Improvement Plans – QIPs)
## Accreditation Canada

<table>
<thead>
<tr>
<th>ROP</th>
<th>Compliance with Standard (%)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>2011</td>
</tr>
<tr>
<td>MedRec as an Organizational Priority</td>
<td>77</td>
</tr>
<tr>
<td>(Development and implementation of an organizational plan)</td>
<td></td>
</tr>
<tr>
<td>MedRec at Admission*</td>
<td>60</td>
</tr>
<tr>
<td>MedRec at Transfer/ Discharge*</td>
<td>50</td>
</tr>
</tbody>
</table>

* At least one client service area
National MedRec Quality Audit

- February 2015 (initial audit was Oct 2013)
  - 173 sites across the country volunteered to participate
  - 5,201 patients/residents reviewed
National MedRec Quality Audit tool

**MedRec Completed***

<table>
<thead>
<tr>
<th>B. MedRec Performed</th>
<th>C. BPMH &gt;1 source</th>
<th>D. Actual Med use verified by Pt/Caregiver source</th>
<th>E. Each med has drug name, dose, strength, route, frequency on BPMH and Admission Orders</th>
<th>F. Every med in BPMH is accounted for in Admission Orders</th>
<th>G. Prescriber has documented rationale for 'Holds' and 'Discontinued' meds</th>
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</thead>
<tbody>
<tr>
<td>YES</td>
<td>YES</td>
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</table>

*Organization’s own definition*
MedRec Quality Score

To calculate a MedRec Quality Score, each “Yes” (or “Unable to Perform”) is assigned 1 point for each of the highlighted columns.
What was learned?

**Acute care (91% of patients)**
- 80% of audits indicated that “MedRec was performed”
- 40% of audits had a MedRec Quality Score of 5/5 (i.e., all of the quality components of admission MedRec were performed)
- Average quality score 3.5/5

**Long-term care (9% of patients)**
- 98% of audits indicated that “MedRec was performed”
- 30% of audits had a MedRec Quality Score of 5/5 (i.e., all of the quality components of admission MedRec were performed)
- Average quality score ~3.6/5
Health Quality Ontario (HQO)

• “Transforming Ontario’s healthcare system”
  • Better patient experience
  • Better patient health outcomes
  • Better value for money

• Quality Improvement Plans (QIPs)
  • Set targets, identify change ideas, methods, measures and goals
  • Admission MedRec, Discharge MedRec
Common themes from hospital QIPs

• Roles and accountabilities
• Education
• Measurement
• Technology
• Scaling up, spread
• Quality
Common themes from hospital QIPs

- “SHN audits for quality”
- “Design, test and utilize quality endpoints”
- “Define and communicate accountabilities for accuracy”
- “Dedicated pharmacy technicians for efficient, high quality BPMHs”
MedRec indicator on QIPs

• Hospitals report a wide range of baseline admission MedRec rates

• In 2014/2015
  – 45% of hospitals improved their admission MedRec rates

• More hospitals are including improvement initiatives for Discharge MedRec

MedRec as an interprofessional process

• Pharmacists
• Pharmacy technicians
• Pharmacy students
• Nurses
• Physicians
Pharmacists, BPMH and MedRec

**BPMH**

- More accurate and complete than other health care professionals

**MedRec**

- In studies where medication reconciliation has had a positive impact on clinically significant events
  - Pharmacists play a key role
  - Part of an interprofessional process that supports optimal medication management
  - Reduces preventable adverse medication events (post-discharge)

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Fernandes O. Shojania KG. Healthc Q 2012;15(Special);42-49.


Schnipper JL. Arch Intern Med. 2006;166:565-571
Pharmacy students and nurses

Pharmacy students

- Able to obtain BMPH’s from patients
- Able to determine discrepancies during reconciliation resulting in positive impact in patient care
- Able to identify significantly more medications on patient’s BPMH
- Limitations and gaps in literature
  - Supervised student pharmacists
  - No direct comparison to pharmacists

Nurses

- Nurse – pharmacist collaboration
  - Decreased discrepancies, prevented harm
  - Cost-effective

Lancaster JW, Grgurich PE. Am J Pharm Educ 2014; 78 (2) Article 34.

Feldman LS. Journal of Hospital Medicine 2012;2012;7:396–40
Pharmacy technicians

• BPMH’s obtained by pharmacy technicians
  – Decreased medication discrepancies
  – Decreased adverse drug events
  – Similar accuracy and completeness as pharmacists

* “trained” pharmacy technicians

Michels RD, Meisel SB.. Am J Health-Syst Pharm 2003; 60: 1982-6
van den Bemt et al, Ann Pharmacother 2009; 43(5): 868-74
The challenge

Every institution’s discharge is another’s admission

-Author Unknown
What do we know about people who come to EDs?

- ADEs are responsible for 1 out of 9 (12%) of ED visits
- Most commonly due to adverse drug reactions (39%), non-adherence (28%), and wrong/suboptimal drug (12%)
- 68% were deemed to have been preventable
- Emergency physicians attribute ~37% of presentations deemed medication-related to a non-medication-related cause (1/3 are missed)
- Odds of being admitted was double (OR 2.18)

Zed PJ et al. CMAJ 2008;178(12):1563-9
Why are medication histories so bad in community patient records?

- Not primary care culture (at least not yet!)
- Lack of communication – multiple prescribers, emergency room reports, specialist consults
- Multiple pharmacies used
- Samples not recorded

Hmmm... all up to me again?

Anyone out there?

Is that an echo?

I'm so lonely...

Community Pharmacist

Emergency

Ambulatory clinic

Specialist

Specialist 2

Hospital

Family MD

Home care
One example of connecting silos

- MOHLTC + OMA working through MCPWG
  - Demonstration projects to Improve the Care of Medically Complex Patients for Ontario General and Family Practice Physicians

- Sunnybrook’s FHT, Emergency, Allied Health, CCAC, Patient Collaborative
  - Patients at high risk for emergency visits
  - Developing a *shared* care plan (includes MedRec)
  - Connecting community and hospital pharmacists
    - Data gathering
    - Development of a working model
    - Outcome measurement
How to keep the ball rolling?
Medication Management
Medication management is defined as patient-centred care to optimize safe, effective and appropriate drug therapy. Care is provided through collaboration with patients and their health care teams.

Clinical Medication Review
Addresses issues relating to the patient's use of medication in the context of their clinical condition in order to improve health outcomes.

Medication Reconciliation
A formal process in which healthcare providers work together with patients to ensure accurate and comprehensive medication information is communicated consistently across transitions of care.

Best Possible Medication History
A complete and accurate list of all the medications a patient is taking created using at least 2 sources of information including a client and/or family interview.
Connecting silos
Interprofessional teamwork

The Patient
Role of the patient

- We must ensure work completed in one practice setting is transferred to all practice settings a patient may visit.
- The patient is often relied upon to transfer information between practice settings.
- Keeper of information.
- How can we support our patient?
Recap…

• Medication reconciliation is an important part of medication safety
• There has been a lot of focus on achieving medication reconciliation related goals in hospital over the last 5-10 years
  – Shifted from just quantity to measuring quality
• There are a variety of strategies being employed
• We must ensure work completed in one practice setting is transferred to all practice settings a patient may visit
Useful links

• Safer Healthcare Now! (see interventions and national calls)
  – http://www.saferhealthcarenow.ca/EN/Pages/default.aspx

• CPSI Community of Practice

• ISMP
  – https://www.ismp-canada.org/medrec/

• Marquis
Useful links to use with patients

• Dr. Mike Evans
  – www.youtube/user/DocMikeEvans
  – ‘One simple solution for Medication Safety’

• Knowledge is the best medicine
  www.knowledgeisthebestmedicine.org
  – “My Med Rec” App
    • (for Android, Blackberry, iPhone)
    • developed with ISMP
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Questions?

Hand with Reflecting Sphere by M. C. Escher. Lithograph, 1935.