

Guidelines
for use of the
National
Inpatient Medication Chart
including the
paediatric version

July 2009

Guidelines for use of the National Inpatient Medication Chart including the paediatric version

Target Audience: All nursing, medical and pharmacy staff and administrative and allied health staff that are authorised to access and use patient medication charts

Exceptions: The National Inpatient Medication Chart is intended to be used to as a record of orders and administration of general medicines. Where they exist for more specialised purposes (such as intravenous fluids, anticoagulants, management of Diabetes, Palliative Care and Acute Pain) separate, specific charts should be used.

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1. Purpose

Consistent documentation allows accurate interpretation of orders

The National Inpatient Medication Chart is an initiative of the Australian Commission on Safety and Quality in Health Care (the Commission).

Research shows that many adverse events reported in Australian hospitals are associated with medications. Research also demonstrates that improvements to medication chart design can improve the safety of medication processes in hospitals. The National Inpatient Medication Chart (NIMC) was developed by a group of health care professionals (including nursing, medical and pharmacy staff and the private sector) from States and Territories across Australia who were involved in similar medication chart standardising projects within their own organisations.

Australian Health Ministers required a common inpatient medication chart to be in use in all public hospitals by June 2006 to assist in standardisation and consistent documentation of medications. As demonstrated in the Commission's 2008 NIMC quality improvement project, the NIMC is used in health care facilities nationally to reduce the risk of prescribing and administering error. In conjunction with other standardisations, it is a valuable precursor to the electronic health environment.

The NIMC is intended to reflect best practice and assist clinicians in improving the steps in the medication management cycle for safer prescribing, dispensing and administering of medicines in order to minimise the risk of adverse medication events.

The following are general requirements regarding use of the medication chart:

- All Medical Officers must order medicines for inpatients in accord with legislative requirements as required by State/Territory Health (Drugs and Poisons) Regulations;
- The NIMC is to be completed for all admitted patients and placed at the foot of the bed unless ward/unit procedures state otherwise;
- All medications should be reviewed regularly to identify potential drug interactions and to discontinue medicines that are no longer required;
- Specific ordering charts are required for specialised medication orders such as insulin, intravenous fluids, anticoagulants, parenteral cytotoxic and immunosuppressive agents, epidural and regional infusion and patient controlled analgesia.

Paediatric NIMC

In 2008 the Australian health Ministers endorsed the Paediatric NIMC (short and long stay versions). The Paediatric NIMC has additional features that support safe prescribing in the paediatric population. These charts should be used for all children aged 12 years and less.

Instructions on the use of the Paediatric NIMC specific features are outlined in section 6. Unless otherwise indicated the general guidelines in sections 2-5 also apply to the Paediatric NIMC,

2. General instructions

All orders are to be written legibly in ink

- No matter how accurate or complete an order is, it may be misinterpreted if it cannot be read.
- Water soluble ink (eg fountain pen) should not be used.
- Black ink is preferred.
- A medication order is valid only if the medical officer enters all the required items (See Section 4.4).
- All information, including drug names, should be **printed**.
- Only accepted abbreviations should be used. Dangerous abbreviations must be avoided (See Appendix A).
- A separate order is required for each medicine.
- No erasers or “whiteout” can be used. Orders **MUST** be rewritten if **any** changes are made, especially changes to dose and/or frequency.
- The patient’s current location should be clearly marked on the medication chart.

Facility/Service: _____

Ward/Unit:.....

3. Front page of NIMC (including top section of page 3)

3.1 Identification of the patient

AFFIX PATIENT IDENTIFICATION LABEL HERE AND OVERLEAF

URN:	
Family name:	
Given names:	
Address:	
Date of birth:	Sex: <input type="checkbox"/> M <input type="checkbox"/> F

First Prescriber to Print Patient Name and Check Label Correct: Weight(kg):..... Height(cm):.....

A watermark has been placed on the “patient identification section” as a reminder that a prescription is not valid unless the patient’s identifiers are present, that is:

- EITHER the **current patient identification label**
- OR, as a minimum, the **patient name, UR number, date of birth** and **gender** written in **legible print**.

The first prescriber must print the patient’s name. This will reduce the risk of wrong identification label being placed on the chart.

Medication orders cannot be administered if the prescriber does not document the patient identification.

3.2 Patient weight and height

This information should be documented in the space provided (it is important clinical information, vital to confirming doses of certain medicines).

Patient Weight (kg)Height (cm)

The weight **MUST** be documented for paediatric patients. Refer to section 6.1 for additional information relevant to paediatric patients

3.3 Numbering of the NIMC

MEDICATION Chart No. _____ of _____

ADDITIONAL CHARTS

<input type="checkbox"/> IV Fluid	<input type="checkbox"/> BGL/Insulin	<input type="checkbox"/> Acute Pain	<input type="checkbox"/> Other
<input type="checkbox"/> Palliative Care	<input type="checkbox"/> Chemotherapy	<input type="checkbox"/> IV Heparin	

If more than one NIMC in use, then this must be indicated by entering the appropriate chart numbers
Eg: Medication Chart 1 of 2

If additional charts are written, this information must be updated.

3.4 Additional (specialised) charts

ADDITIONAL CHARTS

- Nil Fluid BGL/Insulin Acute Pain Other
 Palliative Care Chemotherapy Nil Heparin

When additional (specialised) charts are written, this should be indicated by placing a tick or cross in the space provided.

3.5 Adverse drug reaction alerts

Attach ADR Sticker		
ALLERGIES & ADVERSE REACTIONS (ADR)		
<input type="checkbox"/> Nil known <input type="checkbox"/> Unknown (tick appropriate box or complete details below)		
Drug (or other)	Reaction/Type/Date	Initials
Sign.....	Print.....	Date.....

Medical Officers, Nursing Officers and Pharmacists are required to complete “Allergies and Adverse Drug Reactions (ADR)” details for all patients. (*Patients may be more familiar with the term allergy, than ADR, so this may be a better prompt*). Once the information has been documented, the person documenting the information must sign, print their name and date the entry.

If any information is added to this section after the initial interview the person adding the information must document their initials in the designated area

If the patient is not aware of any previous ADRs, then the **Nil known** box should be ticked and the person documenting the information must sign, print their name and date the entry.

If a previous ADR exists, then the following steps **must** be completed:

a) Document the following information in the space provided on the NIMC and in the patient’s medical notes:

- Name of drug/substance
- Reaction details (*eg rash, diarrhoea*) and type of reaction (*e.g. allergy, anaphylaxis*)
- Date that reaction occurred (or approximate timeframe *eg “20 years ago”*)

Note: This is the minimum information that should be documented. It is preferable also to document how the reaction was managed (*eg “withdraw & avoid offending agent”*) and the source of the information (*eg patient self report, previous documentation in medical notes etc*).

b) Affix an **ADR alert sticker** to the front and back page of the NIMC in the spaces provided.



3.6 Once only, pre-medication and nurse initiated medicines

ONCE ONLY, PRE-MEDICATION & NURSE INITIATED MEDICINES									
Date Prescribed	Medication (Print Generic Name)	Route	Dose	Date/Time of Dose	Prescriber/Nurse Initiator (NI)		Given By	Time Given	Pharmacy
					Signature	Print Your Name			

Once only and pre-medication orders:

The following must be documented for **once only** and **pre-medication orders**:

- date prescribed
- generic name of medicine
- route of administration (accepted abbreviations may be used, refer Appendix A)
- dose to be administered, and the basis for the dose calculation (eg mg/kg/dose) for Paediatric NIMC
- date and time medicine is to be administered
- prescriber's signature and printed name
- initials of person that administers the medicine, and initials of a second person's to document double checking of the dose on the Paediatric NIMC
- time medicine administered

Nurse initiated medicines

The following must be documented for **nurse initiated medicines**

- generic name of medicine
- route of administration (accepted abbreviations may be used, refer Appendix A)
- dose to be administered, and the basis for the dose calculation (eg mg/kg/dose) for Paediatric NIMC
- date and time medicine nurse initiated
- nurse initiator to sign and print name
- initials of person who administers the medicine, and initials of a second person's to document double checking of the dose on the Paediatric NIMC
- Time medicine is administered

Local hospital policy/guidelines will outline when nurses can initiate medicines and will specify a **limitation on nurse initiated medicines** such as "for one dose only" or "for a maximum of 24 hours only". Generally the capacity applies to a **limited list of medicines** only. Typically this includes: simple analgesics, aperients, antacids, cough suppressants, sublingual nitrates, inhaled bronchodilators, artificial tears, sodium chloride 0.9% flush or IV infusion to keep IV line(s) patent as per local policy

Note The NIMC provides space for the **minimum** information that should be documented. It is helpful to also document the indication for use and to use a checklist as a prompt to ensure a comprehensive history is obtained. At local levels, facilities may choose to implement a more comprehensive approach to documentation. For more information about medication history documentation refer to local health service policy.

4. Second and third pages of NIMC

4.1 Variable dose medicines ordering (Not applicable to Paediatric NIMC)

VARIABLE DOSE MEDICATION			Drug level															
Date	Medication (Print Generic Name)		Time level taken															
Route	Frequency		Dose															
Prescriber to enter dose times and individual dose				Prescriber														
Indication	Pharmacy		Time to be given:															
Prescriber Signature	Print Your Name	Contact	Time given															

continue/discharge? Yes / No
 repeat? Yes / No
 duration: days: 0/0
 Date:

This section has been formatted to facilitate ordering of medicines that require variable dosing based on laboratory test results or as a reducing protocol *eg gentamicin and steroids*. If these agents are ordered in the regular ordering section, then there is no designated area to record drug levels and if they are ordered in the “once-only” ordering section, the risk of errors of omission is increased.

For **each day of therapy**, the following information should be documented:

- Drug level results
- Time drug level taken

For **each dose**, the following information must be documented:

- Dose
- Doctor’s initials
- Actual time of administration (this may be different from the dose time)
- Initials of person who administers the dose

If a patient requires a second variable dose medication or twice daily dosing, prescribe in the regular section using the above format.

4.2 Warfarin ordering (Not applicable to Paediatric NIMC)

Date	WARFARIN (Marevan/Coumadin) select brand		INR Result															
Route	Prescriber to enter individual doses	Target INR Range	Dose	mg	mg	mg	mg	mg	mg	mg	mg	mg	mg	mg	mg	mg	mg	mg
Indication	Pharmacy			Prescriber														
Prescriber Signature	Print Your Name	Contact	1600 (Nurse 1)															
DOCTORS MUST ENTER administration times			Nurse 2															

continue/discharge? Yes / No
 repeat? Yes / No
 duration: days: 0/0
 Pharmacist:

The warfarin ordering section is printed in red as an extra alert to indicate that it is an anticoagulant (and a high-risk medicine).

It is recommended that a laminated copy of guidelines for anticoagulation using warfarin is available to assist the doctor/pharmacist/nurse when a patient is commenced on warfarin. The guidelines should offer information about target INR, duration of therapy, dosing, management of excessive bleeding and drug interactions.

A standard dose time of 1600 hours (4pm) is recommended as this allows the medical team caring for the patient to order the next dose based on INR results, rather than leaving it for after-hours staff to do.

The indication and target INR (based on guidelines for anticoagulation using warfarin) should be included when warfarin is initially ordered.

For **each day of therapy**, the following information should be documented:

- INR result
- warfarin dose
- doctor’s initials
- initials of nurse that administers the dose and the checking nurse

- d) Route. Only commonly used and understood abbreviations should be used to indicate the route of administration. Acceptable abbreviations are listed below.

The National Terminology, Abbreviations and Symbols to be used in the Prescribing and Administering of Medicines in Australian Hospitals 2008 (the National Terminology) forms Attachment A to this document. It provides principles for consistent prescribing terminology, a set of recommended terms and acceptable abbreviation and a list of error prone abbreviations, symbols and dose designations that have a history of causing error and must be avoided. Refer to it as the primary information source on terminology, abbreviations and symbols. The following advice is drawn from that document.

Commonly used and understood abbreviations	
Abbreviation	Meaning
PO	per oral
NG	nasogastric
subling	sublingual
IV	intravenous
IM	intramuscular
subcut	subcutaneous
PR	per rectum
PV	per vagina
eye drop	eye drop
eye ointment	eye ointment
topical	topical
MA	metered aerosol
Neb	nebulised / nebuliser

Dangerous abbreviations – Not to be used			
Abbreviation to avoid	Intended meaning	Reason for avoiding	Acceptable alternative
E or e	ear or eye	Misinterpreted as the other organ	ear or eye and specify whether left or right or both
SC	subcutaneous	Mistaken for sublingual	subcut or subcutaneous
SL or S/L	sublingual	Mistaken for SC and interpreted as subcutaneous	subling or sublingual

e) **Dose**

For Paediatric NIMC also see section 6.3

Doses must be written using **metric** and **Arabic** (1,2,3...) systems. **Never** use Roman numerals (i, ii, iii, iv...). Acceptable abbreviations are listed below.

Always use zero (**0.**) before a decimal point (eg *0.5g*) otherwise the decimal point may be missed. However if possible it is preferable to state the dose in whole numbers, not decimals (eg *Write 500mg instead of 0.5g or write 125microgram instead of 0.125mg*).

Never use a trailing zero (**.0**) as it may be misread if the decimal point is missed (eg *1.0 misread as 10*)

Do not use U or IU for units because it may be misread as zero. Always write **units** in full.

Note In the case of **liquid medicines**, the **strength** and the **dose** in milligrams or micrograms (not millilitres) must always be specified eg *morphine mixture (10mg/mL) Give 10mg every 8 hours*

Note The ward/clinical pharmacist will clarify when the strength supplied is different from that ordered eg *For 10mg, the pharmacist may write 2 x 5mg tablets or for 25mg, the pharmacist may write half a 50mg tablet*

Commonly used and understood abbreviations

Abbreviation	Meaning
mL	millilitre
g	gram
mg	milligram
microgram or microg	microgram
mmol	millimole

Dangerous abbreviations – Not to be used

Abbreviation to avoid	Intended meaning	Reason for avoiding	Acceptable alternative
Ug, mcg or µg	microgram	Mistaken for milligram when handwritten	microgram or microg
U or u	unit	Mistaken as the numbers '0' or '4', causing a 10-fold overdose or greater (e.g. 4U seen as '40' or 4u seen as '44').	unit(s)
IU or iu (eg 3 IU)	International Unit	Mistaken for iv (intravenous) or as 31u (thirty-one units)	International unit
No zero before decimal point (eg .5mg)	0.5mg	Misread as 5mg	0.5mg or write 500microgram
Trailing zero after decimal point (eg 5.0mg)	5mg	Misread as 50mg	Do not use trailing zero after decimal points after whole numbers

- f) **Frequency and administration times.** The medical officer writing the order **must** enter the **frequency** and **administration time(s)** when writing the medication order. This will prevent errors where the nurse misinterprets the frequency and writes down the wrong times. If these details are not entered, the dose may not be administered by nursing staff.

Acceptable abbreviations are listed below. Times should be entered using the 24-clock (this nomenclature is the global standard).

Drugs should be administered according to the **Recommended Administration Times** unless they must be given at specific times (eg some antibiotics, with/before food) or, as in the case of young children with variable meal and sleep schedules, a specific schedule is required.

RECOMMENDED ADMINISTRATION TIMES					
Guidelines only					
Morning	mane	0800			
Night	nocte			1800 or 2000	
Twice a day	bd	0800		2000	
Three times a day	tds	0800	1400	2000	
Antibiotic 6 hourly	6 hrly	0600	1200	1800	2400
Antibiotic 8 hourly	8 hrly	0600	1400	2200	
Four times a day	qid	0600	1200	1800	2200

The ward/clinical pharmacist or nurse will clarify (and annotate the chart) the administration time if necessary to correctly administer the drug (in relation to food etc)

Commonly used and understood abbreviations	
Abbreviation	Meaning
mane	Morning
nocte	Night
bd	Twice daily
tds	Three times a day
qid	Four times a day
unit(s)	International Unit(s)

Dangerous abbreviations - not to be used			
Abbreviation to avoid	Intended meaning	Reason for avoiding	Acceptable alternative
OD, od or d	Once a day Once daily	Mistaken for twice a day d is easily missed	daily or the specific time
QD or qd	Every day	Mistaken as qid (four times a day)	daily
M	Morning	Mistaken for n (night)	morning or mane
N	Night	Mistaken for m (morning)	night or nocte
6/24	Every six hours	Mistaken for six times a day	every 6 hrs or 6 hourly or 6 hrly
1/7	For one day	Mistaken for one week	for one day only
X 3d	For 3 days	Mistaken as for three doses	for 3 days

g) **Pharmacy.** This section is for use by the ward/clinical pharmacist to clarify the order, indicate source of supply or provide administration instructions.

Annotations include:

I for medicines available on imprest

S for non-imprest items that will be supplied and labelled for individual use from the pharmacy

Pts own for medicines checked by the pharmacist and confirmed to be acceptable for use during the patient's admission

CD to indicate a Schedule 8 medicine (stored in CD cupboard)

Fridge to indicate a medicine that is stored in the fridge

h) **Indication** This section is for the medical officer to document the indication. This allows the order to be reviewed in the context of why the medicine was prescribed, reducing the risk of misinterpretation of the order (e.g. medicines with look-a-like names) or incorrect doses (e.g. where medicines have different doses for different indications).

i) **Doctor Signature and Print Name.** The signature of the medical officer must be written to complete each medication order. For each signature (medical officer), their name must be written in print at least once on the medication chart.

4.5 Limited duration and ceased medicines

When a medicine is ordered for a **limited duration**, or only on **certain days**, this must be clearly indicated using crosses (**X**) to block out day/times when the drug is **NOT** to be given

The image shows a medication chart for Naproxen. The chart includes the following information:

- Date:** 15/06
- Medication (Print Generic Name):** Naproxen
- Route:** PO
- Dose:** 1g
- Frequency & NOW Enter Times:** bd for 3 days post op
- Indication:** Pain
- Pharmacy:** I after food
- Prescriber Signature:** [Signature]
- Print Your Name:** S Jones
- Contact:** [Phone Number]

The chart also features a grid for administration times. The grid has columns for days of the week (Sun, Mon, Tue, Wed, Thu, Fri, Sat) and rows for times of day (0800, 1200, 1800). 'X' marks are placed in the grid to indicate when the drug is not given. For example, 'X' marks are present in the 0800 row for Sun, Mon, Tue, Wed, Thu, and Fri, and in the 1200 row for Sun, Mon, Tue, Wed, Thu, and Fri. The 1800 row has 'X' marks for Sun, Mon, Tue, Wed, and Thu.

When **stopping a medicine**, the original order **must not** be obliterated. The medical officer must draw a clear line through the order in both the prescription and the administration record sections, taking care that the line does not impinge on other orders.

The medical officer must write the reason for changing the order (eg cease, written in error, increased dose etc) at an appropriate place in the administration record section.

Note the acronym **D/C** should not be used for ceased orders since this can be confused with **Discharge**. Always use **Cease**.

When a medication order needs to be changed, the medical officer **must not** over write the order. The original order must be **ceased** and a new order written.

4.6 Administration record

For Paediatric NIMC also see section 6.3

The medication administration record provides space to record **up to eleven days** of therapy. At the end of eleven days, a new chart should be written.

The last column (which is partially blocked out) is present only as a safety net if the order has not been rewritten. If the medication chart is full, then the medication orders written in it should not be considered valid/current prescriptions.

The shading of alternate columns is intended to reduce the risk of administering a drug on the wrong day.

4.7 Reasons for not administering

When it is not possible to administer the prescribed medicine, the reason for not administering must be recorded by entering the appropriate code (refer below) and **circling**. By circling the code it will not accidentally be misread as someone's initials.

If a patient refuses medicine(s), then the medical officer must be notified.

If medicine(s) are withheld, the reason must be documented in the patient's medical notes. If the medicine is not available on the ward, it is the nurse's responsibility to notify the pharmacy and/or obtain supply or to contact the medical officer to advise that the medicine ordered is not available. (Refer to Appendix B - Guidelines for administering and withholding medicines)

REASON FOR NURSE NOT ADMINISTERING Codes MUST be circled	
Absent	(A)
Fasting	(F)
Refused - notify Dr	(R)
Vomiting	(V)
On leave	(L)
Not available - obtain supply or contact Dr	(N)
Withheld - Enter reason in Clinical Record	(W)
Self Administering	(S)

6. Special features of the Paediatric NIMC

The Paediatric chart incorporates additional features identified as important for facilitating safe medicines use in the paediatric population. These features include designated:

1. Boxes for recording weight on front and back page of chart.
2. Spaces for recording body surface area and gestational age (where relevant).
3. Space for documenting the basis for dose calculation (e.g. mg/kg/dose).
4. Space for double signing when recording administration.

6.1 Patient weight, height, and BSA

The child's weight must be documented in the box on the front of the chart. The weight should also be documented on the back page when PRN medicines are ordered.

The height and body surface area should be documented where body surface area is used to calculate the dose of a medicine.

6.2 Gestational age

There is space for recording gestational age under the BSA and height box. This should be completed for premature infants.

6.3 Dose calculation

The prescriber must document the basis for the dose calculation in the dose calculation box (e.g. mg/kg/dose or microgram/m²/dose etc). This will assist pharmacists, nurses and other doctors in double-checking the dose to ensure that the intended and actual dose is calculated correctly.

Date 5/5	Medicine (Print Generic Name) Paracetamol	<input type="checkbox"/> Tick if Slow Release								
Route PO	DOSE 150mg	Frequency & NOW enter times 6 hourly	0600		mg					
Pharmacy/Additional Information			1200							
Indication Pain		DOSE Calculation (eg. mg/kg per dose) 15mg/kg	1800	AP	CD					
Prescriber Signature ABrown		Print Your Name J Brown	2400	AP	CD					
Contact/ Pager 9986										

The basis for the dose calculation should first be checked in a current paediatric dosing reference endorsed by the local Drug and Therapeutics Committee.

The actual dose should be calculated using an accurate weight or BSA (up to usual adult dose). If the child is obese or significantly oedematous, the ideal weight may be more appropriate.

All calculations should be double-checked.

6.4 Administration of medicines

There are two spaces for recording the administration of each dose of medicine to allow for the recording of two signatures, to document the double checking process has occurred.

**National terminology, abbreviations and
symbols to be used in the prescribing and
administering of medicines in Australian
hospitals
2008**

AUSTRALIAN COMMISSION ON SAFETY AND QUALITY IN HEALTHCARE

National terminology, abbreviations and symbols to be used in the prescribing and administering of medicines in Australian hospitals

Introduction

One of the major causes of medication errors is the ongoing use of potentially dangerous abbreviations and dose expressions.¹ This is a critical patient safety issue. A study to identify and quantify prescribing errors in a large US urban teaching hospital found that 29% of prescriptions contained a dangerous abbreviation.² An abbreviation used by a prescriber may mean something quite different to the person interpreting the prescription. Abbreviations may not only be misunderstood but can also be combined with other words or numerals to appear as something altogether unintended.

In addition, there have been changes to training of health care professionals, to health care delivery and to societal expectations, which also necessitate a rethinking of the language used to communicate medication prescribing and administration. Latin was once the language of health care and its use made medical literature universally readable among educated persons.³ Today, English is the predominant language of medical literature.³ Despite this, Latin abbreviations continue to be used amongst health professionals. Although this may be a timesaving convenience, their routine use does not promote patient safety.³

Changes to policy enabling staff with differing levels of training to administer medicines, also necessitates the use of English. This training does not include Latin nor does it include comprehensive

training in terms used for the administration of medicines. In addition, patients and their carers have the right to understand what is being prescribed and administered to them. Prescribing using codes or an outmoded language is no longer acceptable.

Objectives

In order to promote patient safety and clear and unambiguous prescribing of medicines, this document establishes the following:

- Principles for consistent prescribing terminology (Table 1)
- A set of recommended terms and acceptable abbreviations (Table 2)
- A list of error-prone abbreviations, symbols and dose designations that have a history of causing error and must be avoided (Table 3)

Scope

The principles and recommendations apply to:

- ALL medication orders or prescriptions that are handwritten or pre-printed
- ALL communications and records concerning medicines, including telephone/verbal orders/prescriptions, medication administration records and labels for drug storage.⁴

Prescriptions should not contain ANY abbreviations other than those that are in universal and common use, such as the term 'prn' meaning 'when required'. All drug names, protocols and procedures should be in English and written in full.

It is recommended that hospitals develop policies for prescribing terminology together with strategies for implementation within their institutions. In developing strategies, hospitals may wish to refer to the Joint Commission on Accreditation of Healthcare Organisations (JCAHO) "implementation tips" for eliminating dangerous abbreviations (<http://www.jointcommission.org/PatientSafety/DoNotUseList/>).

Although this document provides recommendations it is not all-inclusive. There may also be specific circumstances where other terminology may be considered safe. However, before hospital Drug and Therapeutic Committees (DTCs) decide to include such terminology in local policies the principles outlined in Table 1 should be applied. DTCs should continue to monitor incidents associated with prescribing terminology.

Please note this document is valid as at November 2008 and will be modified on the basis of reported adverse events associated with terminology, abbreviations and/or symbols used in the prescribing or administration of medicines. In addition, when moving to electronic prescribing a reassessment of what is safe terminology should be made.

TABLE 1: Principles for consistent prescribing terminology

- 1. Use plain English - avoid jargon**
- 2. Write in full - avoid using abbreviations wherever possible, including Latin abbreviations**
- 3. Print all text - especially drug names**
- 4. Use generic drug names**

Exception may be made for combination products, but only if the trade name adequately identifies the medication being prescribed. For example, if trade names are used, combination products containing a penicillin (eg Augmentin®, Timentin®) may not be identified as penicillins.

Exception may also be made where significant bioavailability issues exist, for example cyclosporin, amphotericin
- 5. Write drug names in full. NEVER abbreviate any drug name**

Some examples of **unacceptable** drug name abbreviations are: G-CSF (use filgrastim or lenograstim or pegfilgrastim), AZT (use zidovudine), 5-FU (use fluorouracil), DTIC (use dacarbazine), EPO (use epoetin), TAC (use triamcinolone)

Exception may be made for modified release products
For slow release, controlled release, continuous release or other modified release products, the description used in the trade name to denote the release characteristics should be included with the generic drug name, for example tramadol SR, carbamazepine CR

For multi-drug protocols, prescribe each drug in full and do not use acronyms, for example do not prescribe chemotherapy as 'CHOP'. Prescribe each drug separately
- 6. Do not use chemical names/symbols**, for example HCl (hydrochloric acid or hydrochloride) may be mistaken for KCl (potassium chloride)

Do not include the salt of the chemical unless it is clinically significant, for example mycophenolate mofetil or mycophenolate sodium. Where a salt is part of the name it should follow the drug name and not precede it
- 7. Dose**
 - Use words or Hindu-Arabic numbers**, ie 1, 2, 3 etc
Do not use Roman numerals, ie do not use ii for two, iii for three, v for five etc
 - Use metric units**, such as gram or mL
Do not use apothecary units, such as minims or drams
 - Use a leading zero in front of a decimal point for a dose less than 1**, for example use 0.5 not .5
Do not use trailing zeros, for example use 5 not 5.0
 - For oral liquid preparations, express dose in weight as well as volume**, for example in the case of morphine oral solution (5mg/mL) prescribe the dose in mg and confirm the volume in brackets: eg 10mg (2mL)
 - Express dosage frequency unambiguously**, for example use 'three times a week' not 'three times weekly' as the latter could be confused as 'every three weeks'
- 8. Avoid fractions**, for example
 - 1/7 could be interpreted as 'for one day', 'once daily', 'for one week' or 'once weekly'
 - 1/2 could be interpreted as 'half' or as 'one to two'
- 9. Do not use symbols**
- 10. Avoid acronyms or abbreviations for medical terms and procedure names on orders or prescriptions**, for example avoid EBM meaning 'expressed breast milk'

TABLE 2: Acceptable terms and abbreviations

The following table lists the terms and abbreviations that are commonly used and understood and therefore considered acceptable for use. Where there is more than one acceptable term the preferred term is shown first in the right hand column.

Intended meaning	Acceptable Terms or Abbreviations
Dose Frequency or Timing	
(in the) morning	morning, mane
(at) midday	midday
(at) night	night, nocte
twice a day	bd
three times a day	tds
four times a day	qid
every 4 hours	every 4 hrs, 4 hourly, 4 hrly
every 6 hours	every 6 hrs, 6 hourly, 6 hrly
every 8 hours	every 8 hrs, 8 hourly, 8 hrly
once a week	once a week and specify the day in full, eg, once a week on Tuesdays
three times a week	three times a week and specify the exact days in full, eg three times a week on Mondays, Wednesdays and Saturdays
when required	prn
immediately	stat
before food	before food
after food	after food
with food	with food
Route of administration	
epidural	epidural
inhale, inhalation	inhale, inhalation
intraarticular	intraarticular
intramuscular	IM
intrathecal	intrathecal
intranasal	intranasal
intravenous	IV
irrigation	irrigation
left	left
nebulised	NEB
naso-gastric	NG
oral	PO
percutaneous enteral gastrostomy	PEG
per vagina	PV
per rectum	PR
peripherally inserted central catheter	PICC
right	right
subcutaneous	subcut
sublingual	subling
topical	topical

TABLE 2: Acceptable terms and abbreviations (continued)

The following table lists the terms and abbreviations that are commonly used and understood and therefore considered acceptable for use. Where there is more than one acceptable term the preferred term is shown first in the right hand column.

Intended meaning	Acceptable Terms or Abbreviations
Units of Measure and Concentration	
gram(s)	g
International unit(s)	International unit(s)
unit(s)	unit(s)
litre(s)	L
milligram(s)	mg
millilitre(s)	mL
microgram(s)	microgram, microg
percentage	%
millimole	mmol
Dose Forms	
capsule	cap
cream	cream
ear drops	ear drops
ear ointment	ear ointment
eye drops	eye drops
eye ointment	eye ointment
injection	inj
metered dose inhaler	metered dose inhaler, inhaler, MDI
mixture	mixture
ointment	ointment, oint
pessary	pess
powder	powder
suppository	supp
tablet	tablet, tab
patient controlled analgesia	PCA

TABLE 3: Error-prone abbreviations, symbols and dose designations to be avoided

(Adapted from the Institute of Safe Medication Practices [ISMP] list of the same name*, with permission from ISMP)

Error-prone Abbreviation X	Intended Meaning	Why?	What should be used ✓
µg, mcg or ug	microgram	Mistaken as 'mg'	microgram
BID or bid	twice daily	Mistaken as 'tid' (three times daily)	bd
BT or bt	bedtime	Mistaken as 'BID' (twice daily)	bedtime
cc	cubic centimetres	Mistaken as 'u' (units)	mL
D/C	discharge or discontinue	Premature discontinuation of medications if discharge intended	'discharge' or 'discontinue' whichever is intended
e or E	ear or eye	Mistaken for 'ear' when 'eye' intended or for 'eye' when 'ear' intended	'eye' or 'ear' and specify whether 'left', 'right' or 'both'
gtt or gutte	drops	Latin abbreviation meaning 'drops', not universally understood.	'drops' or 'eye drops' whichever is intended
HS hs	half-strength at bedtime, hours of sleep	Mistaken as bedtime Mistaken as half-strength	'half-strength' or 'bedtime' whichever is intended
IJ	injection	Mistaken as 'IV' or 'intrajugular'	injection
IN	intranasal	Mistaken as 'IM' or 'IV'	intranasal
IT	intrathecal	Mistaken as Intravenous	intrathecal
IU	International units	Mistaken as 'IV' (Intravenous) or '10' (ten)	International units
M	morning	Mistaken for 'n' (night)	morning
N	night	Mistaken for 'm' (morning)	night
Oc or Occ	eye ointment	Mistaken for eye drops	eye ointment
mist	mixture	Latin abbreviation, not universally understood	mixture
o.d. or OD	once daily	Mistaken as 'right eye' (OD-oculus dexter), leading to oral liquid medications administered in the eye. Can also be mistaken for BD (twice daily)	'daily', preferably specifying the time of the day, eg 'morning', 'mid-day', 'at night'
OJ	orange juice	Mistaken as 'OD' or 'OS' (right or left eye); drugs meant to be diluted in orange juice may be given in the eye	orange juice
OW	once a week	Not universally understood	once a week
p/f	per fortnight	Not universally understood	every two weeks, per fortnight
qd or QD	every day	Mistaken as 'Qid', especially if the period after the 'q' or the tail of the 'q' is misunderstood as an 'i'	daily
pulv	powder	Latin abbreviation, not universally understood	powder
Qhs	nightly at bedtime	Mistaken as 'qhr' or every hour	'night', 'daily at bedtime'
Qh	every hour	Not universally understood	'hourly', 'every hour'
qod or QOD	every other day	Mistaken as 'qd' (daily) or 'qid' (four times daily)	'every second day', 'on alternate days'
Q6PM etc	every evening at 6 pm	Mistaken as every six hours	'6pm daily', 'every night at 6pm', 'every day at 6 pm'

TABLE 3: Error-prone abbreviations, symbols and dose designations to be avoided (continued)

(Adapted from the Institute of Safe Medication Practices [ISMP] list of the same name*, with permission from ISMP)

Error-prone Abbreviation X	Intended Meaning	Why?	What should be used ✓
SC	subcutaneous	Mistaken as 'SL' (Sublingual)	'subcut', 'subcutaneous'
SL or S/L	sublingual	Mistaken as 'SC' (Subcutaneous)	'subling', 'under the tongue'
Ss	sliding scale (insulin) or half (apothecary)	Mistaken as '55'	'sliding scale' or 'half' whichever is intended
SSRI or SSI	sliding scale regular insulin or sliding scale insulin	Mistaken as selective serotonin reuptake inhibitor; Mistaken as Strong Solution of Iodine (Lugols)	sliding scale insulin
TID	three times a day	Mistaken as 'bd'	tds
TIW	three times a week	Mistaken as 'three times daily'	'three times a week' and specify exact days in full, for example 'on Mondays, Wednesdays and Saturdays'
i/D	one daily	Mistaken as 'tid'	one daily
U or u	unit	Mistaken as the numbers '0' or '4', causing a 10-fold overdose or greater (eg 4U seen as '40' or 4u seen as '44'). Mistaken as 'cc' so dose given as a volume instead of units (eg 4u seen as 4 cc)	unit
ung	ointment	Latin abbreviation, not universally understood	ointment

Error-prone frequency and dosage abbreviations X	Intended Meaning	Why?	What should be used ✓
6/24	every six hours	Mistaken as 'six times a day'	'every 6 hrs', '6 hourly', '6 hrly'
1/7	for one day	Mistaken as 'for one week'	for one day only
1/2	half	Mistaken as 'one or two'	half
i, ii,iii,iv (Roman numerals)	1,2,3,4 etc		Hindu-Arabic numbers, 1,2,3,4 etc or words

TABLE 3: Error-prone abbreviations, symbols and dose designations to be avoided (continued)

(Adapted from the Institute of Safe Medication Practices [ISMP] list of the same name*, with permission from ISMP)

Error-prone dose designations and other information X	Intended meaning	Why?	What should be used ✓
Trailing zero after decimal point (eg 1.0mg)	1mg	Mistaken as 10mg if the decimal point is not seen	Do not use trailing zeros for doses expressed in whole numbers
No leading zero before a decimal point (eg .5mg)	0.5mg	Mistaken as 5mg if the decimal point is not seen	Use zero before a decimal point when the dose is less than a whole unit
Large doses without properly placed commas (eg 100000units, 1000000 units)	100,000 units 1,000,000	100000 has been mistaken as 10,000, or 1,000,000; 1000000 has been mistaken as 100,000	For figures above 100 use words to express intent eg, one thousand, one million, six million etc. Otherwise use commas for dosing units at or above 1,000
10 ⁶ etc	one million	Not universally understood	Use one million or 1,000,000

Error-prone symbols X	Intended Meaning	Why?	What should be used ✓
X3d	for three days	Mistaken as '3 doses'	for three days
> or <	greater than or less than	Mistaken or used as the opposite of intended; '<10' mistaken as '40'	'greater than' or 'less than'
/ (slash mark)	separates two doses or indicates 'per'	Mistaken as the number 1 eg '25 units/10units' misread as '25 units and 110 units'	'per' rather than a slash mark to separate doses
@	at	Mistaken as '2'	at
&	and	Mistaken as '2'	and
+	plus or and	Mistaken as '4'	and
'	hour	Mistaken as a zero (eg q2' seen as q20)	hour

Appendix B – Guidelines for administering and withholding medicines

The NIMC is a legal document and therefore **must be** written in a clear, legible and unambiguous form.

Every nurse has a responsibility to ensure they can clearly read and understand the order before administering any medicines. For **all** incomplete or unclear orders, the prescriber should be contacted to clarify. **Never** make any assumptions about the prescriber's intent.

Every medication chart **must have** the patient's identification details completed.

Every medication order **must be complete** and include:

- **date**
- **route**
- **generic drug name**
- **dose** ordered in metric units & arabic numerals
- **frequency** (using only accepted abbreviations)
- **times** (must be entered by the medical officer)
- **medical officer's signature**

If the medication chart is full (i.e. there is no appropriate space to sign for administration) then the medication order is not valid. The chart must be re-written as soon as possible.

Withholding medicines

It is appropriate to withhold the medicine if there is a known adverse drug reaction (ADR) to the prescribed medicine.

Generally medicines **should not** be withheld if the patient is **pre-operative** or **nil by mouth (NBM) / fasting** unless specified by the medical officer.

Remember the **five Rs**:

- The **right drug**
- The **right dose**
- The **right route**
- The **right time**
- The **right patient**