New NIMC

New versions of the National Inpatient Medication Chart (NIMC) incorporating a venous thromboembolism (VTE) prophylaxis section are now available.

Following extensive national piloting, public and private hospital representatives agreed the new version for implementation by health services from 1 July 2013. Implementation will be managed locally and as existing stocks are depleted.

The pre-printed VTE section includes space for documenting:

- VTE risk assessment
- Contraindication
- Chemo-prophylaxis prescribing and administration, and
- Mechanical prophylaxis and checking.

Note that therapy for existing VTEs is ordered and recorded in the regular medicine section of the NIMC.

The image below shows the new VTE prophylaxis section in the NIMC. Private hospital versions vary slightly.

The following NIMCs have been updated to include the pre-printed VTE section to prompt, and document, VTE risk assessment and prophylaxis ordering:

**NIMC (acute) and private hospital version** - The standard NIMC for patients in acute care.

**NIMC (GP e-version)** - The NIMC incorporated into GP electronic prescribing for GPs that prescribe for inpatients.

**NIMC (day surgery) and private hospital versions** - The NIMC for day procedure services incorporates the VTE risk assessment section but not the chemo- and mechanical prophylaxis ordering sections.

The following NIMCs do not include the pre-printed VTE section:

**NIMC (long-stay) and private hospital version** - The NIMC for acute stable patients. Health services will need to ensure policies are in place so that VTE prophylaxis therapies are transferred accurately for patients transitioning from the NIMC (acute) to the NIMC (long-stay).

**NIMC (paediatric) and NIMC (paediatric long-stay) and private hospital versions** - The NIMCs for paediatric inpatients. A pre-printed VTE prophylaxis section is not required for paediatric patients.

**NIMC support materials**

NIMC support materials have been developed to assist health services to implement the new NIMC.

**NIMC VTE PowerPoint presentation:** A presentation is available to educate staff on reasons for VTE prophylaxis and use of the new NIMC VTE prophylaxis section.

**NIMC VTE staff brochure and poster:** A staff information brochure and poster are available to communicate the new NIMC to staff including details of how to use the VTE prophylaxis section.

Existing NIMC support materials have been updated.

**NIMC User Guide:** A new version of the NIMC User Guide, which incorporates advice on use of the VTE prophylaxis section, is now available.

**NIMC Local Management Guidelines:** Revised to cover the VTE prophylaxis section in the NIMC (acute) and private hospital versions and the NIMC (GP e-version).

**NIMC Online Learning Course:** Hosted by NPS MedicineWise, the NIMC Online Learning Course will be updated shortly to include the VTE prophylaxis section and guidance on its use.

All NIMC and VTE section support materials are available from the Commission web site at www.safetyandquality.gov.au/our-work/medication-safety/medication-chart/support-material/

**NIMC VTE Pilot Report**

The NIMC VTE Pilot was a two year process which tested and refined a pre-printed NIMC VTE section. Outcomes from the pilot formed the basis for the decision to vary the national standardisation.


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**Also included in this issue:**

- Ordering medicines with multiple routes
- IV chemotherapy overfill
- New paediatric NIMCs for private hospitals
- NSQHS Standard 4 information day
- Labelling Recommendations update

**New training resource** Get it right: Taking a Best Possible Medication History

- High risk medicines new web site
- And other national initiatives

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**Ordering medicines with multiple routes on the NIMC**

Further to information provided in the last Medication Safety Update (Issue 9 January 2013), the following advice on ordering of medicines with multiple routes has been incorporated into the NIMC User Guide:

Generally, medicine orders should be for one route only. However, local requirements may indicate other practice. Health services should be aware of risks associated with medicine orders with multiple routes of administration. A health service-specific list of exceptions to the general rule should be determined in conjunction with the health service’s drug and therapeutics committee or equivalent and appropriate risk mitigation strategies put in place.

**Below is an example of an order for multiple routes and with the administration route recorded.**

![Order example](image)

Joint statement supporting user-applied labelling standardisation of injectable medicines and fluids

Injectable medicine and fluid preparation and administration present multiple opportunities for error. The majority of adverse medicine events resulting in serious harm in acute care are attributed to errors in this area of practice. Improving safety in the use of injectable medicines and fluids is a priority for health professionals and consumers.

The Commission and the Australian and New Zealand College of Anaesthetists (ANZCA) have issued a joint statement which supports user-applied labelling standardisation for injectable medicines and fluids. The statements detail standardisations developed by both organisations to improve the safety of medicines preparation and administration. It also describes colour coding of dedicated continuous infusion medicine line labels consistent with the anaesthetic standard.

In addition, the Commission, ANZCA and the Australian College of Operating Room Nurses have endorsed a poster demonstrating user-applied labelling of medicines and fluids in open and closed practice environments.

The joint statement and the poster are available from the Commission web site at www.safetyandquality.gov.au/our-work/medication-safety/user-applied-labelling/

Overfill needs to be taken into account for IV chemotherapy

The Institute for Safe Medication Practices Canada released a new safety bulletin in May 2013. It included information on patients receiving insufficient chemotherapy doses because of miscommunication about diluent volumes between hospitals and ready to use IV bag suppliers.

The bulletin is available at www.ismp-canada.org/download/safetyBulletins/2013/ISMPCSB2013-03.ReducingAdverseEventsWithDrugInteractions.pdf#page=2

New private hospital NIMC (paediatric) and NIMC (paediatric long-stay)

![Example of a paediatric NIMC]

Above is an example of an additional safety feature on the paediatric NIMCs.

Private hospital versions of NIMC (paediatric) and NIMC (paediatric long-stay) are available for use.

The paediatric versions of the NIMC (acute) and NIMC (long-stay) incorporate additional paediatric medication safety features. The private hospital versions are designed for hospitals which require medication charts with carbon copy tear-offs for pharmacy ordering and PBS claiming.

Use of the NIMC is a requirement of National Safety and Quality Health Service (NSQHS) Standard 4: Medication Safety. These standardised medication charts will reduce the risk of medicine prescribing, dispensing and administration errors in Australian hospitals.

The private hospital paediatric NIMCs are available from the Commission web site along with other private hospital NIMC resources and information. www.safetyandquality.gov.au/our-work/medication-safety/medication-chart/
On 8 May 2013, the Commission hosted a workshop on NSQHS Standard 4: Medication Safety. The aims of the workshop were to:

- Discuss current issues for health services meeting the requirements of Standard 4
- Identify strategies for hospitals (large, medium and small) meeting Standard 4 requirements
- Ensure consistent advice on meeting Standard 4 to both health service organisations and accrediting organisations
- Identify most effective communication methods to ensure consistent understanding of accreditation requirements
- Identify further support materials to assist health service organisations.

The workshop was attended by participants from health departments, public and private health service organisations and accreditation organisations.

Outcomes from the meeting provide valuable insights into verifying health services against the standard for accreditation purposes.

The meeting outcomes and a PowerPoint presentation on Standard 4 will be available on the Commission website shortly.

The Commission’s Accreditation Advice Centre assists health service organisations in implementing the NSQHS Standards. The centre can be contacted by telephone on 1800 304 056 or by email on accreditation@safetyandquality.gov.au

**National Labelling Recommendations for User-applied Labelling of Medicines, Fluids and Lines**

Health services verifying their services against the NSQHS Standards are required to implement the Commission’s Labelling Recommendations.

The Commission’s Labelling Recommendations Reference Group has recommended a number of enhancements to the Labelling Recommendations following implementation in specialised practice areas. These are:

**Perioperative area: Pre-printed labels**

Standardised pre-printed sterile labels should be used on the perioperative sterile field. The Australian and New Zealand College of Anaesthetists (ANZCA) and the Australian College of Operating Room Nurses (ACORN) endorse the Commission’s perioperative poster describing labelling in the perioperative area including the sterile field.

Above is the perioperative labelling poster endorsed by ANZCA, ACORN and the Commission.
Intensive care: Standardised medicine line labels for dedicated continuous infusions

Evaluation of pre-printed medicine line labels was conducted in four intensive care units led by Geelong Hospital (Barwon Health). The evaluation concluded colour-coding for pre-printed line labels should be consistent with the anaesthetic labelling standard, with the exception that high-risk medicines are labelled using red text on white background. Full evaluation recommendations are described in Issue 1 of the Issues Register. The label guide below is now available on the Commission website, at www.safetyandquality.gov.au/our-work/medication-safety/user-applied-labelling/support-materials/

Health services should transition to the new medicine line labels when existing stocks are exhausted.

Interventional cardiology and radiology

Evaluation of pre-printed label sets of user-applied labels in cardiac catheterisation laboratories and radiology suites will report in late 2013.

Some liquid medicines may be unsuitable for administration by enteral tube

For about 15% of patients with enteral feeding tubes, medicines administered through the tube can cause occlusions. The following incident illustrates the problem:

A child who relied on a G-tube for feeding developed an infection, for which clarithromycin (e.g., Biaxin) was ordered. A suspension of clarithromycin was prepared and dispensed by a community pharmacy with instructions to administer through the G-tube and to flush the tube well.

After two days of administration of the antibiotic, the G-tube became completely occluded. The child had to be admitted to hospital for tube replacement. The clarithromycin was discontinued, and a different antibiotic was ordered in its place.

A new ISMP Canada safety bulletin highlights the potential risks to patient safety and outlines mitigating activities. The bulletin is available at www.ismp-canada.org/download/safetyBulletins/2013/ISMP_CSB2013-05_LiquidMedicationsEnteralTube.pdf#page=1
Get it right: Taking a Best Possible Medication History - New online training tool soon to be available

The Commission is developing a new, video-based, online training tool. It will guide clinicians on conducting a structured, formal process of obtaining an accurate and complete medication history on admission, known as a Best Possible Medication History or BPMH.

Taking a BPMH involves four main steps:

1. Reviewing sources of available medicines information such as medication containers, community pharmacy list or GP referral letters.
2. Formally interviewing the patient or their carer about their medicines.
3. Verifying the history with one or more sources of information. This is key for achieving accuracy as some sources may not be current or accurate.
4. Accurately recording the information in a designated section of the patient’s medical record, for example on a medication history form such as the National Medication Management Plan, the front page of the National Inpatient Medication Chart or in the electronic medical record.

A BPMH can be taken in a variety of settings such as emergency departments, a ward or a pre-admission clinic. No matter what the setting, the key steps of taking an accurate and complete medication history are the same.

The new video includes a short, role play scenario which highlights the key steps in taking a BPMH and provides some important tips when reviewing sources of medicines information. It will be available for download from the Commission’s web site in August 2013. A limited number of DVD copies will be available for hospitals that are unable to access the tool online. Contact Helen Stark to request a copy at helen.stark@safetyandquality.gov.au

High risk medicines

A new high risk medicines section is available on the Commission’s Medication Safety Program web site.

NSQHS Standard 4.11 requires health services to identify and manage high risk medicines. The new high risk medicines section is designed to assist health service organisations by providing a large range of resources for managing known classes of high risk medicines. The resources include:

- alerts and other information
- best practice recommendations, and
- monitoring practice tools.

The site uses a modified form of the NSW Clinical Excellence Commission’s high risk medicines taxonomy mnemonic, APINCHS, and which stands for:

- anti-infectives
- potassium and other electrolytes
- insulin
- narcotics and other sedatives
- chemotherapeutic agents
- heparin and other anticoagulants
- systems.

Available high risk medicines information includes national, state and territory medicines safety alerts and other information, as well as equivalents from overseas and from international organisations.

All the high risk medicines have been mapped to Medication Safety Self-Assessment and to the Indicators for Quality Use of Medicines in Australian Hospitals.

The high risk medicines section is available at www.safetyandquality.gov.au/our-work/medication-safety/medication-alerts/
Evidence briefings on interventions to improve medication safety

Medicines administration in acute care remains a practice with significant risk of error mostly because so few administration errors are prevented before reaching the patient. Increasingly, health services are looking to interventions, both technological and non-technological, to improve medication administration safety and efficiency.

The Commission is developing a series of evidence briefs on interventions to improve medicines administration. The aim is to provide policymakers with current evidence in relation to the demonstrated effects of interventions on patient safety, workflow and costs in hospitals and outpatient settings. The briefings will assist developing business cases and informing decisions about the likely value to be derived from the investment.

The series of briefings will form a basis for a comparative analysis i.e. the relative reduction in medication administration errors by different interventions. This will assist health services identify the most effective intervention for their service.

The first evidence briefings will be available in September 2013 and will address:
- automated dispensing systems, and
- bar code medicine administration systems

Subsequent briefings will focus on:
- electronic medication administration records
- double-signing of medicines, and
- interventions to reduce interruptions during medicines preparation and administration.

Paediatric dose expression

The previous Medication Safety Update Issue 9 described the risk of paediatric patient harm from medication error including dosing references using mg/kg per day rather than the safer mg/kg per dose.

It was recommended that paediatric doses used in protocols and guidelines should be standardised to mg/kg per dose and the frequency of administration.

Note that this recommendation is in relation to paper-based medication charts only and not electronic medication management systems (EMMS). EMMS are not without risks but they can be managed differently in some instances. For example, both mg/kg per day and mg/kg per dose are currently available in some EMMS and a per day option allows for a given number of doses per day to be specified with a corresponding appropriate calculation dose e.g. 10 mg/kg/day - 2 doses per day, and the EMMS automatically generates each dose which contains 5 mg.

Health services will need to identify and manage such risks when specifying and implementing EMMS. The Commission’s publication EMMS: A Guide to Safe Implementation provides guidance on undertaking both processes safely and to maximise benefit from the large investment. The publication is available from the Commission web site at www.safetyandquality.gov.au/our-work/medication-safety/electronic-medication-management-systems/

Paediatric versions of the NIMC with additional paediatric medication safety devices are available at www.safetyandquality.gov.au/our-work/medication-safety/medication-chart/paediatric-medication-charts/

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