Medication Reconciliation in Transitions of Care

Jeff West, RN MPH

June 10th, 2015

Quality Improvement Organizations

Sharing Knowledge. Improving Health Care.

CENTERS FOR MEDICARE & MEDICAID SERVICES

Adverse Drug Events & Readmissions

For every 1,000 hospital admissions, medication reconciliation could prevent

14 adverse drug events and

4 30-day readmissions.




Qualis Health

- A leading national population health management organization
- The Medicare Quality Innovation Network - Quality Improvement Organization (QIN-QIO) for Idaho and Washington

The QIO Program

- One of the largest federal programs dedicated to improving health quality at the local level

Quality Improvement Organizations
Sharing Knowledge. Improving Health Care.
CENTERS FOR MEDICARE & MEDICAID SERVICES

QUALIS HEALTH

Objectives

1. Identify the key steps in medication reconciliation
2. Explore how MARQUIS applies to your population/setting
3. Make the business case for medication reconciliation

The Goal of Medication Reconciliation

Eliminate unintended discrepancies between accurate historical medication list and current medication list.

Medication Discrepancies*

- "History Errors"
  - Example: Team doesn't know patient taking ASA, not recorded, not ordered at admission or discharge
  - Sources inaccurate, out of date, unavailable
  - Lack of time to access available sources
- "Reconciliation Errors"
  - Example: ASA on preadmission medication list, held on admission, not restarted at discharge
  - Lack of access to preadmission medication list, clerical error
  - Problem more common at discharge

*Adopted from "Taking a BPMH" by Jeffrey L Schnipper MD, MPH, FHM

Prevalence and Significance of Unintended Medication Discrepancies

Studies suggest…

~50% of admissions at least 1 unintended discrepancy

~40% of those discrepancies potential adverse drug event

~40% discharges at least one unintended discrepancy

~3 unintended discrepancy per hospital transfer to nursing home

References:
Arch Intern Med. 2005;165:424-429
CMAJ 2005;173(5):510-5
Ann Intern Med. 2013 Mar 5;158(5 Pt 2):397-403
J Emerg Med 2015; 48(2):230-38
Ann Pharmacother. 2008 Oct;42(10):1373-9
Am J Geriatr Pharmacother. 2006 Sep;4(3):236-43.

Hospital-Nursing Home Dyad

Study suggests…

- While most med changes in hospital, most adverse drug events due to those changes occurred in nursing home
- Median time between med change and adverse drug event = 14 days
- 1 out of 5 nursing-home to hospital to nursing-home transfers had a adverse drug event related to med changes
- 1 out of 7 of those adverse drug events severe enough to result in readmission or extended hospital stay

Reference:

Arch Intern Med. 2004;164:545-550

MARQUIS IMPLEMENTATION MANUAL

A Guide for Medication Reconciliation Quality Improvement

Society of Hospital Medicine

Hospitalists, Transforming Healthcare, Revolutionizing Patient Care.

Prepared by MARQUIS Investigators

October 2014

Funded by AHRQ grant 5 R18 HS019598

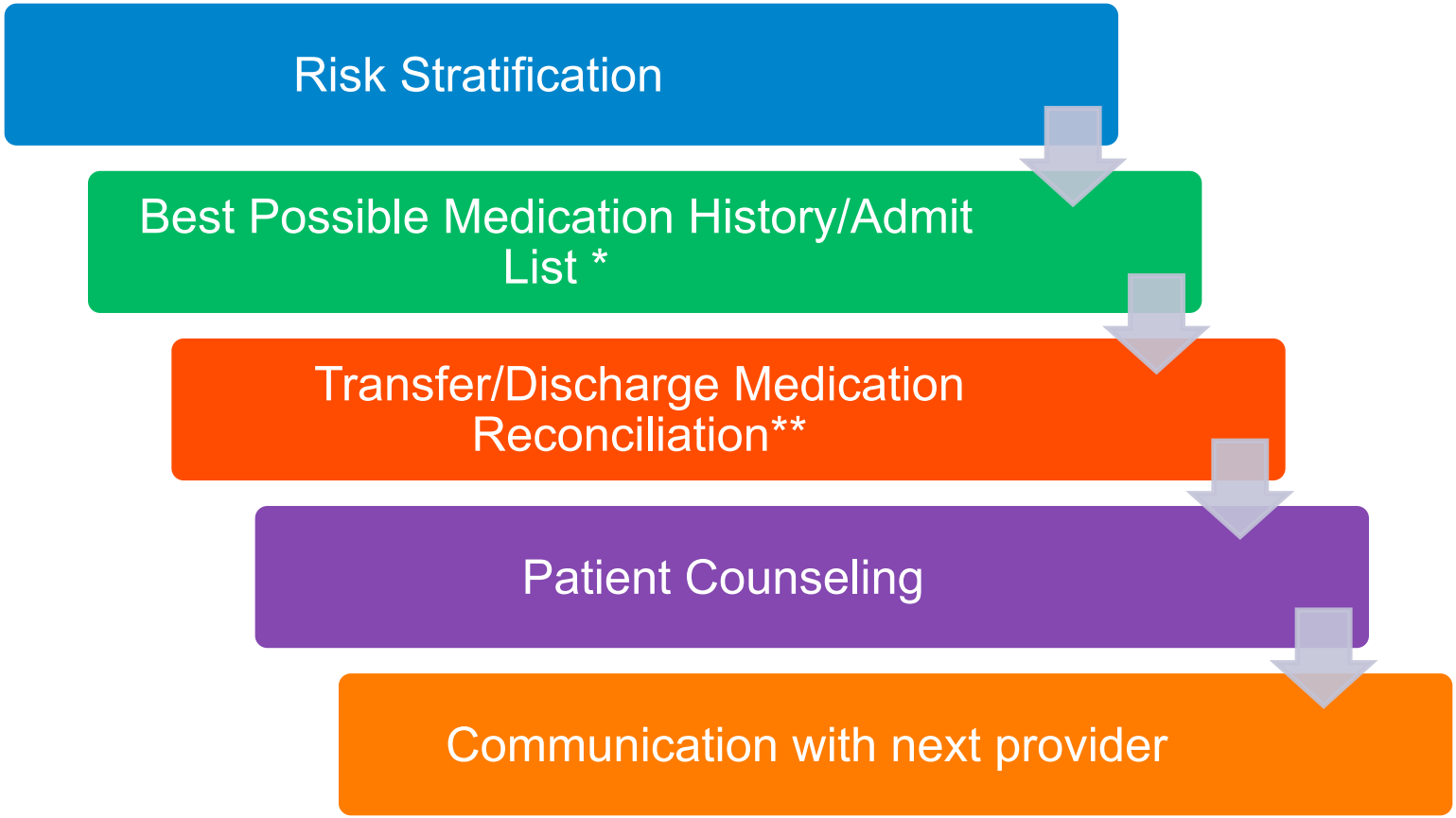
MARQUIS Medication Reconciliation Toolkit

http://www.hospitalmedicine.org/

Free download (but no distribution)

- Medication reconciliation processes
- Literature review
- Business case (ROI calculator)
- Links to training and support materials
- Guidance on change management & QI

Marquis Intervention Bundle



Society of Hospital Medicine, MARQUIS Manual. October 2014.

The MARQUIS Steps of Med-Rec

1. Best possible medication history
2. Draft preadmission medication list
3. Finalized preadmission medication list
4. Admission orders
5. Reconcile finalized preadmission medication list with admission orders

6. Transfer/DC medication list
7. Reconcile Transfer/DC med list with finalized preadmission medication list
8. Review reconciled Transfer/DC med list with patient and care givers
9. Transmit reconciled med list to next provider

Best Possible Medication History

- Single most important step for improving medication safety during transitions in care
- Often the most difficult step in the medication reconciliation process

Importance of Best Possible Medication History

Studies suggest…

- ~70% of all unintended discrepancies due to faulty medication history
- ~50% of unintended discrepancies at *discharge* due to unintended discrepancies at *admission*

References:
J Gen Intern Med. 2008 23(9):1414–22
Ann Pharmacother. 2012 Apr;46(4):484-94

Elements of Best Possible Medication History

- Name of medication
- Route
- Formulation
- Indication
- Adherence
- Hx of Allergies/Reactions/ADE
- Prescriber(s) contact info
- Dose
- Strength
- Schedule
- Start-stop dates
- Last dose
- Pharmacies

Skills Needed for Best Possible Medication History

Familiarity with…

- Medication names
- Medication orders (dose, formulation, route, frequency, indication)
- Sources of medication history in the medical record
- Outside sources of medication history (pharmacies, clinics, NHs, HHA, and hospitals)
- Common sources of errors in medication history
- Making sense of a patient/family collection of medications (way to identify pills)
- **Patient/family interviewing skills**

What is Needed to Obtain Best Possible Medication History

- Distraction-free time
- Appropriate training/skill set
- Access to medical records
- Phone and fax with contact info for outside healthcare providers
- Pill identification tool
- **Standard tool for documenting medication history**

A Moment for Critical Reflection

- Are these the right skills/resources for obtaining medication history in your population/setting?
- Who obtains medication history in your organization?
- Are the processes, tools, training, and performance expectations for obtaining medication history standardized/optimized in your organization?

What About the Patient?
Personal Medication Lists

Personal Medication Lists Options

- Free paper and mobile versions
  - AARP “My Personal Medication Record”
  - ASHP “My Medicine List”
  - MyMedSchedule.com
- FDA “My Medicine Record”
- Many mobile apps available, adherence aides
  - Highest-risk patients least likely to have smart phones
  - Excellent review of apps J Am Pharm Assoc. 2013;53(2):172-181 (Medscape)

The Next Four Steps After Best Possible Medication History

2. Draft Preadmission Medication List
3. Final Preadmission Medication List
4. Admission Orders: Stop - Start - Continue - Modify - Hold & Re-start
5. Reconcile admission orders with Final Preadmission Medication List

What Could Go Wrong?

- Unknown unknowns of medication history
  - Attempt to obtain at least two sources of medication history
  - Compare medications to dx/problem list
- Delay in clarification of orders
  - Develop channels of expedited communication with the most important sources of medication orders
  - Collaborate with key admission sources to create shared standards for medication history

Why Two Steps to Obtain Preadmission Medication List?

- Draft Preadmission Medication List
  - Pharmacy technician or other trained staff can do the time consuming initial data gathering (at lower cost)
- Final Preadmission Medication List:
  - RPh, NP, PA, or MD can assess the completeness of draft Preadmission Medication List, accept as is, or probe further to complete

A Moment for Critical Reflection

- Medication reconciliation is an inspection step in a system where defects are expected
- In Lean, this is known as “Muda” or waste…
- What systematic changes could help eliminate unintended medication discrepancies *upstream* of reconciliation?

Moment for Critical Reflection

In your organization, how distinct are the first five steps of medication reconciliation?

1. Best possible medication history
2. Draft preadmission medication list
3. Finalized preadmission medication list
4. Admission orders
5. Reconcile finalized preadmission medication list with admission orders

The Next Four (Plus) Steps

6. Transfer/discharge medication list
7. Reconcile Transfer/discharge med list with finalized preadmission medication list
8. Review (teach back) reconciled discharge med list with patient and care givers
9. Transmit reconciled med list to next provider (facility, organization, or primary care provider)
10. Post discharge follow-up?

What Could Go Wrong?

- Indication for preadmission meds unknown
- Reasons for changes in regimen undocumented/unclear
- Conflicting documentation (med-rec form vs. discharge note vs. discharge summary, etc.)
- Last minute changes in transfer/DC med list
- Barriers in communication with post-transfer/DC providers

Focusing Resources on High-Risk Patients

MARQUIS Risk Stratification

- High-intensity MARQUIS intervention based on risk of adverse drug event
- High-intensity intervention uses more pharmacists time in:
  - Obtaining Best Possible Medication History
  - Patient counseling
  - Communicating with post-transfer/discharge providers

Moment for Critical Reflection

- Does risk stratified med-rec make sense in your setting/organization?
- Is there a capacity to allocate scarce med-rec resources/skills on the basis of risk ?

MARQUIS Business Case

- Based in peer-reviewed literature, acute care
- Assumes use of risk stratification and increased use of pharmacist
- Return on investment of 2-3:1
- Model assumptions:
  - Adverse drug event costs $4,655
  - Readmission costs $9,600

Avoided Adverse Drug Events in MARQUIS Business Case

The number of adverse drug events avoided per 1,000 admissions:

A. Number of unintended medication discrepancies = 2,000
B. The % of unintended medication discrepancies that result in adverse drug events = 0.9%
C. The % of unintended medication discrepancies corrected by enhanced med history and reconciliation = 75%

$$A \times B \times C = 14$$

Avoided 30-day Readmits in MARQUIS Business Case

The number of readmissions avoided per 1,000 admissions

A. The number of patients high-risk for adverse drug events using MARQUIS criteria = 250
B. The % of 30-day readmission due to adverse drug events = 7%
C. The % of 30-day readmissions due to adverse drug events that can be prevented with MARQUIS discharge counseling = 22%

$$A \times B \times C = 4$$

Moment for Critical Reflection

What is the potential for return on investment for med-recon in non-acute settings?

- Consider the costs of the inputs…more pharmacist time or use of other trained and designated staff?
- Consider the costs of adverse drug events
- How could you demonstrate feasibility on a small scale before wide-spread implementation?

Beyond Return on Investment: The Case for Improved Med-Rec

- Increased patient safety
- Decreased liability
- Increased customer satisfaction
  - Patients
  - Referrals
- Increased staff satisfaction

Q & A

Take Home Points

- Medication reconciliation can prevent adverse drug events
- The MARQUIS Implementation Toolkit is a valuable guide to improving med-rec
- Obtaining a best possible medication history is the most important step in medication reconciliation
- The use of personal medication lists can greatly improve medication reconciliation
- Pharmacists have a key role in improving medication reconciliation

Action / Next Steps

- Download the MARQUIS Toolkit
- Assess the med-rec process for your population/ setting/organization
- Join or form a transitions of care coalition
  - Contact Qualis Health regarding a coalition in your area
  - Consider joining forces with your referral partners to improve medication reconciliation
- Promote the use of personal medication lists

Contact

Jeff West, RN MPH
Quality Improvement Consultant
jeffwe@qualishealth.org
206-288-2465

For more information:
www.Medicare.QualisHealth.org/ADE

This material was prepared by Qualis Health, the Medicare Quality Innovation Network - Quality Improvement Organization (QIN-QIO) for Idaho and Washington, under contract with the Centers for Medicare & Medicaid Services (CMS), an agency of the U.S. Department of Health and Human Services. The contents presented do not necessarily reflect CMS policy.
WA-C3-QH-1756-05-15