

OTHER TOOLS FOR IMPROVING MEDICATION SAFETY:

Medication Safety Self Assessment & Indicators for Quality Use of Medicines in Australian Hospitals

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Adapted, with thanks, from...

**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

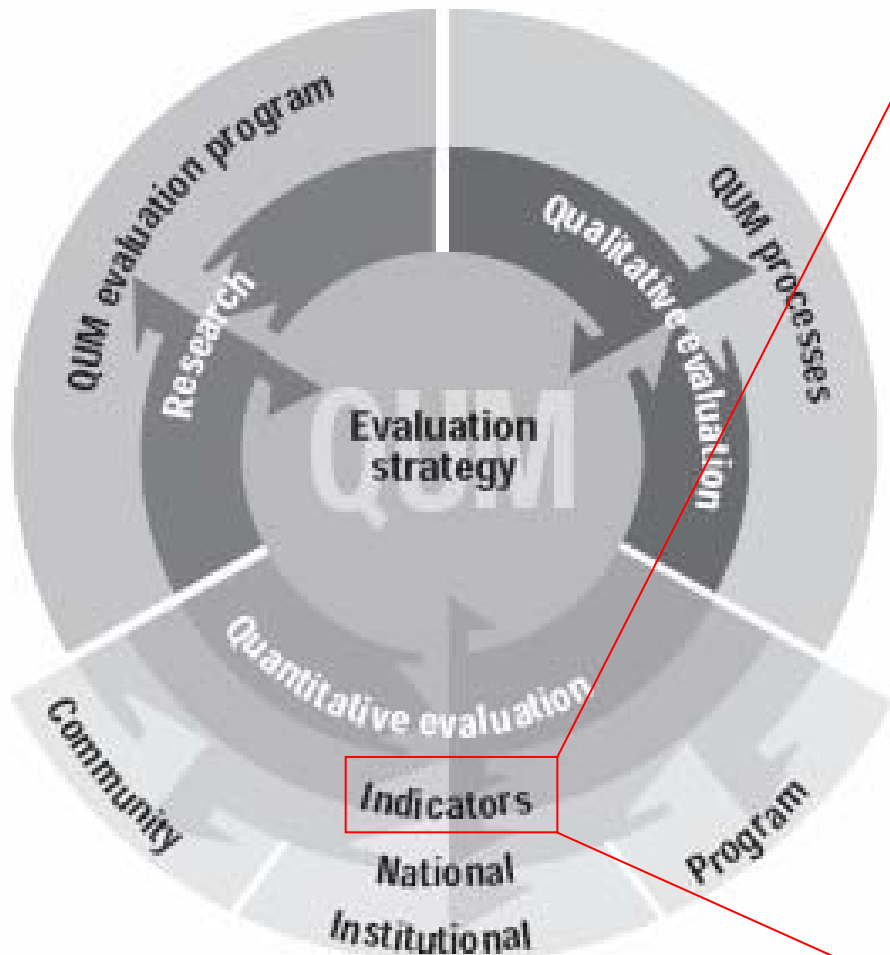
The QUM agenda

The National Strategy for Quality Use of Medicines



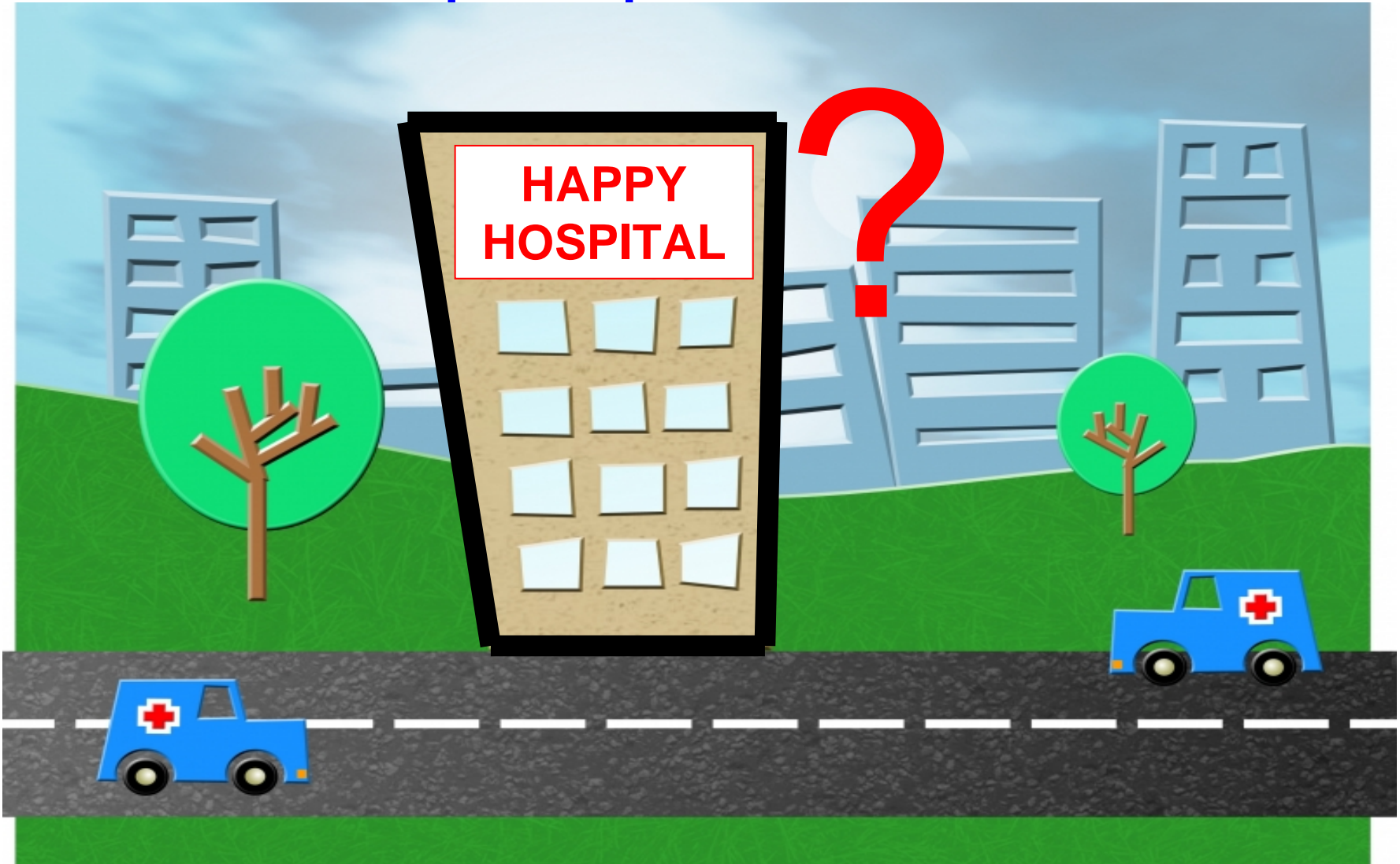
Building Block 6: Strategic research, evaluation and routine data collection

QUM Evaluation Strategy



- Indicators for monitoring national drug policies (WHO 1994)
- Manual of indicators to measure the QUM component of Australia's National Medicines Policy (DOHA 2003)
- Manual of indicators for drug use in Australian hospitals (NSW TAG 1998)
- 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???



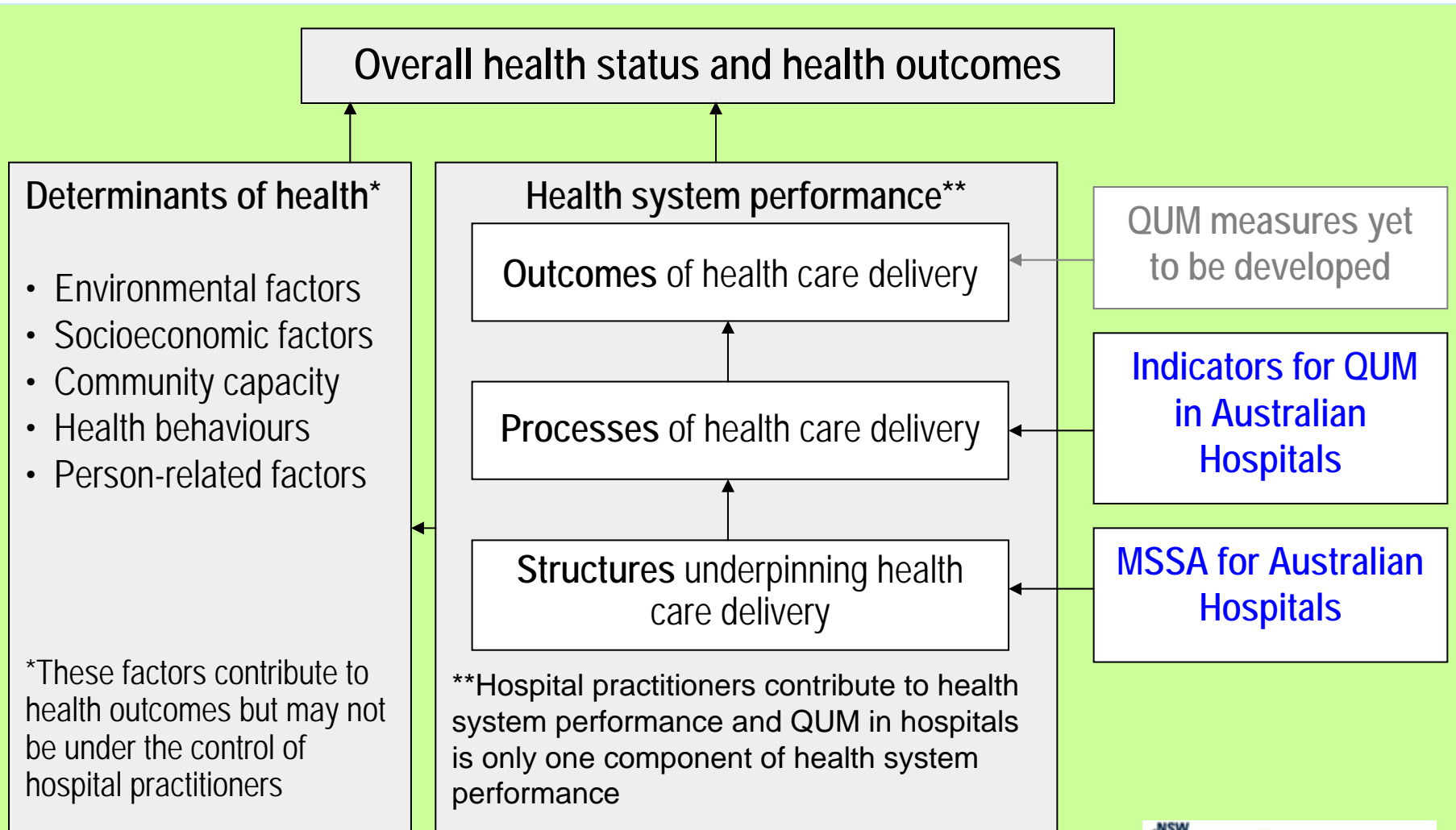
We have part of the QUM picture...



“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



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 improvement¹*



¹ Schaff R, Schumock G, Nadzam D. Development of the Joint Commission's indicators for monitoring the medication use system. Hospital Pharmacy 1991; 26:326-329, 350..

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

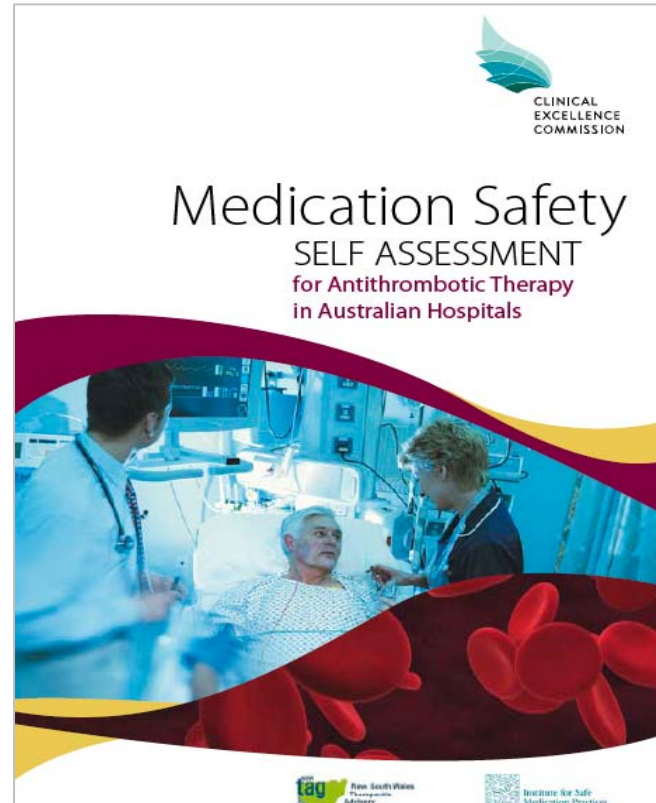
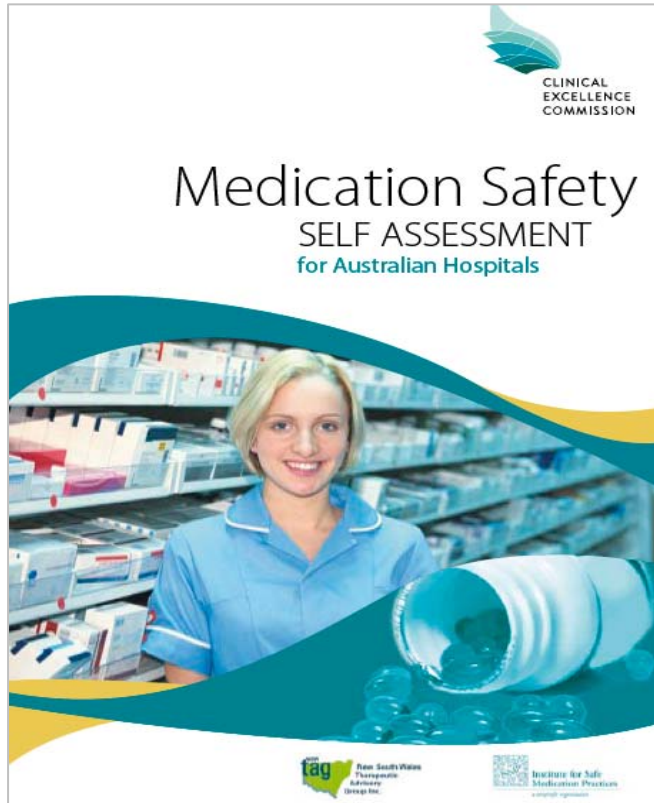
**Hospital practitioners contribute to health system performance and QUM in hospitals is only one component of health system performance

QUM measures yet to be developed

Indicators for QUM in Australian Hospitals

MSSA for Australian Hospitals

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

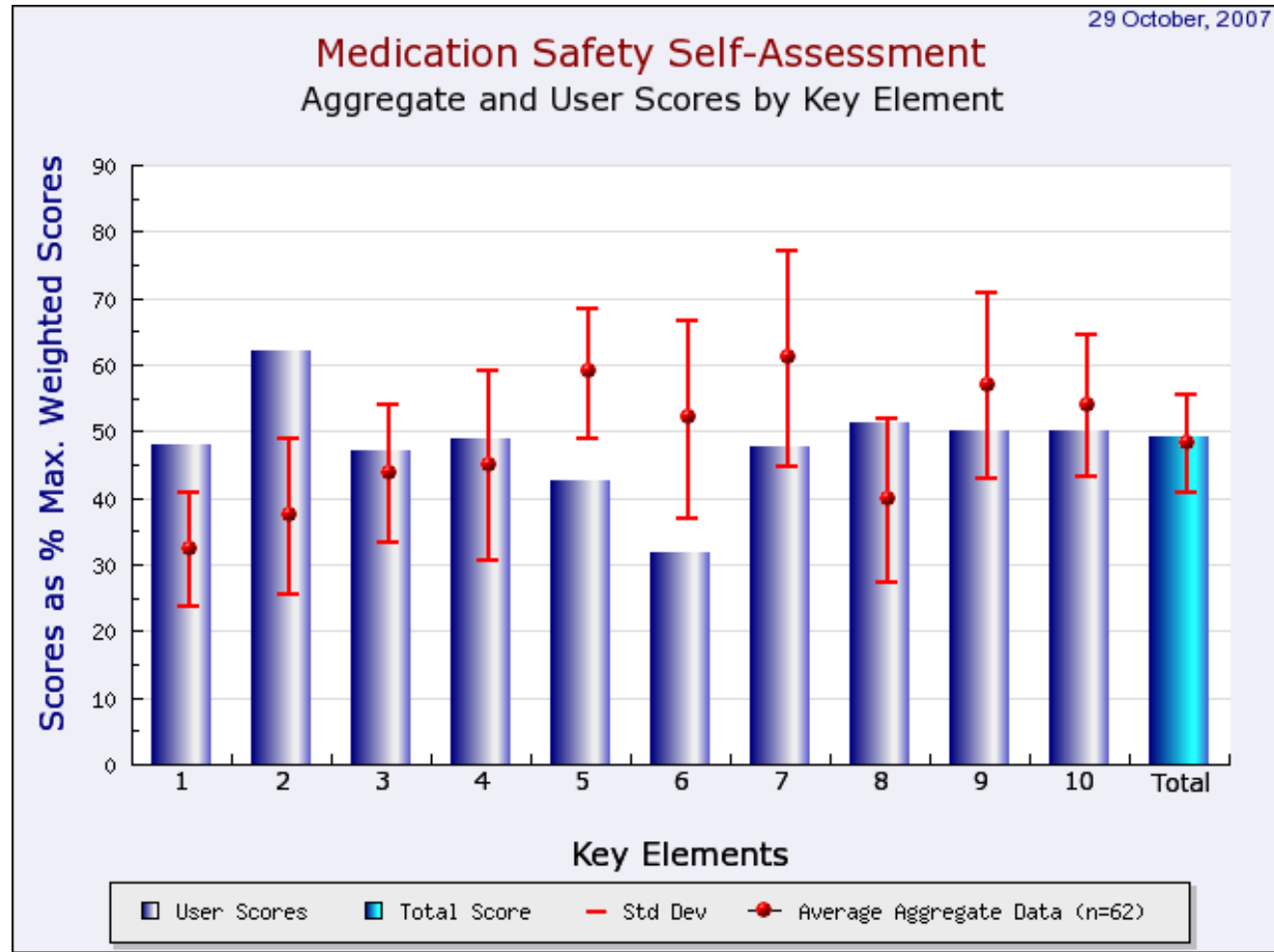
A	No activity to implement
B	Considered, but not implemented
C	Partially implemented in some or all areas
D	Fully implemented in some areas
E	Fully implemented throughout

SELF ASSESSMENT ITEMS

		A	B	C	D	E
3.14	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.					
3.15	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.					
3.16	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.					

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



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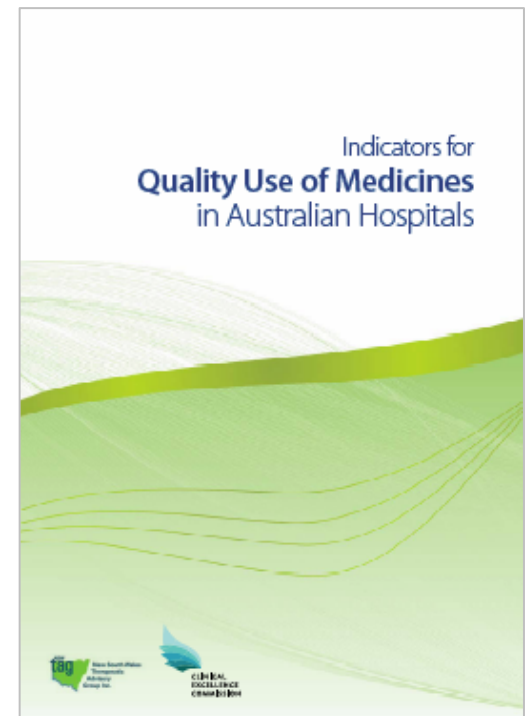
Indicators for Quality Use of Medicines in Australian Hospitals



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

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

Background and evidence

An ADR is defined as 'a response to a medicinal product which is nocuous and unintended and which occurs at doses normally used in man for the prophylaxis, diagnosis or therapy of disease or for the restoration, correction or modification of physiological function'.¹

The purpose of ADR documentation is to avoid further harm to patients who have previously experienced an ADR to that (or a similar) medication. Data from NSW audits of the National Inpatient Medication Chart (NIMC) show that completion of ADR documentation occurs 40-50% of the time.² Incidents involving medication administration to patients with a known ADR to that medication continue to occur. Prevention of such errors depends on accurate and complete information being available at the time of prescribing, dispensing and administration.³

Key Definitions

Known adverse drug reaction refers 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 a prescription medicine (including vaccines), over-the-counter medicine or complementary medicine, should be documented.

Documented means the dedicated space on the current medication chart (defined below) has been completed in a way that is consistent with instructions in the National Prescribing Service Medication Chart On-line Training Module as outlined below:

- If there are no known ADRs this should be documented on the medication chart as 'not known'.
- If no information is known about the patient's ADR status, for example if the patient is unable to communicate, this should be documented as 'unknown'.
- Where previous reactions are known, the reaction type and date should be explicitly documented. If the reaction type or date is unknown, this should be explicitly documented. If there is not enough space to explain, the reaction type or date in full, a note should be made to refer to the patient's medical record for more detail.

The current medication chart refers to the NIMC or other chart approved for use by the hospital Drug and Therapeutics Committee.

Continued next page

3.2 Percentage of patients whose known adverse drug reactions are documented on the current medication chart

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:

Number of beds in hospital	Sample size
150 or more	20% of current inpatients
30 - 149	30 current inpatients
Less than 30	All current inpatients

Collecting a larger sample where 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 may be 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

$$\frac{\text{Numerator}}{\text{Denominator}} \times 100\%$$

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

Denominator = Number of patients in sample

References

1. Committee of Experts on Management of Safety and Quality in Health Care (SP-SQS) Expert Group on Safe Medication Practices. Glossary of terms related to patient and medication safety. World Health Organisation, 2015:13.
2. National Inpatient Medication Chart (October 2006) Implementation Audit Report. NSW Health, 2006.
3. Building a Safer NHS for Patients: Improving Medication Safety. A report by the Chief Pharmaceutical Officer. National Health Service, 2004:173.
4. The Good Clinical Documentation Guide. National Centre for Classification in Health, Commonwealth of Australia, 2001.
5. Safe and Effective: The eight essential elements of an optimal medication-use system. In Medication Use, ed. Canadian Pharmacists' Association, 2007.
6. Dealey M, Beggins A, Carrol M, Coyle S, Salisbury A, Matthews H. 2016 Standards of Practice for Clinical Pharmacy. Journal of Pharmacy Practice & Research 2016; 30:123-46.
7. Medication Safety Self Assessment for Australian Hospitals. Institute for Safe Medication Practices (Adapted for Australian use by the NSW Therapeutic Advisory Group and the Clinical Excellence Commission), 2007.

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 ✓

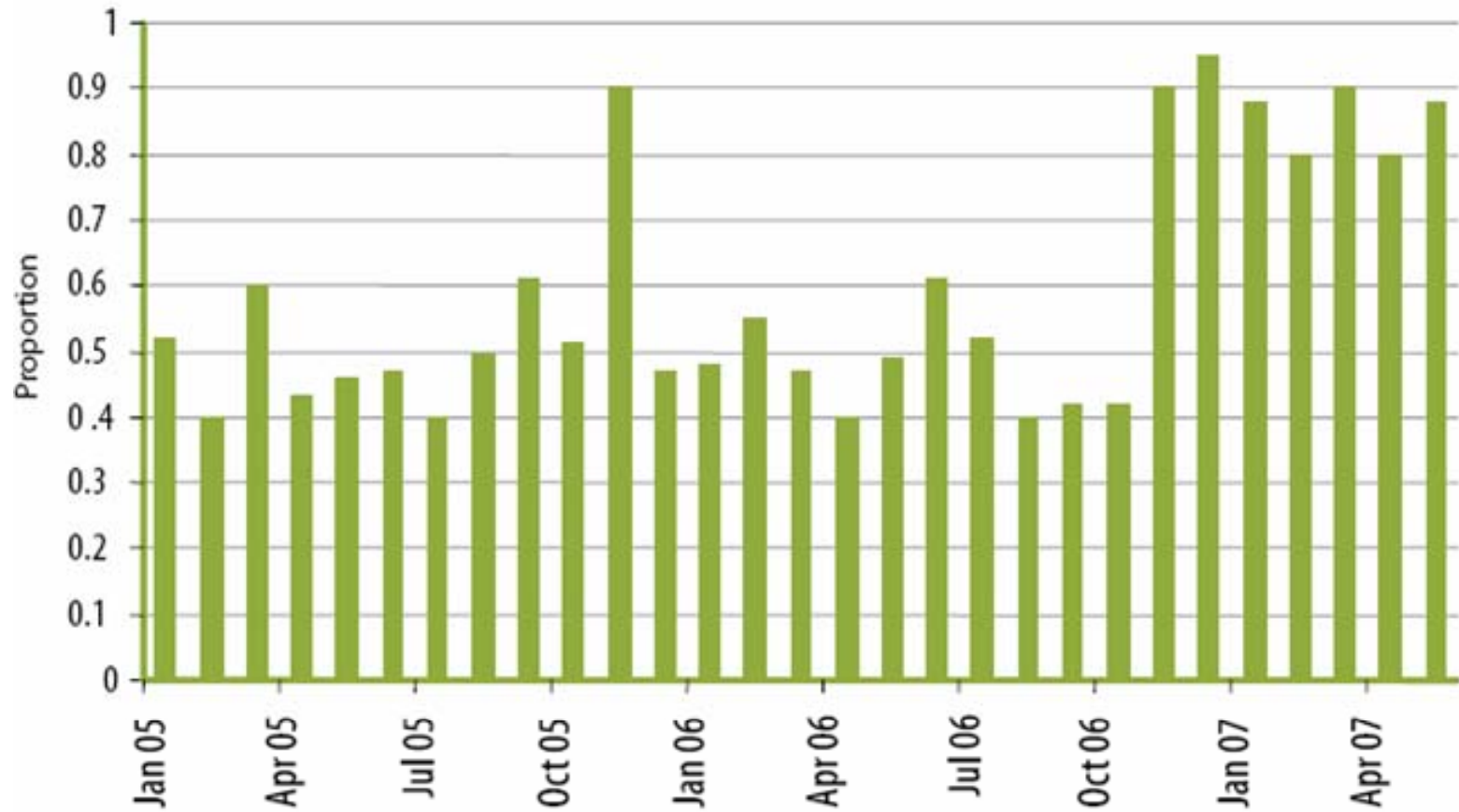
&

Treatment ?

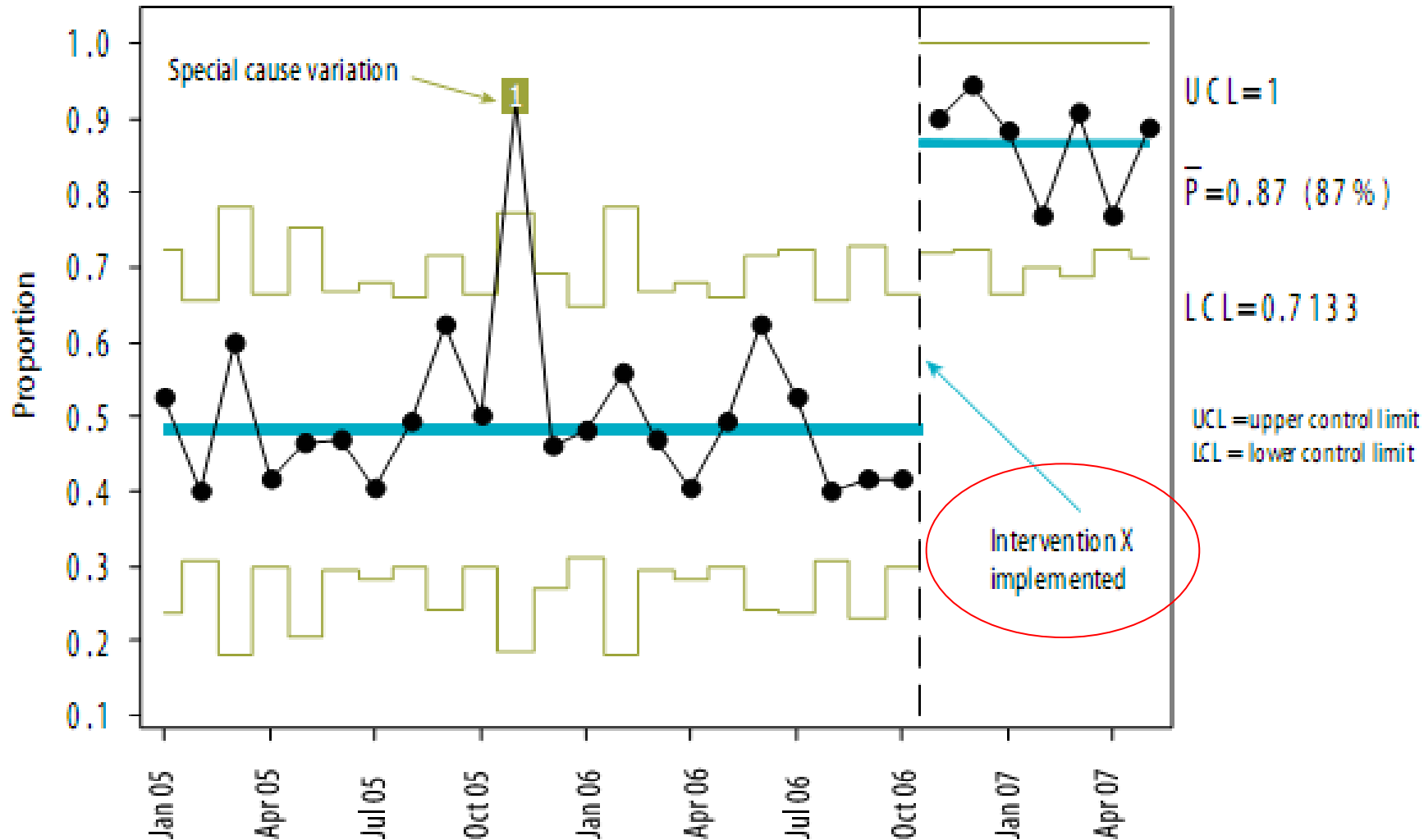
Driving Improvements with QUM Indicators

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

Indicator Feedback



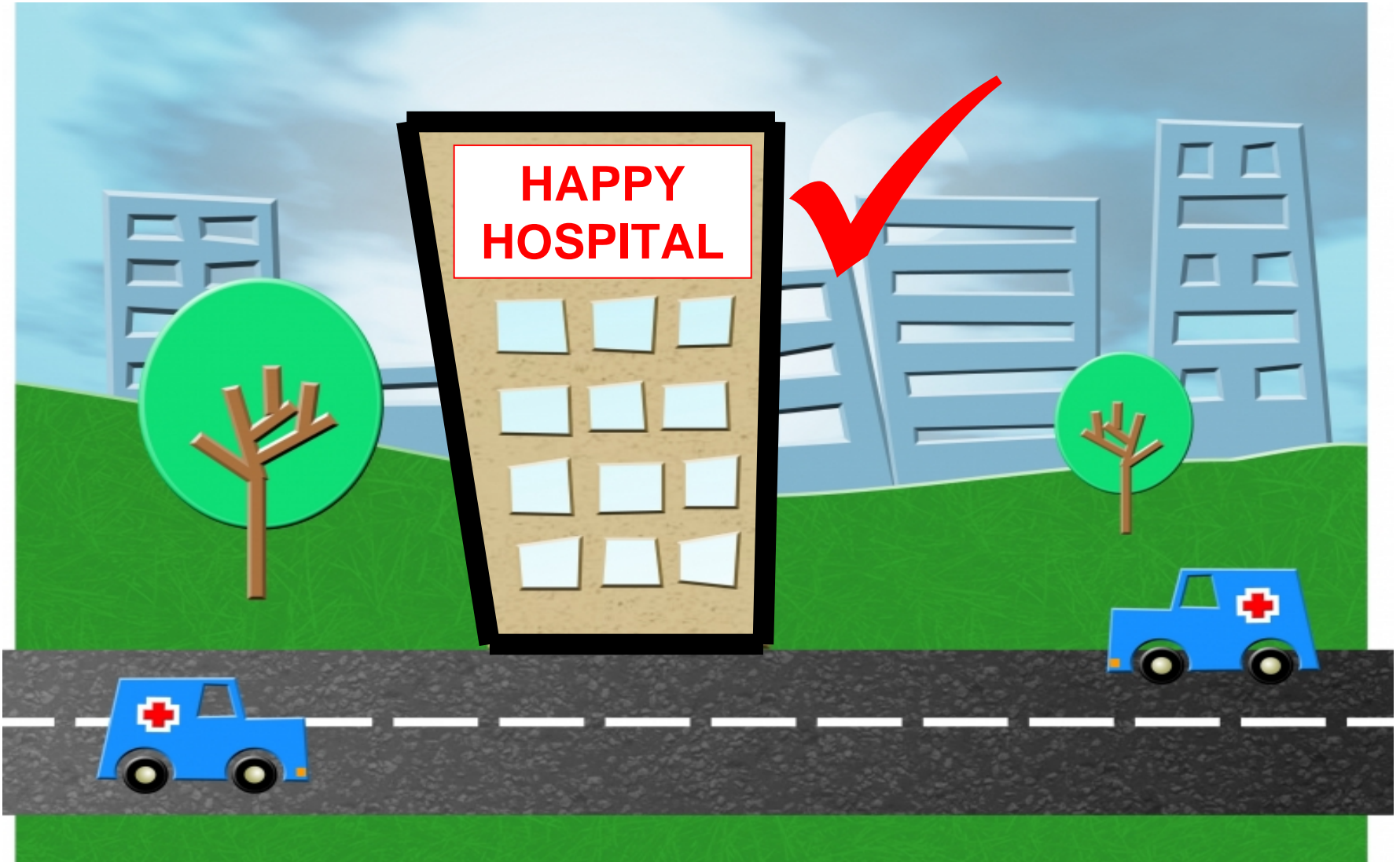
Indicator Feedback

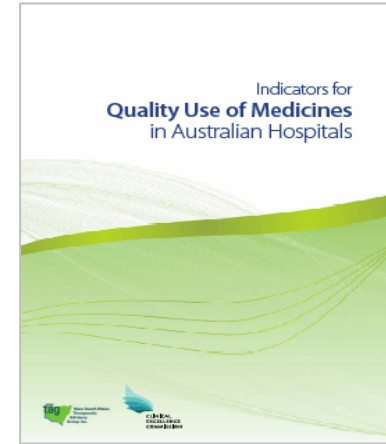
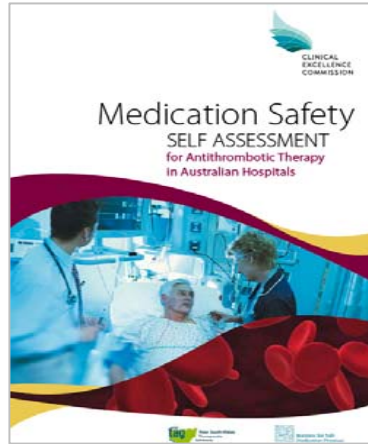
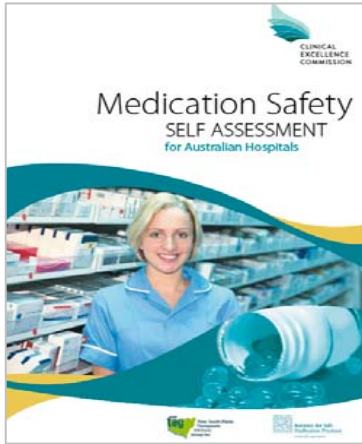


Driving Improvements with QUM Indicators

- 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





THANK YOU

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