Medication Reconciliation and Medication Management Across Care Settings

New York State Care Transition Communities Recruitment Webex
January 9, 2014
Objectives

- Describe the Medication Reconciliation and Medication Management Program
- Provide overview of Curriculum, Goals, Measures, Interventions, and Outcomes
- Establish the Timeline
- Gain Cross-setting Community Commitment
- Next Steps, Q & A
Why Medication Reconciliation?

Why focus on Cross-Setting Management of High Risk Medications?

…and Why Now?
Avoiding Readmissions:
Preventing Adverse Events (AE) After Hospital Discharge

Study of 400 consecutive hospitalized general medicine patients discharged home

- 19% had an AE within 3 weeks of discharge
- 66% of AEs were adverse drug events (ADE)
- Most ADEs were preventable or ameliorable

System modifications recommended by study authors:

- Evaluate patients prior to discharge to identify unresolved problems
- Educate patients about drug therapies, side effects, and what to do if new or worsening signs/symptoms
- Improve monitoring of therapies
- Improve monitoring of patients’ overall condition

Medication Discrepancies

- Unintended or unexplained differences among documented medication lists across different sites of care. Examples are:
  - Omissions
  - Duplications
  - Dose/frequency/route of administration errors
  - Drug name discrepant/incorrect

- > 50% of patients have at least 1 discrepancy on admission (Cornish, 2005)

- Up to 67% of admission medication histories contain errors (Tam, 2005)
Medication Discrepancies & Adverse Drug Events (ADEs)

- ADE: an injury resulting from medical intervention related to a drug
- Medication discrepancies are an important contributor to ADEs among hospitalized patients
- 3-28% of admissions are due to ADEs (Classen, 1997)
- ADE’s are costly (Classen, 1997; Bates, 1997)
- LOS ↑ by 4.6 days => $4,700
- Preventable ADE’s in a 700 bed teaching hospital cost about 2.8 million/year
- Admission to ICU increases the risk of unintentional discontinuance of medications for chronic diseases

Classen DC et al., Adverse drug events in hospitalized patients. JAMA 1997; 277:301-06.
Medication Discrepancies & Adverse Drug Events (ADEs)

- Estimated 70% of patients experience an actual or potential unintended discrepancy at hospital discharge, which can then precipitate an ADE
- Preventable ADEs identified within hospitals, nursing homes, and ambulatory care range between 27% and 50%
- ADEs and issues with medication reconciliation across care settings are major drivers for hospital readmission

Bates et al., 1995; Classen et al., 1997; Gandhi, 2003; Gurwitz et al., 2003, 2005; Zhang et al., 2009
Impact of Medication Reconciliation on Health Systems

- Medication reconciliation at admission resulted in 43% reduction in actual ADEs caused by errors in admission orders (Boockvar, 2011)

- Medication reconciliation, as part of a package of interventions, decreased the rate of medication errors by 70% and reduced adverse drug events by over 15% (Whittington, 2004)

- Medication reconciliation reduced discharge medication errors from 90% to 47% on a surgical unit and from 57% to 33% on a medical unit of a large academic medical center (Murphy, et al., 2009)
Anticoagulants, Opioids, Hypoglycemics:

- Communication failures
- Suboptimal management systems
- Inadequate access to medication lists and lab results
What is IPRO’s Medication Reconciliation and Management of High Risk Drugs Across Care Settings Project?
PATIENT-CENTRIC CROSS-SETTING MEDICATION MANAGEMENT

Cross-setting Evidence-based Medication Management of High Risk Drugs

High Quality Cross-Setting Medication Reconciliation Processes

Existing Care Coordination
Quality Improvement Initiatives

Reduce Patient Harm and Readmissions
Medication Reconciliation and Management of High Risk Drugs Across Care Settings

**Improve Medication Reconciliation**
- Examine and improve current care practices
- Improve the quality of the initial home medication list

**Improve Medication Management of High Risk Drugs**
- Adoption and implementation of evidence-based guidelines within and across care settings
- Adopt improvement coordination between providers

- **Anticoagulants** (atrial fibrillation, orthopedic, perioperative, VTE, stroke)
- **Hypoglycemics** (insulin, oral agents)
- **Opioids** (effective use of pain control modalities)
- **Antibiotics** (right drug, with start, stop, and duration clear)

**Med Related Patient Safety Goals:**
- Improve care coordination:
  - Cross setting communication
- Improve care management:
  - Quality improvement
- Reduce readmissions caused by ADEs

Primary Focus

Focus ad hoc per facility request
Organization/Provider Commitments

- Identify an internal team to share project responsibility for your organization;
- Conduct a root-cause analysis of current, internal medication reconciliation and medication management practices across settings for high-risk drugs;
- Develop a quality improvement plan to address potential gaps;
- Collaborate with other providers in the community to improve the quality of the medication information shared with hospitals and post-acute care providers; bring at least one community partner into the project;
- Attend and actively participate in two half-day live learning sessions that will be held in your community and IPRO coaching support calls (one hour/twice a month);
- Self-monitor project progress through the collection of performance improvement data; and
- At the conclusion of the project, commit to sustain an enhanced medication reconciliation and cross setting medication management system with your community partners.
IPRO Commitments

- Provide ongoing one-on-one technical assistance and coaching to assist participants in the requirements listed to achieve the maximum benefit of the collaborative
- Arrange, schedule and facilitate the learning sessions and coaching calls
- Analyze data and assist with Root-Cause Analysis
- Share guidance, evidence-based practices, tools and resources to support efforts
Organization/Provider Commitment (MOA) and Team Roster Completion Date

January 24, 2014

MEMORANDUM OF AGREEMENT (MOA)
PROMISE IMPROVEMENT IN MEDICATION RECONCILIATION AND MANAGEMENT ACROSS CARE SETTINGS

This memorandum confirms the intent of <Insert Provider Name> to participate in the IPRO Improvement in Medication Reconciliation and Management Project from January 9, 2014 through June 30, 2014.

<Insert Provider Name> will:

- Identify an internal team to share project responsibility for your organization
- Conduct a root-cause analysis of current, internal medication reconciliation and medication management practices across settings for high-risk drugs
- Develop a quality improvement plan to address potential gaps
- Recruit at least one community provider (hospital, home health, nursing home) to collaborate with in the community to improve the quality of cross-setting medication information shared upon the transition of patients/residents from one setting to another
- Attend and actively participate in two half-day live learning sessions that will be held in your community and IPRO coaching support calls (one hour/twice a month)
- Self-monitor project progress through the collection of performance improvement data; and
- At the conclusion of the project, commit to sustain an enhanced medication reconciliation and cross-setting medication management system with your community partners

IPRO will:

- Provide ongoing one-on-one technical assistance and coaching to assist participants in the requirements listed above to achieve the maximum benefit of the collaborative
- Arrange, schedule and facilitate the learning sessions and coaching calls
- Share guidance, evidence-based practices, tools and resources to support efforts

<Insert Provider Name> agrees to actively participate with IPRO in the Improvement in Medication Reconciliation and Management Project, per the requirements of participation as described above.

<Insert Provider Representative> Signature
Date

Provider Name for Project (Please Print)  Contact Phone Number

Contact Email Address

Please complete by 01/24/14 and return by fax to attention of Sara Butterfield at 518-426-3418 or by email at sbutterfield@ipro.org. Thank you!
## IPRO Care Transitions Project
Improving Medication Reconciliation and Management Across Care Settings

### Collaborative Launch Webinar
Jan. 9, 2014

- Identify Internal Team
- Complete MOA
- Identify current auditing processes
- Gather current policies and procedures

### Pre-work Webinar Session
February 6, 2014, 3-4pm

### Pre-Work Coaching Call
February 20, 2014, 3-4pm

### Complete Pre-Work – Collect Baseline data

### Live Community Meeting #1
Week March 10 – Date/time to be determined

### Coaching Call One
Week March 24 - Date/time to be determined

### Coaching Call Two
Week April 14 - Date/time to be determined

### Live Community Meeting #2
Week May 7 – Date/time TBD

### Final Web Conference
June 12, 2014, 3-4pm

### IPRO Med-Rec Project Timeline

1. **January**
   - Collaborative Launch Webinar
2. **February**
   - Pre-work Webinar Session
   - Pre-Work Coaching Call
3. **March**
   - Complete Pre-Work – Collect Baseline data
   - Live Community Meeting #1
4. **April**
   - Coaching Call One
   - Coaching Call Two
5. **May**
   - Live Community Meeting #2
6. **June**
   - Final Web Conference
What are the *Measurement Strategies* for both Medication Reconciliation and Cross-setting Management of High Risk Drugs?
Measurement Strategy

- **Between now and Feb 6th Pre-work Webinar:**
  - Identify Internal Team & Complete MOA – due 1/24/14
  - Identify *current auditing processes and/or ongoing quality initiatives* impacting medication reconciliation and medication management
  - Gather *current policies and procedures* for medication reconciliation and medication management
    - Med management P&P focus is anticoagulation
    - Opioid and hypoglycemic focus is ad hoc per facility request - interested facilities should also gather P&Ps that address these drugs
Measurement Strategy

Between Feb 6 – Feb 20: Measure Baseline Practice

Collection of baseline data on facilities *current med rec process*:

- Retrospective review of 5 – 10 medical records
  - Using modified MATCH Audit Tool
  - Patients discharged within the last 30 days (or greater if needed to achieve at least 5 records)
  - On anticoagulants (and/or opioids, hypoglycemics, antibiotics if facility focus)
- Use of existing audit tools are acceptable

Collection of baseline *medication discrepancy data across care settings*:

- Post-acute care: at point of long-term care/home healthcare admission (or re-admission); at point of return to primary care using Coleman’s Medication Discrepancy Tool of same records as above
## Identifying Anticoagulants

<table>
<thead>
<tr>
<th>Oral Anticoagulants</th>
<th>Parenteral Anticoagulants</th>
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<tr>
<td>Coumadin® (warfarin)</td>
<td>Heparin</td>
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<td>Pradaxa® (dabigatran)</td>
<td>Fragmin® (Dalteparin)</td>
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<td>Xarelto® (rivaroxaban)</td>
<td>Innohep® (Tinzaparin)</td>
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<td>Eliquis® (apixaban)</td>
<td>Lovenox® (Enoxaprin)</td>
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<tr>
<td>Lixiana® (edoxaban)</td>
<td>Arixtra® (Fondaparinux)</td>
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Modified MATCH Audit Tool

Medication Reconciliation Audit Form

Unit: ___________________ Manager: ___________________ Date: ___________________

Data Collector’s Name: _______________________________________________________

Introduction:
- The data is to be collected and reported on a _______ basis
- During each _______, a total of _______ charts should be selected for record review
- Findings are to be tracked through your own quality process.
- Provide copies of the completed audit form to _________________________

Instructions:
Medication reconciliation is the process of comparing medications the patient has been taking prior to admission/entry to the hospital to the medications the organization is about to provide to identify any unintended discrepancies. If a patient will be provided/given any medications while under our care or prescribed any new drugs to take after their stay, medication reconciliation is required.

1. Confirm a medication list was collected from the patient upon arrival to (list must include medication name, dose, route, and frequency).
2. The list must then be available in the patient’s chart for the caregiver to review prior to initiating care.
3. Identify that the complete and updated list of medications was then provided to the patient at discharge and discussed within the context of discharge instructions (“resume home meds” is not acceptable).

<table>
<thead>
<tr>
<th>Medication Reconciliation</th>
<th>Pt. 1</th>
<th>Pt. 2</th>
<th>Pt. 3</th>
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<th>Pt. 5</th>
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<tr>
<td>List of home medications was collected from the patient at the time of arrival, and medication name, dose, route, frequency were documented in the appropriate location of the medical record</td>
<td>Y/N</td>
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<td>List of home medications collected was available for the caregivers to review prior initiating care</td>
<td>Y/N</td>
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<td>Updated medication list was provided to the patient at discharge and discussed in the context of discharge instructions</td>
<td>Y/N</td>
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http://www.ahrq.gov/qual/match/
Measuring the Med Rec Process - Modified Medication Discrepancy Tool

- Product of the Care Transitions Program® Developed by Eric Coleman
- Used in the New York Care Transition Project since 2008
- Measures discrepancies across care settings
- Guides root cause analysis

Facility Name: 

<table>
<thead>
<tr>
<th>Medication</th>
<th>Cause &amp; Contributing Factors (list all that apply from the list below)</th>
<th>Resolution</th>
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Causes and Contributing Factors:

a. Ordered medication conflicts with patient’s listed allergies
b. Discharge summary does not match MAR, Bass, etc.
c. Duplication (multiple drugs ordered with the same action without any rationale)
d. Dose/Frequency discrepant
e. Drug name discrepancy/incorrect
f. Medications omitted
g. Other

Other Questions:
Name of the facility where patient was discharged from: __________________________ Date: _______

Was there a delay in starting the appropriate medications for the patient? Y N
If yes, how long? _______

Patient name: __________________________ MTH: __________
Measurement Strategy: Hospital Re-admissions due to High Risk Drug ADEs

All patients possessing the following elements at time of hospital discharge:

- ≥ 3 medications ordered in total, and;
- Anticoagulant [Primary focus]
- Opioid
- Hypoglycemic [Ad hoc focus per facility request]

How? EHR query
- Patient identifier - SSN and MRN
- Drugs - can be identified using NDC Drug Class tables provided by IPRO
- Raw data files transferred to IPRO via secure data transfer protocol

All patients identified in Denominator with Emergency Department Visit or Hospital Re-admission within 30 days
How? IPRO analysis of Medicare Part A data

Determination of presence of ADE by Root Cause Analysis
How? CDC abstraction tool validated for anticoagulants, opioids, and hypoglycemic ADEs. Preventable ADEs targeted for coalition-wide evidence based intervention(s).
High Risk Medication Management: Measurement Summary

Outcome Measure:

- Baseline: re-admissions due to high risk drug ADEs
- Method: EHR query – any timeframe from 2013 – 6 months or more is best
- Re-measure: EHR query at least quarterly

Process Measures:

- Determined by method(s) of intervention(s) and community needs; at least quarterly
Measuring ADEs for High Risk Drugs

Evaluation and Overview of the National Electronic Injury Surveillance System-Cooperative Adverse Drug Event Surveillance Project (NEISS-CADES)

Michael A. Jhung, MD, MPH,* Daniel S. Budnitz, MD, MPH,* Aaron B. Mendelson, PhD,† Kelly N. Weidenbach, MPH,* Theresa D. Nelson, MS;‡ and Daniel A. Pollock, MD**

Background: Adverse drug events (ADEs) are an important cause of patient injury. Although most medications are prescribed and used in the outpatient setting, prevention efforts focus on the inpatient setting, partly because of limited data on outpatient events. We describe and evaluate a new system for surveillance of outpatient ADEs treated in hospital emergency departments (EDs).

Methods: We used guidelines for evaluating public health surveillance systems, developed by the Centers for Disease Control and Prevention, to assess the performance of the National Electronic Injury Surveillance System-Cooperative Adverse Drug Event Surveillance project (NEISS-CADES) from January 1, 2004 through December 31, 2004.

Results: NEISS-CADES is a nationally representative surveillance system that identifies ADEs using ED clinical records. Of 10,353 reports in 2004, 100% listed patient age, sex, and disposition; 98% listed the implicated drugs. A hospital-based evaluation of data quality, completeness, and other system attributes showed that NEISS-CADES data accurately reflected clinical records with respect to patient age and sex (100%), primary diagnoses (93%), implicated drugs (93%), primary treatments (89%), and diagnostic testing (61%). Sensitivity of case identification was estimated to be at least 0.33; estimated positive predictive value was 0.92. Data collection does not require additional work by clinical staff and has been well accepted by participating institutions.

Conclusions: NEISS-CADES provides detailed and timely information on outpatient ADEs treated in EDs and identifies specific drugs and circumstances associated with these injuries. Findings from NEISS-CADES can help design and prioritize patient safety interventions for outpatient ADEs.

Key Words: adverse drug reaction reporting systems, surveillance, drug safety

Original Article

A adverse drug event (ADE) occurs when a drug intended for therapeutic use has an unintended and injurious effect. In 1999, the Institute of Medicine (IOM) report, To Err Is Human, identified ADEs as a frequent cause of adverse events that contribute to patient morbidity and death. In 2000, the US General Accounting Office (now the Government Accountability Office) found national ADE surveillance, particularly surveillance for outpatient ADEs, to be insufficient. Despite limited surveillance data, efforts to improve drug safety and prevent ADEs continue, focusing primarily on the safety of hospitalized patients and the detection of previously unrecognized adverse effects. Although detecting new drug-related problems is important, the greater public health burden may be from “older drugs, poorly used,” particularly among patients in community settings.

In 1971, the Consumer Product Safety Commission (CPSC) inaugurated the National Electronic Injury Surveillance System (NEISS) to identify and monitor injuries from consumer products for which patients sought emergency department (ED) care. In collaboration with the Centers for Disease Control and Prevention’s (CDC) National Center for Injury Prevention and Control, NEISS was expanded in 2000 to collect nationally representative data on all external causes of nonfatal injuries and poisonings, including the adverse effects of drugs that required treatment in EDs. To respond to gaps in national outpatient ADE surveillance, a pilot NEISS project began in 2002 to evaluate the feasibility of collecting detailed information on ADEs. Findings from that study prompted the CDC, CPSC, and the Food and Drug Administration (FDA) to initiate the NEISS-Cooperative Adverse Drug Event Surveillance project (NEISS-CADES) in 2003. NEISS-CADES is used by all 3 agencies to monitor and characterize the public health burden of outpatient ADEs treated in EDs. We present the comprehensive evaluation of NEISS-CADES as a public health surveillance system.
Introduction to the Medication Reconciliation Toolkits
MATCH Toolkit

Promotes a “One Source of Truth” concept that decreases medication errors by multidisciplinary contribution to a single medication list

Strong emphasis on staff development, and the promotion of critical thinking skills, to ensure that medications are prescribed and delivered consistent with a patient’s condition

http://www.ahrq.gov/qual/match/
MARQUIS Toolkit

• Promotes physician-driven medication reconciliation process
• Focuses on the collection of the “Best Possible Medication History”
• Will provide certification in the future
• ROI Calculator

IHI STAAR Initiative

The Institute for Healthcare Improvement (IHI) STate Action on Avoidable Rehospitalizations (STAAR) initiative evidence based practices (hospital to SNF, hospital to home health, and hospital to clinical office practice)
Partner with your clinics and physician offices to promote the collection of a complete and up to date list of medications:

Toolkit contains over 20 tools, sample forms and posters, and a quick start guide.

Path to Improvement (6 steps to take to implement the toolkit).

Introduction to Care Transitions and High Risk Drug Intervention Evidence Base
Annotated Bibliography: Medication Reconciliation, Transitions of Care and High Risk Medications

General Medication Reconciliation Elements in Care Transitions: Articles are provided that detail common medication discrepancy issues found during the transfer of patients between healthcare settings and home, medications and situations that are high risk or prone to error, and the best practices to address these issues.

American Medical Directors Association Transitions of Care in the Long-Term Care Continuum Clinical Practice Guideline. Columbia, MD: AMDA [Internet], 2010 [cited 2013 Dec 3]
A clinical practice guideline provided by the American Medical Directors Association (AMDA) to improve the quality of care delivered to patients in long-term care settings. AMDA guidelines emphasize key care processes and are organized for ready incorporation into facility-specific policies and procedures to guide staff and practitioner practices and performance. They are meant to be used in a manner appropriate to the population and practice of a particular facility. Guideline implementation will be affected by resources available in the facility, including staffing, and will require the involvement of all those in the facility who have a role in patient care.

A cohort study of residents 60 years and older with continuous use of warfarin, statins, or beta-blocker ophthalmic drops for 1 or more years. Those who had an overnight hospitalization for selected elective surgical procedures were compared with 2 control groups: one that had an ambulatory procedure and one that had no procedures. All groups were assessed for the outcome of failure to renew the prescription within 6 months. It was found that patients prescribed long-term therapy with warfarin were at risk for potentially unintended medication discontinuation after elective procedures. Patients prescribed statins or beta-blocker ophthalmic drops were not at increased risk.
Next Steps

February 6, 2014, 3-4pm – Pre-work WebEx session

- Objectives:
  - Medication Reconciliation Overview
  - Developing the Project Scope
    - Identifying team members,
    - Conducting a high-level process map,
    - Development of a project plan
  - Development of a measurement plan (including how to obtain a baseline)
  - Explore potential interventions and process measures for quality improvement in management of anticoagulants and the other high risk drug categories
✓ Questions?
✓ Comments?
✓ Discussion - what is your community doing now with regard to med rec & med management quality improvement?
Toolkits and Resources

IPRO Care Transitions Resources: http://qio.ipro.org/care-transitions/overview


The Institute for Healthcare Improvement (IHI) STate Action on Avoidable Rehospitalizations (STAAR) initiative evidence based practices (hospital to SNF, hospital to home health, and hospital to clinical office practice). http://www.ihi.org/knowledge/pages/ViewAll.aspx?FilterField1=IHI_x0020_Content_x0020_Type&FilterValue1=038f90e0-a18e-4460-a5ea-d29ae9817b3b&Filter1ChainingOperator=And&TargetWebPath=/knowledge

Health Literacy Universal Precautions Toolkit


Society of Hospital Medicine MARQUIS Toolkit

http://www.hospitalmedicine.org/Content/NavigationMenu/QualityImprovement/QIResourceRoom2/MARQUIS/Medication_Reconciliation.htm
For More Information

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IPRO Care Transitions Web Site:  
http://qio.ipro.org/care-transitions/overview

IPRO Drug Safety Web Site:  
http://qio.ipro.org/drug-safety/overview

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