Are you making a difference?
Measuring Performance in Medication Reconciliation

Helen Stark, Senior Project Officer, Australian Commission on Safety and Quality in Health Care
Objectives

✓ Why measure success/progress in medication reconciliation?
✓ What measures and tools are available?
✓ How can the Commission assist with this?
Medication Reconciliation is a BIG CHANGE

✓ After initial implementation, auditing is critical to assess adoption and uptake
✓ Staff involved need feedback on performance
✓ Can be done in many different ways
  – Audits can be conducted electronically or manually
  – Prospectively or retrospectively
  – Quantity versus quality audits – both are important
✓ All points of transition are important
✓ Auditing is usually labour intensive, requires a phased, strategic approach
Available Performance Measures and Tools

- Number of measures and measurement tools available
  - Canada, USA and UK
  - Limited number of Australian measures

Medrec
matching medicines at transitions of care
Safer Healthcare NOW! campaign

- Med Rec initiative commenced in 2005 in acute care facilities, at admission
- Campaign now focused on discharge
- Expanded to include med rec programs also in long-term care and home care
- 2010: close to 500 teams but much smaller numbers reporting data
- Lead country for WHO High 5s medication reconciliation initiative
Measures for acute teams

- Mean number of undocumented intentional discrepancies
- Mean number of unintentional discrepancies
- Medication reconciliation success index
- % patients with BPMDP at discharge
- % patients reconciled on admission (Accreditation Canada measure)
A Medication Reconciliation Allegory
(or metaphor!)

By Mark Kearney, Pharmacist, Queensway Carleton Hospital
Imagine

You come into the hospital wearing size 32 grey pants, a red shirt, blue shoes, and a black belt....
You leave the hospital

...wearing a red dress

A blue shirt ...

No belt

... and a size 32 grey thong!
What happened?

- **Unintentional Discrepancy**
  - Ordered a grey thong instead of grey pants
  - Forgot to reorder your belt

- **Undocumented Intentional Discrepancy**
  - Blue a better colour for you so substituted in place of red shirt but nobody was told

- **Intentional Discrepancy**
  - Everyone told you that you had the legs for a dress so we replaced your pants
Measures for acute teams

- Mean number of undocumented intentional discrepancies
- Mean number of unintentional discrepancies
- Medication reconciliation success index
- % patients with BPMDP at discharge
- % patients reconciled on admission (Accreditation Canada measure)
Automated Excel tool

GENERAL TOUR OF THE EXCEL MEASUREMENT WORKSHEET

<table>
<thead>
<tr>
<th>1.0 Mean Number of Undocumented Intentional Discrepancies - Measurement Worksheet</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prevention of Adverse Drug Events Through Medication Recconciliation</strong></td>
</tr>
<tr>
<td><strong>Intervention</strong></td>
</tr>
<tr>
<td><strong>Definition</strong></td>
</tr>
<tr>
<td><strong>Goal</strong></td>
</tr>
</tbody>
</table>

**Data Collection Details**

<table>
<thead>
<tr>
<th>Hospital Name</th>
<th>Team #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Region</td>
<td>Point of Transfer</td>
</tr>
<tr>
<td>Patient Sample</td>
<td>Describe the source of the patient sample e.g. Patients admitted through ED &gt; 70 yrs, Patients admitted through ED with pre-admit meds etc.</td>
</tr>
</tbody>
</table>

**Calculation of Denominator**

| Implementation Stage |
| Collection Method |
| 1.1 What is the total number of patients in this month’s patient sample? |

**Calculation of Numerator**

| 1.2 Add the total number of Type 2 – BPMH Discrepancies recorded for the patients in #1.1 from the Individal BPMH Record and Audit Tools. An individual BPMH Record and Audit Tool should be completed for each patient |

**Final Calculation**

| 2.1 Divide #1.2 by #1.1 |

**Goal**

*The goal for this measure is to decrease the rate of undocumented intentional discrepancies by 75% in one year. Using your baseline rate, calculate the target rate of undocumented intentional discrepancies as your goal rate in each of the monthly cells in row 23 above.*

**Comments**

3 Worksheet tabs

www.saferhealthcarenow.ca
INTERVENTION - MEDICATION RECONCILIATION MEASURE: 2.0 Mean Number of UNINTENTIONAL Discrepancies

The "whiskers" depict the 95th% CI of the National Mean. Your mean is statistically higher if it is above the "whiskers"; it is the same as the National Mean if it is within the "whiskers"; and it is statistically lower if it is below the "whiskers".
INTERVENTION - MEDICATION RECONCILIATION MEASURE: 2.0 Mean Number of UNINTENTIONAL Discrepancies
A word about the High 5s Med Rec Project

5 year project, international effort

✓ **Phase 1:** Formal measurement activity focused on admission medication reconciliation for patients 65 years and over admitted through ED to an inpatient ward

✓ Subsequent phases will extend scope

✓ Significant commitment
High 5s Objectives

✓ Test feasibility of implementing a standardised med rec protocol within a group of countries
✓ Demonstrate effectiveness of standardisation in reducing the risk of adverse drug events in participating hospitals across countries
Measurement for High 5s

✓ Hospitals required to implement SOP as written and measure performance in implementing the SOP and in achieving success in reducing or eliminating ADEs
✓ Multi-facetted measurement approach – qualitative and quantitative components
✓ Similar measures to Safer Healthcare NOW! initiative but with tighter indicator definitions and formalised data quality management approach
Institute for Healthcare Improvement (IHI)

✓ *5 Million lives Campaign* - national collaborative from Dec 2006 to Dec 2008
✓ Built on *100,000 Lives Campaign*, a national, IHI-led initiative that ran from Dec 2004 to June 2006

Three measures
✓ Percent of unreconciled medications per 100 admissions (check)
✓ Unreconciled medications per 100 admissions
✓ ADEs per 100 admissions (trigger tool)
Other IHI measures

Outcome Measures
✓ Errors from Unreconciled Medications per 100 Admissions
✓ ADEs per 1,000 Doses
✓ % Admissions with an ADE
✓ High-Risk ADEs per 1,000 Doses

Process Measures
✓ Percent of Unreconciled Medications
✓ Number of Self-Reported Medication Errors
✓ Pharmacy Interventions per 100 Admissions
✓ Risk Priority Number (from Failure Modes and Effects Analysis)
The Improvement Tracker allows you to track any of the measures currently available in the Topics area of IHI.org. Just select the measure you want to track (or create your own custom measure), set your aim, and enter your data. The Improvement Tracker automatically graphs your data, it lets you create reports, and even customize them for various audiences — your team, your CEO, your community.

Improvement Tracker allows you to track predefined standard measures in several topic areas, with more being added periodically. Additionally, you can create your own custom measures to track any data you want!

- View all Improvement Trackers that others have set up
- Manage my Improvement Trackers
- Create a new Improvement Tracker

See some great results this team is achieving.
**Aim:** To know what our unit medication error rate is and to minimize it as much as possible.

**Adverse Drug Events (ADEs) per 1,000 Doses**

Change: A deliberate alteration introduced into the process in order to achieve the goal.
MATCH Medication Reconciliation Toolkit

Some suggested measures

Authors of the MATCH study

Results of the Medications At Transitions and Clinical Handoffs (MATCH) Study: An Analysis of Medication Reconciliation Errors and Risk Factors at Hospital Admission
And there’s more
Organisational data collection tool for clinical audit

Complete one form for each clinical area within the healthcare organisation. For definitions of the standards, please refer to the NICE guidance.

| Organisation: |          |          |          |
| Service/unit: |          |          |          |
| Date of data collection: |          |          |          |

<table>
<thead>
<tr>
<th>No.</th>
<th>Data item</th>
<th>Yes</th>
<th>No</th>
<th>NA/Exceptions</th>
<th>NICE guidance ref.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient safety</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
| 1   | The following are available in each clinical area:  
- a trust-wide policy for medicines reconciliation on admission of adults  
- a local policy for medicines reconciliation on admission of adults | ☐   | ☐   | ☐   | 1.1 |

(Data source: Clinical area policy file)

| 2   | The policy includes the following: | ☐   | ☐   | ☐   | |

2.1 Standardised systems for:  
- collecting  
- documenting  
- verifying information about current medication  
| 2.2 A statement that pharmacists should be involved in medicines reconciliation as soon as possible after admission. | ☐   | ☐   | ☐   | 12 |

Audit tool

Technical patient safety solutions for medicines reconciliation on admission of adults to hospital

Medrec

 AUSTRALIAN COMMISSION ON SAFETY AND QUALITY IN HEALTHCARE

matching medicines at transitions of care
Safer systems Saving lives Initiative

✓ 2006 national collaborative project
✓ Based on IHI 100,000 Lives Campaign
✓ 6 bundles of care
  ▪ Preventing ventilator-associated complications
  ▪ Preventing surgical site infection
  ▪ Preventing central venous catheter related bloodstream infections
  ▪ Implementing a rapid response system
  ▪ Preventing adverse drug events (med rec)
  ▪ Improving care for acute myocardial infarction

AUSTRALIAN COMMISSION ON SAFETY AND QUALITY IN HEALTHCARE

Medrec
matching medicines at transitions of care


Percentage of patients with all steps of the med rec process documented

✓ 20 records per month

✓ Hospital sites submitted data using an eform
• Control chart
Other Australian initiatives

Queensland

✓ Pre and post audit of MAP usage in 2008
✓ Statistically significant improvement in completeness of medication histories through use of MAP, ↑ in number of medicines reconciled at admission
✓ Plans to include med rec in state-based KPIs
✓ Some voluntary KPIs collected
Other Australian initiatives?

Western Australia

✓ SQuiRE program – funding for med rec
✓ Few sites have implemented widely
✓ Slowly working towards some outcome measures
Other Australian initiatives

South Australia
Indicators for Quality Use of Medicines in Australian Hospitals

- NSWTAG/CEC indicators published in August 2007
- 30 indicators in six domains of care with limited number relevant to medication reconciliation
- Tested nationally for validity, measurability, usefulness, and comparability
- ACSQHC is currently working with NSW TAG to revise and update the indicator manual
- Available: www.nswtag.org.au
QUM Indicators relevant to med rec

✓ 3.1 Percentage of patients whose current medications are documented and reconciled at admission

✓ 5.3 Percentage of discharge summaries that include medication therapy changes and explanations for changes

✓ 5.5 Percentage of patients with a new adverse drug reaction (ADR) that are given written ADR information at discharge and a copy is communicated to the primary care clinician
Commission’s Role

✓ Are there benefits in having a national focus for medication reconciliation efforts?
✓ Opportunity for medication reconciliation indicators to be reviewed and new ones added to the QUM manual
✓ Data collection tools
✓ If High 5s style measures then recognise resources and training required
• Electronic audits are an easy and efficient way to show adherence to the medication reconciliation process
• Manual audits are time consuming but help identify the quality of the medication reconciliation process and the potential impact on patient safety
• Prospective audits are ideal for medication reconciliation since interventions can be made if medication reconciliation was not done appropriately