OTHER TOOLS FOR IMPROVING MEDICATION SAFETY:
Medication Safety Self Assessment & Indicators for Quality Use of Medicines in Australian Hospitals

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Indicators for safety and quality in hospitals that build on the QUM agenda

National Medicines Symposium 2008

Dr Jocelyn Lowinger, Ms Karen Kaye
NSW Therapeutic Advisory Group
What is QUM?

1. Judicious selection of management options (including choice between drug, non-drug and no treatment)

2. Appropriate choice of medicine if medicine is required

3. Safe and effective use of medicines to get the best possible results
The QUM agenda
The National Strategy for Quality Use of Medicines

Building Block 6: Strategic research, evaluation and routine data collection
QUM Evaluation Strategy

- Indicators for monitoring national drug policies (WHO 1994)
- Indicators for drug and therapeutics committees (NSW TAG 1998)
- Indicators of Quality Prescribing in Australian General Practice (NPS 2005)
- Others…
What do we know about QUM in hospital practice???
We have part of the QUM picture…

“We do not know whether a decade of quality and safety activity has produced improvements; there are insufficient data at state or national level, in the public or private sector, or for in-hospital or out-of-hospital care” [MJA 2007;187:485-489]

…can we be more systematic???
A conceptual framework

Overall health status and health outcomes

Determinants of health*
- Environmental factors
- Socioeconomic factors
- Community capacity
- Health behaviours
- Person-related factors

*These factors contribute to health outcomes but may not be under the control of hospital practitioners

Health system performance**
- Outcomes of health care delivery
- Processes of health care delivery
- Structures underpinning health care delivery

**Hospital practitioners contribute to health system performance and QUM in hospitals is only one component of health system performance

QUM measures yet to be developed
- Indicators for QUM in Australian Hospitals
- MSSA for Australian Hospitals

Adapted from the National Health Performance Framework
So just what are indicators?

... measures of **structure, process** and **outcomes** of health care that can be used to guide and monitor the quality and appropriateness of healthcare delivery with the aim of **health care improvement**¹

Health system performance**

- **Outcomes** of health care delivery
- **Processes** of health care delivery
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Adapted from the National Health Performance Framework
Medication Safety Self Assessments (MSSA)
Medication Safety Self Assessments (MSSA)

- Originally produced by ISMP USA; based on 30 years of activity - review of US incident reports, consultations, research and expert opinion

- Adapted for use in Canada, Australia and Spain

- Paediatric input to Australian adaptation of MSSA via Children’s Hospitals Australasia (CHA) Medication Safety Expert Reference Group; paediatric hospital participation in field testing (2 states); and CHA representation on PIMS project steering committee

- Not “standards” of practice, but provide guidance towards “best practice”

- Emphasis on safety but also guides quality systems

- MSSA & MSSA-AT are available to ALL Australian hospitals
  www.nswtag.org.au or www.cec.health.gov.nsw.au
3 COMMUNICATION OF DRUG ORDERS AND OTHER DRUG INFORMATION continued

A No activity to implement
B Considered, but not implemented
C Partially implemented in some or all areas
D Fully implemented in some areas
E Fully implemented throughout

SELF ASSESSMENT ITEMS

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<td>3.14</td>
<td>Upon inpatient admission to the hospital, all medications administered in the emergency department or other outpatient settings (e.g. cardiac catheterisation laboratory, radiology) are documented in a manner that facilitates comprehensive review for duplicate therapy or drug interactions when subsequent medications are prescribed.</td>
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<td>3.15</td>
<td>Prescribers have easy access to a medication profile for each patient (which lists all current and recently discontinued medications), and they review this profile on a daily basis to verify the accuracy of order interpretation and as a reference when planning the patient's discharge medications.</td>
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<td>3.16</td>
<td>Where medication is prescribed on certain days of the week, the actual day/s are stated in the order, e.g. methotrexate on Wednesday only. The days when the medication is not to be administered must be crossed out in the administration section of the medication chart.</td>
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10 key Domains

1. Patient information
2. Drug Information
3. Communication of drug orders etc
4. Labelling, packaging, nomenclature
5. Standardisation, storage, distribution
6. Device acquisition, use, monitoring
7. Environment, workflow, staffing
8. Staff competency and education
9. Patient education
10. Quality processes, risk management

Medication Safety Self-Assessment
Aggregate and User Scores by Key Element
Health system performance**

**Hospital practitioners contribute to health system performance and QUM in hospitals is only one component of health system performance.

Processes of health care delivery

Structures underpinning health care delivery

Outcomes of health care delivery

Determinants of health*

- Environmental factors
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Overall health status and health outcomes

Indicators for QUM in Australian Hospitals

MSSA for Australian Hospitals

QUM measures yet to be developed

Adapted from the National Health Performance Framework
Indicators for Quality Use of Medicines in Australian Hospitals
QUM indicators

30 indicators in 6 areas of practice:

- Antithrombotic therapy
- Antibiotic therapy
- Medication ordering
- Pain management
- Continuity of care
- Hospital wide medication management policies
QUM indicators

- Designed for multidisciplinary use
- Widespread consultation process
- Validated for face/content validity
- Tested in 31 hospitals across Australia for
  - Measurability
  - Usefulness
  - Clarity
  - Comparability
3.2 Percentage of patients whose known adverse drug reactions are documented on the current medication chart

**Purpose**

The indicator addresses the effectiveness of processes to prevent further harm from known adverse drug reactions (ADRs).

**Background and evidence**

An ADR is defined as an adverse event of any nature occurring in association with the use of a medicinal product, which may manifest before or during treatment and which does not necessarily have a causal relationship with the use of the medicinal product.

The purpose of ADR documentation is to prevent further harm to patients who have previously experienced an ADR that may result from medication use. Data from the National Adverse Drug Reaction (ADR) database of the National Medical Adverse Drug Reaction Chart (NMAC) indicates that the completion of ADR documentation on more than 50% of the time. ADR documentation in clinical practice is not always timely, and prevention of such errors depends on accurate and complete information being available at the time of prescribing, dispensing, and administration.

**Key Definitions**

- Known adverse drug reactions refer to any ADR identified before or during the current admission that has been recorded in the medical record. Any ADR that may influence future therapeutic decision making, whether it involves prescription modification, treatment optimization, or other matters, should be documented.

- Documented means the indicator is on the current medication chart (defined above) and has been completed in a way that is consistent with instructions in the National Prescribing Service Medication Chart Online Training. The data is available below.

- If a non-known ADR and or death is documented, the ADR chart will be locked.

- The information is not updated, the patient has no ADR status, for example, if the patient is unable to communicate, an ADR chart should be documented on the chart as “Non-known”.

- Where relevant assessments are known, the reaction type and date are documented. Where all information is documented, the reaction type or date is not known in the case of all existing ADR documentation.

- ADR documentation is completed in the chart in accordance with the NMAC or other chart approved for use by the hospital Drug and Therapeutics Committee.

**Data collection for local monitoring**

**Recommended sample selection**

- A random sample of current inpatients. Random means each patient has an equal chance of inclusion in the audit. Adult, paediatric, and neonatal patients should be included.

**Recommended sample size**

- The following sample sizes are recommended based on the number of beds in the hospital:
  - 10 or more: 20% of current inpatients
  - 11 to 49: 30 current inpatients
  - Less than 10: All current inpatients

Collecting a larger sample size whenever possible will increase the sensitivity of the data.

**Recommended methodology/review of medication charts and medical records.**

**Data collection for inter-hospital comparison**

This indicator is suitable for inter-hospital comparison. In this case, definitions, sampling methods, and guidelines for audit and reporting need to be agreed in advance in consultation with the coordinating agency.

**Indicator calculation**

**Numerator**

| Number of patients whose known ADRs are documented on the current medication chart |

**Denominator**

| Number of patients in sample |

**Limitations and interpretation**

Data collection for this indicator relies on documentation of ADRs on the medication chart and the medical record. Good documentation supports quality patient care and is a critical component of management. Poor communication can result in adverse drug events.

Recording a detailed medication history at admission is critical in determining the accuracy and completeness of the list of known ADRs. This indicator does not assess the accuracy of the list of known ADRs documented in the medical record but rather focuses on availability of complete documentation at the point of prescribing, dispensing, and administration (i.e., on the medication chart).

**Further information**

For more information on documentation of ADRs, see the National Prescribing Service Medication Chart Online Training Module at www.nps.org.au.

Guidelines for detailed medication history taking and ADR management have been published.

The Medication Safety Self Assessment for Australian Hospitals (MSSA) can help identify potential strategies for improvement with this and other indicators. The MSSA is available at www.cec.health.gov.nsw.au

**References**

QUM indicators: Paediatric input

• via CHA Medication Safety Expert Reference Group (ERG); paediatric hospital participation in field testing (2 states); and CHA representation on PIMS project steering committee

• Approx 20 of 30 QUM indicators relevant to paediatric QUM and 1 indicator specific to paediatric QUM
  
  • Indicator 3.4: Percentage of paediatric medication orders that include the correct dose per kg (or BSA) and a safe total dose

• Ongoing work via CHA ERG to select “top priority” paediatric relevant QUM indicators for national use to help drive improvements in key paediatric QUM areas:
  
  ➢ 3 indicators already included in paed-NIMC evaluation
  
  ➢ Draft “top 10” list …work in progress
MSSA & QUM indicators

Complementary tools designed to systematically measure and help drive improvements in structures and processes related to medication safety and QUM in Australian hospitals.
Strengths

✓ Systematic & structured process of development
✓ Wide clinician and other stakeholder engagement
✓ Dedicated effort to address needs of paediatric patients
✓ Tested in wide range of Australian hospitals
✓ Endorsed for use by key national organisations
Challenges

Diagnosis

&

Treatment
Driving Improvements with QUM Indicators

• Indicators should:
  ✓ Be part of ongoing QI
  ✓ Be embedded in routine clinical care
  ✓ Be regularly used to guide practice/interventions
Indicator Feedback
Indicator Feedback

Control chart courtesy Northern Sydney Central Coast Health - Clinical Governance Unit.
Driving Improvements with QUM Indicators

- Indicators should:
  - Be part of ongoing QI
  - Be embedded in routine clinical care
  - Be regularly used to guide practice/interventions

- Interventions should be undertaken in a supportive environment that includes appropriate structures, policies, systems, leadership and organisational culture
QUM in hospital practice

HAPPY HOSPITAL
THANK YOU

www.nswtag.org.au
www.cec.health.gov.au