Health Quality & Safety Commission New Zealand
Kupu Taurangi Hauora o Aotearoa

National Medication Chart user guide (third edition)

January 2021

New Zealand Government

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Contents

The National Medication Chart user guide

Target audience for the user guide

All nursing, midwifery, medical, pharmacy, allied health and administrative staff authorised to access and use medication charts.

As a training aid (prior to work experience) for all undergraduate students training to be health professionals who will be required to use the National Medication Chart (NMC).

Purpose of the chart

The NMC is to be used as a record of orders and administration of general medicines, intravenous and subcutaneous fluids, and oxygen. Supplementary charts are to be used in addition to the NMC, for more specialised purposes (eg, insulin, specialised analgesia, warfarin).

Guiding principles

1 Safe medicines prescribing is the first step in developing an effective medicines safety culture.

2 Prescribers must be aware of their prescribing responsibilities and be familiar with the Medication Charting Standard.[1, 2]

3 All prescribers in senior positions (eg, consultants, nurse practitioners and midwives) must role model prescribing that reflects the Medication Charting Standards.

4 All care providers (eg, doctors, nurses, midwives and pharmacists) have a responsibility to ensure safe administration of medicines. If concern over the safe prescribing of a medicine occurs the medicine should not be administered and concerns must be escalated immediately to the prescriber, or team, to be addressed.

Aims

The NMC aims to:

- promote consistent best-practice prescribing
- standardise the way medicines are prescribed nationally
- reduce the risk of medication errors and improve patient safety
- enable district health boards (DHBs) to easily adopt the national Medication Charting Standard
- reduce the need for re-education on hospital-specific medication charts for prescribers, dispensers and administrators when moving between DHBs
- allow standardised training to begin at undergraduate level for all health professionals who use the NMC
- standardise documentation recording so electronic prescribing and administration (ePA) can be more easily implemented in the future.

1. Health Quality & Safety Commission. 2012. *Medication Charting Standard, Version 3.* Wellington: Health Quality & Safety Commission.
2. All health care providers are also bound by their councils' guidelines on good prescribing practice. See: https://www.mcnz.org.nz/assets/standards/ceae513c85/Statement-on-good-prescribing-practice.pdf; https://www.nursingcouncil.org.nz/Public/Nursing/Nurse_prescribing/NCNZ/nursing-section/Nurse_Prescribing.aspx?hkey=091ed930-56ca-4f25-ae9e-52b33decb227; and https://www.midwiferycouncil.health.nz/midwives/practice-issues/prescribing.

Introduction

The RIGHT patient receives the RIGHT medicine at the RIGHT dose by the RIGHT route at the RIGHT time, and that medicine is SAFE for the patient to receive.

It has been recognised that a significant number of errors are made when prescribing, dispensing, documenting and administering drugs.

FACT

The design of the first National Medication Chart (NMC) was the result of an eight-year development phase involving many health professionals. During the development of the NMC, the Medication Charting Standard for DHBs was also formulated.[3]

The objective of the NMC is to ensure safe and effective medicine management practices, thereby assisting in reducing medication errors.

Implementation of the NMC began in 2011. The design was reviewed in 2012. A further review was completed in 2014, leading to an amendment to the oxygen prescribing section in 2016. Regular review means that the chart design continues to evolve to meet the needs of current practice.

In 2019 the Health Quality & Safety Commission (the Commission) commenced a utility review of the NMC suite, which included formal user feedback. The proposed changes were considered by a review panel of doctors, pharmacists and nurses. Changes were incorporated into the NMCs after balancing clinical practice, the risk of error without the proposed feature and the limitations of a paper-based system.

The medication charts are used in inpatient settings to record the medicines prescribed and administered to a patient along with any allergies and adverse reactions from medicines.

The Commission supports a suite of five NMCs:

- 1-day stay chart
- 8-day chart
- 8-day chart (scannable)
- 16-day chart (long stay)
- 16-day chart (long stay, scannable).

3. Health Quality & Safety Commission 2012, *op. cit.*

Important notes

All clinicians

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

2 If the NMC is full (ie, there is no appropriate space to sign for administration), then the medication order is not valid and the NMC must be rewritten.

3 Use only commonly used abbreviations and avoid 'DO NOT USE' abbreviations (see Appendices A and B).

4 Review **all** medicines regularly to identify any potential drug interactions and discontinue medicines no longer required.

5 Do not use correcting fluid or an eraser if a mistake has been made. Cross out the mistake completely and prescribe again on a new line.

Prescriber

6 Ensure patient's identification details are completed and correct before prescribing.

7 Ensure each medicine order is documented correctly (as outlined in this guide).

8 Ensure any special release characteristics of the medicine are **always** prescribed if applicable, eg, 'Madopar HBS', 'Sinemet CR'. A number of abbreviations are used (Figure 1).

Figure 1

Abbreviation	Meaning
CD	Controlled delivery
CR	Controlled release
ER	Extended release
HBS	Hydrodynamically balanced system with controlled release
LA	Long acting
MR	Modified release
SR	Slow release

- Be aware that other, less commonly used abbreviations not listed in Figure 1 may also indicate special release characteristics (such as MUPS = Multiple Unit Pellet System).

9 Ensure medicines are prescribed generically **except** for the locally agreed list of medicines. Examples that may be included in such a list are:

- warfarin, where the addition of a brand name is required for patient safety reasons
- oxycodone or morphine, where the addition of the brand name is required for patient safety reasons
- Sinemet and Madopar, where the brand name is required in order to avoid listing the multiple ingredients in the medicine.

Administrators

10 Every health care practitioner has a responsibility to ensure they can clearly read and understand the order before administering any medicine. The prescriber should be contacted to clarify incomplete or unclear orders.

11 It is appropriate to withhold a medicine if there is a known allergy or adverse reaction to it, until the prescriber has been contacted for instructions.

Pharmacy

12 Every pharmacist has a responsibility to ensure the appropriateness of the prescription if a medication chart is checked.

13 Ensure a signature or initials are documented in the Pharm box if a pharmacist has checked the patient's medication chart.

Section 1: Essential documentation

The NMC has space to document all relevant patient information necessary for prescribing and administration purposes. It also provides space for recording sample signatures or initials of prescribers, administrators and other health professionals who may use the NMC.

1.1 Identification of the patient

Patient identification that is incomplete and/or not visible on all sections of the NMC may result in an adverse drug event (eg, the medicine is administered to the wrong patient).

There is a first prescriber section (Figure 2) and patient identification section (Figure 3) on page 1 of the NMC. There are additional patient label positions on the chart for clinicians to add or write patient details. The 1-day stay chart has two patient label positions.

1 The first prescriber must print the patient's name and NHI number in the box above the first patient label (on page 1) (Figure 2).
2 Every NMC must have either:
   - the current patient identification label (bradma label) stuck on all label spaces within the NMC, or
   - all the following patient details handwritten by the prescriber in all label spaces (Figure 3):
     a patient name (family/given name)
     b gender (male/female/indeterminate)
     c date of birth (as DAY/MONTH/YEAR)
     d NHI number.

Figure 2

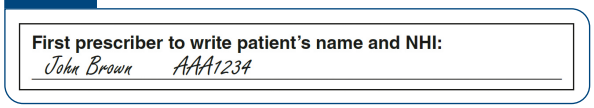
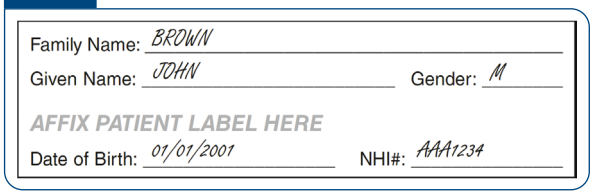


Figure 3



Handwriting a patient's name in addition to the printed patient label reduces the risk of the wrong identification label being placed on the NMC and the wrong patient receiving the wrong medicines.

TIP

1.2 Numbering of the NMC

Clinicians must be aware of all medication charts in use in order to have access to all current medication information to safely prescribe, dispense and administer medicines for patients.

1 This indicates to all staff how many NMCs are in use for a patient (Figure 4).
   - This count does not include supplementary charts (eg, warfarin, insulin or specialised analgesia chart).
2 Complete as chart 1 of 1 if there is only one NMC in use (Figure 4a).
3 Change to chart 1 of 2 if another active NMC comes into use (Figure 4b). The new active NMC becomes chart 2 of 2 (Figure 4c).

Figure 4a

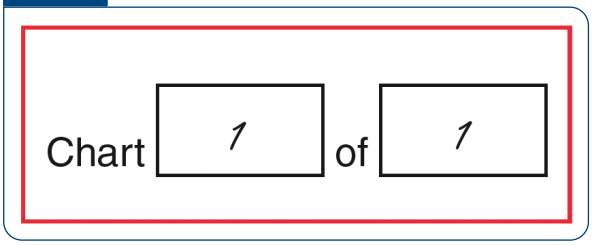


Figure 4b

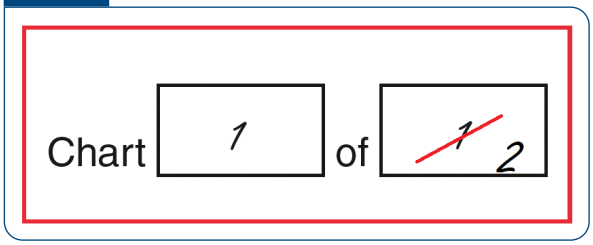
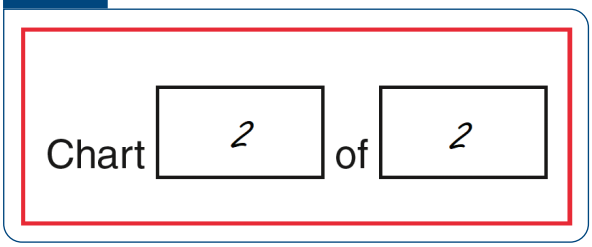


Figure 4c



1.3 Date NMC is recharted

This section enables staff to identify the date the entire NMC was recharted.

1 Leave this box blank if this is the first NMC used for a patient during this admission.
2 Complete the box if at any time during the patient's admission, the original NMC becomes full and a new NMC is written (Figure 5). This indicates to staff that this is not the first NMC of this admission.
   - All prescriptions carried forward onto the new NMC should have the original date of prescribing in the prescription date box.

Figure 5

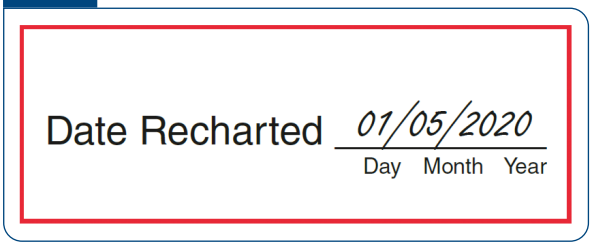


Figure 6

8 Day National Medication Chart

Chart 1 of 1

Date Recharted 01/05/2020 (Day Month Year)

First prescriber to write patient's name and NHI:
John Brown AAA1234

Family Name: BROWN
Given Name: JOHN Gender: M

AFFIX PATIENT LABEL HERE

Date of Birth: 01/01/2001 NHI#: AAA1234

Special Care Required	Supplementary Medicine Charts	Admission Medicine Reconciliation
☑ Renal impairment	☐ Insulin	☑ Discrepancies identified — Signature SSharples — Date 01/05/20
☐ Hepatic impairment	☑ Specialised analgesia	☑ Discrepancies reconciled — Signature SSharples — Date 02/05/20
☐ Pregnancy	☐ Heparin	☐ No discrepancies identified — Signature — Date
☐ Breastfeeding	☐ Warfarin	
☐ Anticoagulation	☐ Other	
☐ Other	☐ Other	

Sample signatures – Prescribers

Name & Reg No. (family & given)	Signature	Contact No.
Ima Goodprescriber 12345	I.Goodprescriber	04 9[illegible]9111
Dr Janice Doolittle MCNZ 19284	Dr Janice Doolittle	4 922 9222

Cancelled, rewritten 09/05/2020 J Goodprescriber

Sample initials – Administrators/Others

Name & Reg No. (family & given)	Initials	Name & Reg No. (family & given)	Initials
Sofa Sharples	SS		
NZCS 999			
Courtney Mills	CP		
NCNZ 1000			
Ima Goodnurse RN NCNZ 9876	IG		

DO NOT WRITE IN THIS AREA

NMC8D February 2020

1

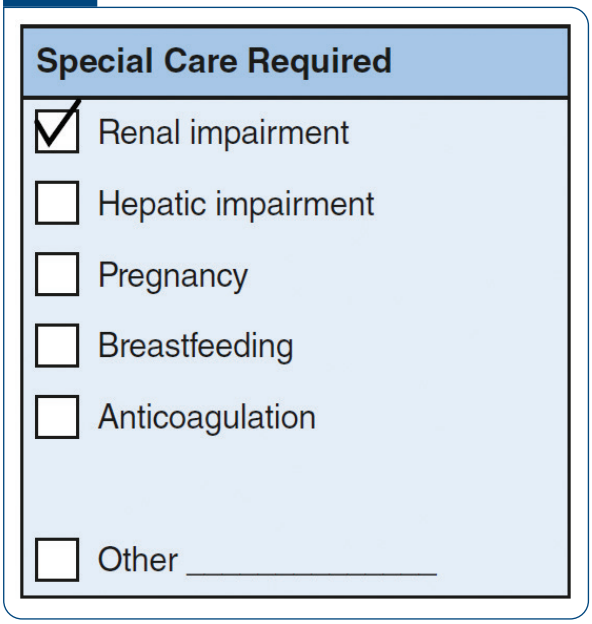
- Annotate the old NMC as recharted with a date and signature for accountability (Figure 6), or as per local policy for cancelling medication charts.

1.4 Special care required

Clinicians need access to all current medication information to safely prescribe, dispense and administer medicines for patients. Reminders can flag to clinicians information that should be taken into consideration because it might affect prescribing, dispensing and/or administration decisions.

Mark the corresponding condition box or use the 'Other' space to indicate non-specified conditions such as nasogastric feeding, delirium or cognitive loss (Figure 7).

Figure 7



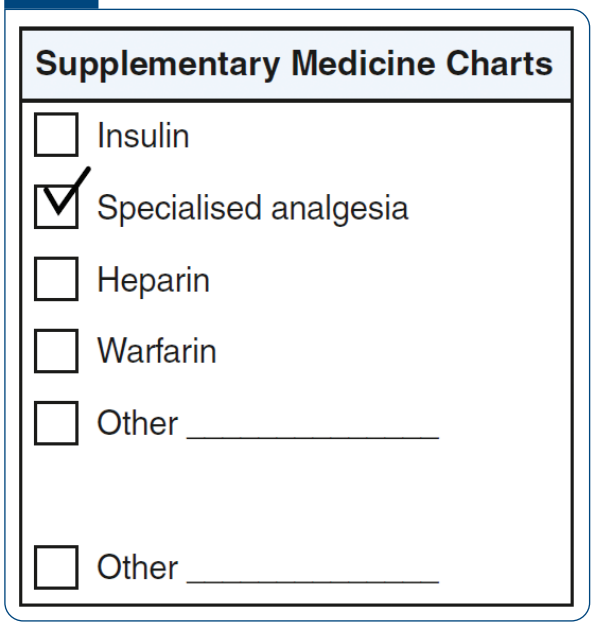
1.5 Supplementary medicine charts

This section alerts all chart users to other medicines that may be prescribed on a supplementary chart, which should be taken into consideration when prescribing, dispensing or administering medicines on the NMC.

1 Mark the appropriate box that corresponds to the correct supplementary chart(s) or mark 'Other' and specify the title of the supplementary chart(s) (Figure 8).

- In addition, cross-reference any medicine on a supplementary chart in the appropriate section of the NMC or follow local policy if different requirements exist.

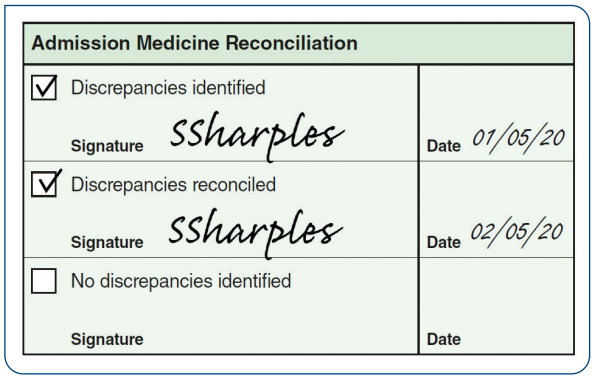
Figure 8



1.6 Admission medicine reconciliation

This section identifies if medicine reconciliation has been completed. The first two boxes are to identify if discrepancies have been found and when they are reconciled, and the last box is for when no discrepancies are identified (Figure 9). This section should be signed by the person doing the medicine reconciliation and full details added to the sample signatures section (see Section 1.7).

Figure 9



1.7 Sample signatures and sample initials: prescribers and administrators/others

Sample signatures and initials allow easy identification of all clinicians if a query arises about an order or administration of that order. Registration numbers are a requirement of the Medication Charting Standard and are a unique identifier for all health professionals. These help identify a clinician in the event their signature is unidentifiable. The signature information can be completed over two lines of the chart; a stamp can be used in this section.

1 All prescribers using the NMC must print their name and registration number, sign their full signature and provide their contact details. A stamp can be used (Figure 10).

2 All administrators/others using the NMC must print their name and registration number and sign their initials. A stamp can be used (Figure 11).

Figure 10

Sample signatures – Prescribers

Name & Reg No. (family & given)	Signature	Contact No.
Ima Goodprescriber	I.Goodprescriber	04 911 9111
Dr Janice Doolittle MCNZ 19284	Dr Janice Doolittle	04 922 9222

Figure 11

Sample initials – Administrators/Others

Name & Reg No. (family & given)	Initials	Name & Reg No. (family & given)	Initials
Sofa Sharples	SS	Suzie Marks	SM
NZCS 999		12345	
Countless pills	CP	Erica Good	EG
PCNZ 1000		67890	
Ima Goodnurse RN NCNZ 9876	IG **IG**		

1.8 Weight, height, body surface area and gestational age at birth

A number of medicines are dosed based on body weight, and in paediatrics medicines are dosed based on body weight until adult doses are reached. Inaccurate dosing may result when the actual weight is not readily available.

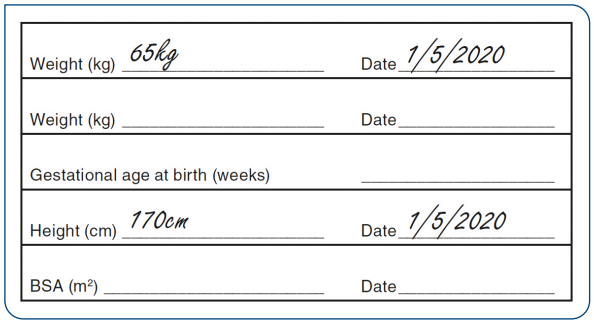
Recording the date determines the currency of the information. Body surface area (BSA), which is calculated using weight and height, may be needed to determine the dose of some medicines. Dosing in neonates will be determined by gestational age and weight.

1. Document the patient's weight and height in the space provided with the date when these were measured (Figure 12). A second space for weight is provided for use when documentation of a second weight is required.
2. When appropriate, complete the 'BSA' box.
3. When appropriate, complete the 'Gestational age at birth' box.

ADDITIONAL GUIDANCE

Patients with widely fluctuating body weights may require daily weighs.

Figure 12



1.9 Allergies and adverse reactions

Omission of allergy and adverse reaction information risks the prescribing and administering of a medicine that has previously caused an allergic or adverse reaction. A description of the reaction and whether it is new for this admission is important information. Recording of a clinician's signature assigns accountability for the information and the date shows how current the information is. There is no need to distinguish between an allergy and an adverse reaction on the NMC (Figure 13). Please report a reaction directly to the Centre for Adverse Reactions Monitoring (CARM) within the New Zealand Pharmacovigilance Centre.

Figure 13

Allergies & Adverse Reactions No ☐

Medication / other	Reaction	New this admission	Medication / other	Reaction	New this admission
Cefuroxime	All over rash	☑			☐
Morphine	Nausea	☐			☐
		☐			☐
		☐			☐
		☐			☐

Signature A. Goodprescriber Date 1/5/20

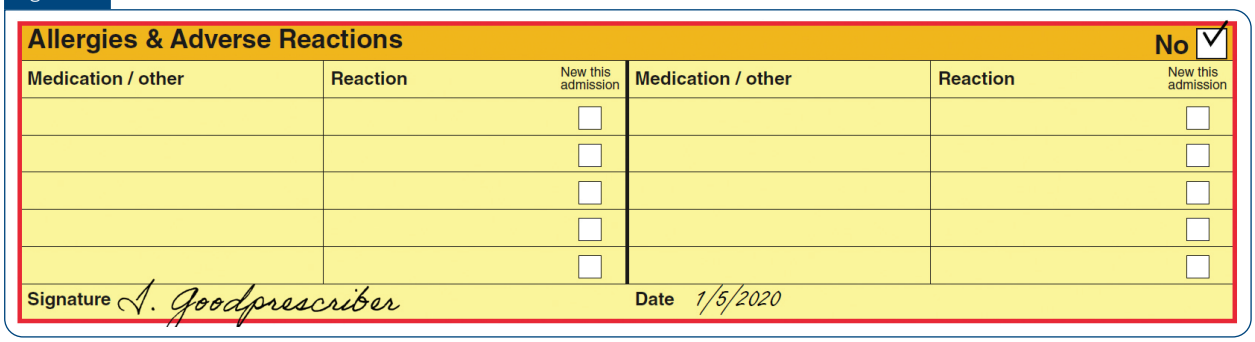
1 The information compiled on page 2 of the NMC allows the information to be visible when prescribing or when the NMC is faxed or scanned to pharmacy.
2 The last page of the NMC 'Allergies & Adverse Reactions' box reminds any prescriber or administrator who is prescribing or administering fluids and infusions to look at page 2 of the NMC, to check whether a patient has any relevant allergies or adverse reactions.

PATIENT WITH NO ALLERGIES OR ADVERSE REACTIONS

1 Mark 'No' if the patient or their caregiver is not aware of any allergies or previous adverse reactions (Figure 14).
2 Sign your name and date the entry in the corresponding boxes.

- In addition, follow local policy regarding other requirements.

Figure 14

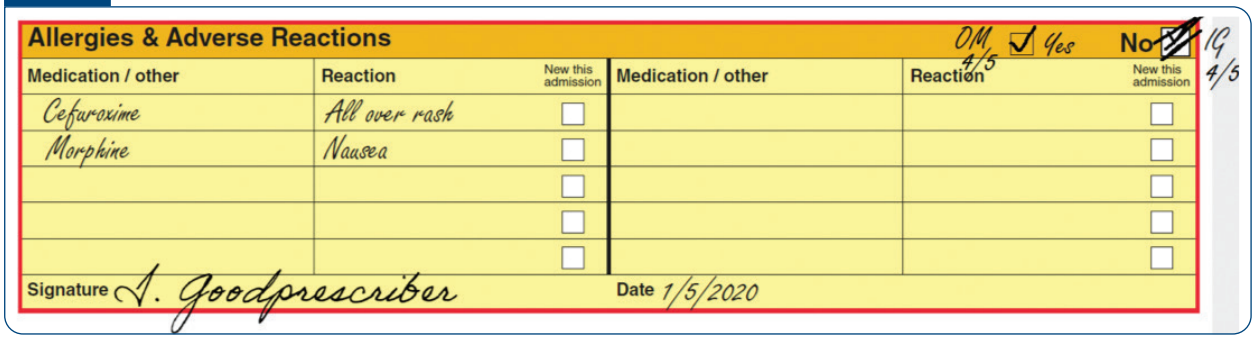


UPDATING A PATIENT'S ALLERGIES OR ADVERSE REACTIONS INFORMATION

If a patient or their caregiver remembers a previous allergic or adverse reaction after completion of the boxes (Figure 15):

1 cross out the marking in the appropriate 'No' box
2 follow the instructions for 'Patients with allergies or adverse reactions' below. Sign and date the information as updated.

Figure 15



PATIENT WITH ALLERGIES OR ADVERSE REACTIONS

1 If the patient or their caregiver notifies you of any allergies or adverse reactions, decide if the reaction is a **true** allergy or more likely to be a listed side effect of the medicine.

- Anything that has caused a skin rash, urticaria (hives), facial or throat swelling, or anaphylaxis should be documented as an allergy.
- Allergies are usually unexpected reactions to a medicine, food (eg, seafood, gluten, eggs, peanuts) or substance (eg, iodine, preservatives, sulphur) that has been administered, taken or used in the intended way.
- This section can also include reactions to plasters or latex.
- Document in the health record as much as you know about the reaction (eg, 'peanuts: throat swelling two years ago').
- Common adverse reactions are usually listed in the medicine's data sheet and the New Zealand Formulary (https://nzf.org.nz/) as a known side effect.
- Adverse reactions tend to be more common occurrences in patients than allergies (eg, diarrhoea with penicillin or nausea with morphine).
- Document as much as you can about the reaction to guide future administration if needed (eg, 'penicillin – diarrhoea after three days').

2 Always sign and date the box, even if 'No' has been marked.

3 Follow local policy as to what supplementary measures are recommended in order to alert clinical staff to a patient's allergy (eg, placing a sticker on the cover of the patient's health record, providing the patient with an allergy bracelet, making an entry in the electronic patient management system).

4 If a medicine is administered during the patient's hospital stay that causes a reaction, this information should be documented and the 'New this admission' box ticked (Figure 13).

- Document full details of the new reaction in the patient's health record.
- Follow local policy as to what other supplementary measures are required to alert clinical staff to a patient's new allergy (eg, placing a sticker on the cover of the patient's health record, providing the patient with an allergy bracelet, making an entry in the electronic patient management system).

Ask the patient for more information and discuss the reaction further with a colleague.

TIP

UNKNOWN ALLERGY OR ADVERSE REACTION STATUS

1 If the patient's allergy or adverse reaction status is unknown because there are no records or the patient is unable to supply details for some reason (eg, they are unconscious), write 'Unknown' in the 'Reaction' box.

2 Always sign and date the corresponding boxes

3 Document in the patient health record why this information could not be recorded.

4 Update the NMC and patient's health record as soon as any information comes to hand.

Section 2: Principles

There are some guiding principles to assist prescribers and administrators with correct prescribing and administration documentation.

This section describes the guiding principles in the following areas:

- general instructions
- prescriber's instructions
- administrator's instructions
- recommended administration times
- non-administration codes.

2.1 General instructions

These instructions apply to all clinicians for every NMC used.

1 Use only an indelible ink pen to write on the NMC.

- 'Indelible' means an ink that cannot be rubbed out and is able to be read when faxed, photocopied or scanned.
- Blue or black ink should be used when prescribing.
- Other colours (eg, green for pharmacy) may be acceptable to some hospitals as a means of identifying certain members of clinical staff.

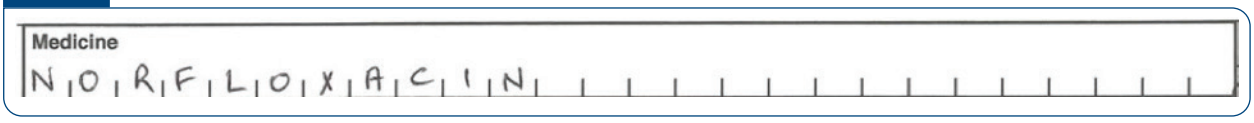
2.2 Prescriber's instructions

These instructions apply to prescribers for every NMC used.

1 Use approved or generic names only and prescribe using block capitals.

- Each medicine has an approved name, which is also called the generic name (eg, paracetamol instead of Panadol).
- A brand name is the manufacturer's name for a medicine, which may be used in certain circumstances (see the 'Important notes' section for more details).
- Block capitals means writing the whole medicine name in CAPITAL LETTERS, one letter per space provided (Figure 16).

Figure 16



2 Full signature.

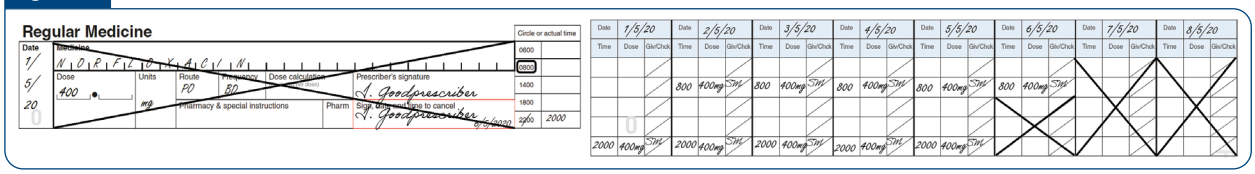
- A full signature must include the person's given (first) name or first initial and their full surname (eg, Ima Goodprescriber' or 'I Goodprescriber' **not** 'Ima G').

3 To stop a medicine, enter the stop date, time and initials, and cross through order and administration.

- Put a cross through the line corresponding to the prescription to be stopped but be careful not to obscure any information (Figure 17).
- Put a cross through the day following the stop day in the administration section (Figure 17).

4 To alter or change a medicine, stop the original order completely and prescribe on a new line.

Figure 17



Never use white-out or an eraser if a mistake has been made.

TIP

2.3 Administrator's instructions

These instructions apply to administrators for every NMC used.

1 Record time of administration using the 24-hour clock.

- Administrators should record the actual time the dose was administered to the patient using the 24-hour clock hours and minutes format (Figure 18).
- Examples include '0400h' (4 o'clock in the morning) and '1700h' (5 o'clock at night) (Figure 18).

2 For variable dose, record the actual dose given.

- For example, Tramadol '50–100 mg q4-6h', when various doses have been administered according to the patient's need (Figure 18).

Figure 18

Date	Time	Dose	Route	Giv/Chck
1/5/20	1700	50mg	PO	SM
1/5/20	2200	100mg	PO	SM
2/5/20	400	50mg	PO	SM
2/5/20	1000	100mg	PO	SM
2/5/20	1400	50mg	PO	SM

3 For variable route, record the actual route used.

- If doses are not equivalent for different routes, then separate prescriptions for each route must **always** be written.
- Refer to your local policy for guidance on prescribing multiple routes on one prescription.

The 24-hour clock is a standard way of recording time without ambiguity.

FACT

4 If a dose is not given, record the appropriate non-administration code.

- This refers to situations in which a medicine has not been administered or administration has occurred by a parent, carer or patient.
- Record the appropriate code from the non-administration codes (Figure 20). The codes cover patients who are self-medicating or administered medicines by a parent or caregiver, and reasons why a regular dose was missed.

5 Given by/checked by.

- This refers to the initials of the person who administered the medicine (given by) and the initials of the person who checked the medicine if required by local policy.
- The appropriate section must be completed whenever a once-only medicine, verbal order, as required (prn) medicine, regular medicine, or intravenous or subcutaneous fluid is administered.

2.4 Recommended administration times

These administration times (Figure 19) are **guidelines only.** Circumstances may dictate the use of alternative times to administer medicines and organisations may have an alternative protocol.

- Document times using the 24-hour clock format (see Section 2.3).
- Examples include '0600h' (6 o'clock in the morning) and '1800h' (6 o'clock at night).

Figure 19

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	
Four times a day	QID	0600	1200	1800	2200
Strict 8 hourly	Q8H	0600	1400	2200	
Strict 6 hourly	Q6H	0600	1200	1800	2400

2.5 Non-administration codes

Non-administration codes (Figure 20) provide background information to clinicians about the reasons doses are omitted on the NMC. Figure 22 explains the non-administration codes.

Any additional explanation for the non-administration of a medicine may need to be documented in the patient's health record.

TIP

Figure 20

Non-administration Codes	
CP	Carer/parent administered
D	Prescriber's instructions
N	Not administered - document reason in notes
R	Patient refused
RV	Review
SM	Self-medicating
U	Patient unavailable
W	Withheld

- Non-administration codes are to be used when the medicine has not been administered or it has been administered by a carer, parent or patient.
- Document the code together with the time and the initials of the person documenting the code (Figure 21).
- If the non-administration code 'N' is used, a reason must be documented in the patient's notes. Do not use alternative abbreviations as their meanings may not be apparent to other clinical staff.

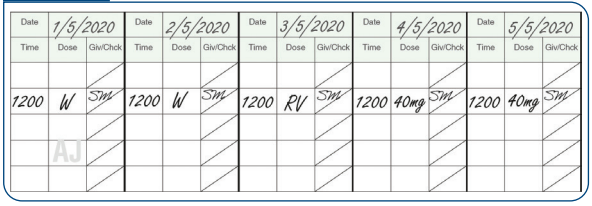
Figure 21

Date	1/5/20		Date	2/5/20		Date	3/5/20	
Time	Dose	Giv/Chck	Time	Dose	Giv/Chck	Time	Dose	Giv/Chck
800	400mg	SS	800	400mg	SS	810	R	SS
	AJ							
2000	400mg	SS	2005	R	SS			

Figure 22

Non-administration code	Definition and instruction
CP = Carer/parent administered	The patient's carer or parent is administering the medicine. Follow local organisation guidelines for documentation, eg, all carer/parent medication administration must be witnessed by the nurse/midwife responsible for the care of the patient at the time of administration. Dose, time and initials of the nurse/midwife must be recorded alongside the code.
D = Prescriber's instructions	If a decision is made to withhold the dose by a prescriber, this code must be used. This includes any medicines omitted in the peri-operative period. This code is only to be authorised by a prescriber with documentation of the reason for this instruction in the patient's health record. Follow local hospital guidelines for documentation.
N = Not administered – document reason in notes	If a medicine is not administered, the responsible prescriber must always be informed so alternative care can be prescribed if necessary. The clinical reason and action undertaken must be recorded in the patient's health record. If this code is used for the reason that medicine is not available, a supply must be obtained and the medicine administered as soon as possible after the due administration time; otherwise the prescriber must be notified so alternative care can be prescribed.
R = Patient refused	If a patient refuses a medicine that is not prescribed PRN, the medicine must be offered to the patient again within one hour of the prescribed administration period. Follow local organisation guidelines if it is refused a second time. For example, if it is refused a second time, the responsible prescriber must be contacted to review the prescription or speak to the patient.
RV = Review	This code is used with 'W' (withheld) as a trigger to staff to ask the prescriber to review the prescription on a given date. For example, if an ACE inhibitor was withheld because of poor renal function, 'RV' is annotated on the administration section for the ACE inhibitor three days later to remind staff to recheck the renal function with a view to recommencing the ACE inhibitor until renal function improves.
SM = Self-medicating	The patient is self-administering the medicine. Follow local organisation guidelines for documentation. For example, all self-medication must be witnessed by the nurse/midwife responsible for the care of the patient at the time of administration. Dose, time and initials of the nurse/midwife must be recorded alongside the code.
U = Patient unavailable	The patient is not available at the time administration is due. In the event of planned procedures or planned leave, discussion must take place with the prescriber or responsible doctor/midwife, the patient or caregiver (if possible) and medicines organised for continuity in administration.
W = Withheld	If a decision is made to withhold the medicine, this code must be used. A clear explanation of why the medication was withheld must be documented in the patient's health record. Follow local hospital guidelines for documentation. This code may be used with the 'RV' code (Figure 23)

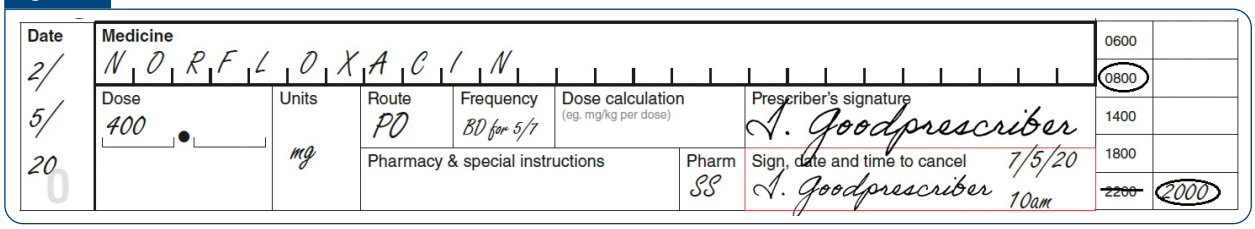
Figure 23



Section 3: General charting instructions

Each NMC has a number of similar features in the once-only, verbal order, PRN and regular medicine pages. These general features should be used in the way this section describes, along with the specific features of the individual pages that Sections 4 to 9 cover.

Figure 24



Document the following for all orders (Figure 24).

1 Date prescribed in day/month/year format.

Dating the order clearly documents when the order was written.

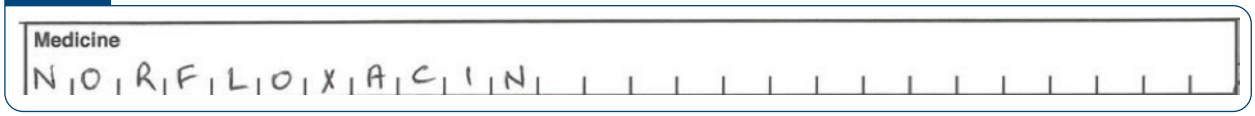
2 Generic name of the medicine in BLOCK CAPITALS, one letter per space provided.

If the name of the medicine is unclear, a clinician may misinterpret the order and dispense or administer the wrong medicine. Good prescribing encompasses medicine names written legibly in block capitals and using the generic name.

While trade names may be accepted for certain medicines, using the generic name prevents confusion when there may be multiple changes in products.

- Twenty-six character spaces have been provided to facilitate the writing of upper-case single letters (as in crossword puzzles and airport departure cards). Write one letter of the medicine name per character space (Figure 25).
- Indicate in the medicine box if the preparation is of a special release type (eg, SR, CD, LA – see the 'Important notes' section for more detail).

Figure 25



Structured letter format design is known to promote both block-capital and legible writing.

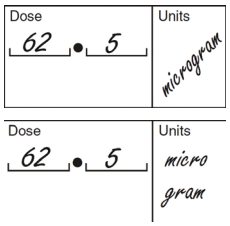
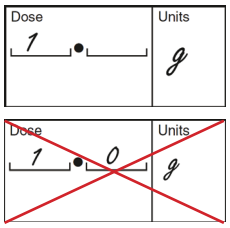
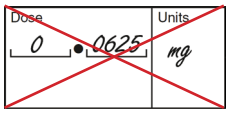
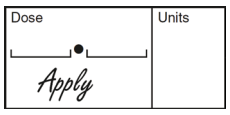
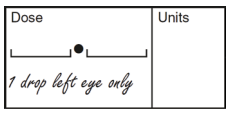
FACT

3 Dose to be administered (Figure 26).

Many medicines come in multiple strengths. If the dose just states one tablet and omits the strength, the wrong strength may be administered.

- Use only Hindu-Arabic (eg, 1, 2) numbers. (Do not use Roman numerals.)
- Use common sense – intent must be clear and unambiguous.

Figure 26

The dose box incorporates a decimal point and is designed to facilitate legible hand-writing and clear decimal points, when a decimal point is necessary. State the dose in grams, milligrams or micrograms in whole numbers (eg, '500 mg' instead of '0.5 g' or '125 microgram' instead of '0.125 mg').	
Never use a trailing (terminal) zero – use nothing after the decimal point, or use a horizontal dash if putting something after the decimal point is necessary to avoid the use of trailing zeros.	
Avoid leading zeros by rewriting the dose as smaller units but use a leading zero when this is not possible (eg, 0.5 mL).	
Use the area under the decimal point box to write dosage that does not conform to the space above (eg, 'apply' or variable doses).	
Use the area beneath the dose box to write other dosage instructions that are not necessarily units (eg, inhalations, eye drops).	

4 Units (of administration)

Abbreviations may appear to be good time-savers but, if confusing or unknown, they can increase the potential for medication errors.

- The Commission has issued a list of 'DO NOT USE' abbreviations (see Appendix B). In addition, a list of commonly used abbreviations is included in Appendix A. Hospitals may also have local policies on abbreviations. Prescribers should be familiar with what these are, or else write all units in full.

5 Route of administration.

- The use of commonly used abbreviations is acceptable (refer to Appendices A and B); otherwise write the route in full.
- See Section 2.3 for more detail.

Abbreviations may appear to be good time-savers but, if confusing or unknown, they can increase the potential for medication errors.

FACT

6 Dose calculation in milligram per kilogram per dose.

- Use this box to enter the milligram per kilogram per dose when prescribing medicines that require weight-based dosing or in paediatric patients (Figure 27).

Figure 27

Date	Medicine						0600	
1/5/2020 AJ	ENOXAPARIN						0800	
	Dose	Units	Route	Frequency	Dose calculation (eg, mg/kg per dose)	Prescriber's signature	1400	
	80	mg	subcut	bd	1mg/kg	A. Goodprescriber	1800	
			Pharmacy & special instructions		Pharm	Sign, date and time to cancel	~~2200~~	2000

7 Prescriber's full signature (Figure 27).

It is a requirement that medicine orders are signed by an authorised prescriber. This allows the prescriber to be identified if there is a need to clarify the prescriber's intent.

- Consult local policies, which may also require additional information after the prescriber's signature.
- Signatures must correspond to the details about sample signatures outlined in Section 1.7.

8 Pharmacy and special instructions.

- The prescriber or the pharmacist may complete this space if extra information is required (eg, 'with food', 'on an empty stomach', 'remain upright for 30 minutes').

9 Pharm.

- This space is for the pharmacist's initials and/or pharmacy storage/supply method.
- For hospitals where the pharmacist routinely checks the patient's medication charts, the initials in this space confirm the medication and dosage instructions have been checked by the pharmacist.
- Initials must correspond to the details about sample signatures and initials outlined in Section 1.7.

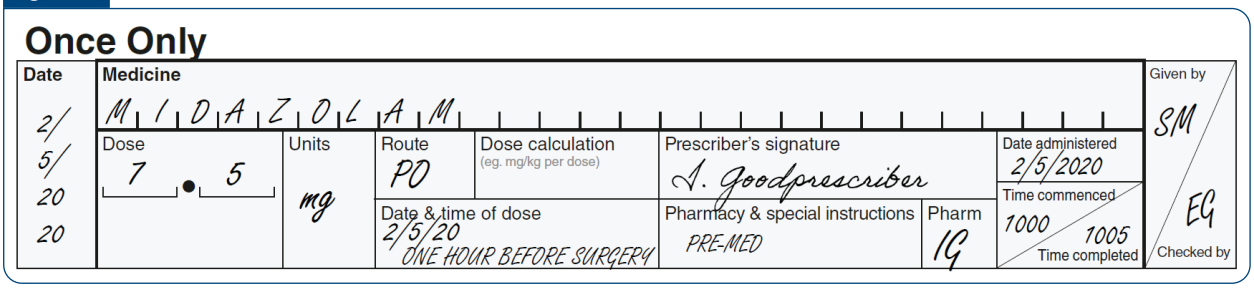
10 Given by/checked by.

- These spaces are for the initials of the person who administers the medicine, and the person who checked the medicine for correctness before administration if required by local policy.
- Initials must correspond to the details about sample initials outlined in Section 1.7.

Section 4: Once-only medicines

The NMC has a section for once-only orders. This is to minimise the risks of doses being missed when on a separate chart and of orders being continued inadvertently when charted in the same section as regular orders.

Figure 28



Prescribers should prescribe once-only medicines in this section to ensure good visibility of the order and timely administration (Figure 28).

- Seven lines are provided on page 2 and two lines on page 3 of the NMC to prescribe once-only medicines.

1 Follow the instructions in Section 3 (numbers 1 to 10) for completion of once-only medicine prescriptions, pharmacy information and administration. In addition, the following are specific instructions related to once-only medicine prescriptions.

2 Document the date and time of the dose relevant to that order.

3 Specify infusion times if needed (times commenced/completed) when administering the medicine.

The prescriber should specify the date and time the medicine is to be administered so it can be administered at the appropriate time. If no time is specified, a medicine that is required to be administered, for example, at 1000 could be administered at 1600.

TIP

Section 5: Verbal order medicines

Layout of the verbal order section of the NMC facilitates and encourages safe practice by requiring two staff members to independently receive an order and to read that order back to the prescriber. Accountability for verbal orders should be clearly documented for clear communication.

Figure 29

Verbal Orders (must be signed as soon as possible or within 24 hours of order)

Date & Time	Medicine							Given by
1/5/20 20	ONDANSETRON							
	Dose	Units	Route	Dose calculation (eg. mg/kg per dose)	Date & time of dose	Initials: SM / Initials: EG	Time commenced 1000 / Time completed 1005	
	4	mg	PO		STAT 1/5/2020			
	Prescriber's name		Prescriber's signature		Pharmacy & special instructions		Pharm	Checked by
	I Goodprescriber		A. Goodprescriber					

Verbal orders are to be discouraged as they are prone to error. Depending on local policy, verbal orders may be allowed under special circumstances when the prescriber is unable to personally come to the ward, as long as the order:

- is for a once-only medicine (refer to local policy for details of whether verbal orders are allowed and which medicine(s) can be given with a verbal order)
- has been heard and repeated back to the prescriber by two registered nurses/midwives
- is documented as outlined below and illustrated in Figure 29.

1 Follow the instructions in Section 3 (numbers 1 to 10) for completion of verbal order medicine prescriptions, pharmacy information and administration.

In addition, the following are specific instructions related to verbal order medicine prescriptions.

2 Document the date and time of dose relevant to that order.

3 Document the initials of the two registered nurses/midwives who both heard and repeated back to the prescriber the verbal order.

4 Document the time of administration of the medicine or, if an infusion, the time the infusion was started (commenced) and completed.

5 Document the full name of the prescriber giving the verbal order.

- This must be handwritten clearly by one of the nurses/midwives taking the verbal order.

6 The prescriber must sign the medication chart within 24 hours and record the date of countersigning beside their signature.

Section 6: Oxygen and medical gases

Prescribing of oxygen and other medical gases is a legal requirement.

Figure 30

Oxygen Therapy

Remember: to document oxygen administration on the patient's Vital Signs chart (L/minute)

Target oxygen saturation (%):	☐ 88-91% COPD/chronic respiratory failure	☐ 92-96% most acute conditions	☐ Other _____

Start date	Device/delivery	Flow rate range / FiO_2	Signature	Stop date

ALL PRESCRIBERS OF OXYGEN SHOULD (FIGURE 30):

1 identify if the patient being prescribed oxygen is likely to be at risk of type II respiratory failure and indicate an appropriate target oxygen saturation range[4]

2 write the start date in the box

3 identify the most appropriate equipment through which to deliver the oxygen:

- reservoir mask 15 L/minute
- nasal cannula 2–6 L/minute
- face mask 5–10 L/minute
- venturi mask 24, 28%

4 prescribe the appropriate flow rate for the device

5 sign the prescription box

6 review oxygen prescriptions and saturation ranges daily:

- cross off oxygen from the medication chart once discontinued and write the stop date when oxygen administration is no longer required.

ALL ADMINISTRATORS OF OXYGEN SHOULD:

1 regularly check the patient's oxygen saturation range using pulse oximetry and compare this with the target saturation range. Record score on an appropriate vital signs chart

2 determine if a change to the oxygen delivery mechanism is needed to achieve the desired target saturation range and inform the prescriber of the necessary changes

3 record during each shift how the range compares, the oxygen saturation result, the mode of delivery and any action taken to correct any deficiency. Escalate any concerns to the appropriate medical team.

4. Thoracic Society of Australia and New Zealand. 2015. Oxygen guidelines for acute oxygen use in adults. Sydney: Thoracic Society of Australia and New Zealand. URL: www.thoracic.org.au/journal-publishing/command/download_file/id/34/filename/TSANZ-AcuteOxygen-Guidelines-2016-web.pdf.

Section 7: PRN medicines

PRN medicines are those that are taken on an as required or as needed basis only. Separating PRN medicines from regular medicines reduces the risk of the medicine being given regularly.

Figure 31

As Required (PRN) Medicines

Date	Medicine							
2/5/20 20	PARACETAMOL							
	Dose 1 Dose range if needed	Units g	Route PO	Frequency Q4H	Dose calculation (eg. mg/kg per dose)	**Max dose/24hrs** 4g	Prescriber's signature A. Goodprescriber	
			Indication PAIN	Pharmacy & special instructions		Pharm	Sign, date and time to cancel	

The PRN section includes a space for the maximum dose of a medicine in a 24-hour period to prevent overdose.

TIP

7.1 For all PRN orders

1 Follow the instructions in Section 3 (numbers 1 to 10) for completion of PRN medicine prescriptions, pharmacy information and administration.

In addition, the following are specific instructions related to PRN medicine orders (Figure 31).

2 Document the frequency of administration.

If the administration frequency of a dose is not stated, a medicine may be administered more frequently than recommended (eg, morphine 10 mg PRN administered at 15-minute intervals). Use of unclear frequencies can also lead to administration errors and patient harm (eg, 'qd', which is the American abbreviation for 'daily', could be misinterpreted for 'four times a day' as in 'qds').

- Use only commonly used and widely understood abbreviations to indicate the frequency of administration. Some examples are given under recommended administration times (see Section 2.4) and in Appendix A. Appendix B lists abbreviations that are not acceptable.

3 Document an indication for the medicine.

Stating an indication at the point of prescribing allows the prescription to be reviewed in context, reducing the risk of medication errors from omissions, incorrect dosing or misinterpretation of an order (eg, paracetamol may be used as an analgesic or antipyretic and the indication could influence whether the PRN medicine is administered or not).

- This information (eg, 'pain' or 'itch') ensures administration of the medicine in a timely manner.

4 Document a maximum dose in 24 hours.

PRN medicines may need to be given frequently, but should have a maximum dose specified for any 24-hour period (eg, a prescriber may limit diazepam 5–10 mg ordered for every 2–3 hours to 40 mg per 24-hour period to limit adverse effects such as respiratory depression).

- Maximum doses ensure patients do not receive doses above the recommended daily maximum and that uncontrolled symptoms are brought to the attention of the prescriber sooner.

5 Sign, date and time to cancel (Figure 32). This space should be completed when:

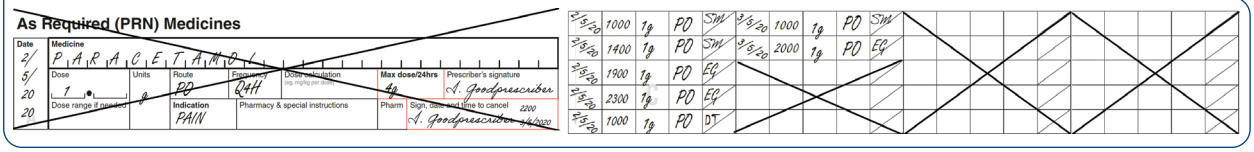
- a medicine is intended to be stopped at some date in the future and advance warning is given
- a medicine is to be stopped immediately, in which case the prescriber stopping the medicine should sign the box and add the date and time.

When stopping a medicine, the original order must not be obliterated. The prescriber must draw clear lines through the order in both the prescription and the administration record sections, taking care the lines do not impinge on other orders. The prescriber should initial and document the date and time the order was cancelled.

If an order has not been clearly cancelled, or a date and time specified in the future for when it is to be cancelled, it creates the risk that additional doses may be administered.

TIP

Figure 32



7.2 Administration record for PRN medicines

1 Each administration of the medicine must be clearly documented in the administration section opposite that medicine with date, time, dose, route, give (initials of who administered the medicine) and check (initials of who checked the medicine before it was given to the patient, if required by local policy) (Figure 33).

- Signatures and initials must correspond to the details on sample signatures and initials outlined in Section 1.7.
- **Note** that the orientation of the administration chart differs in this section from the regular administration chart, in that the date in the PRN administration chart is written horizontally across the chart rather than vertically down it.
- PRN medicines are typically administered sporadically throughout the day and often more frequently at the beginning of an admission.
- Writing the date horizontally allows for consecutive days of administration recordings to follow on, rather than a whole column being devoted to one day.

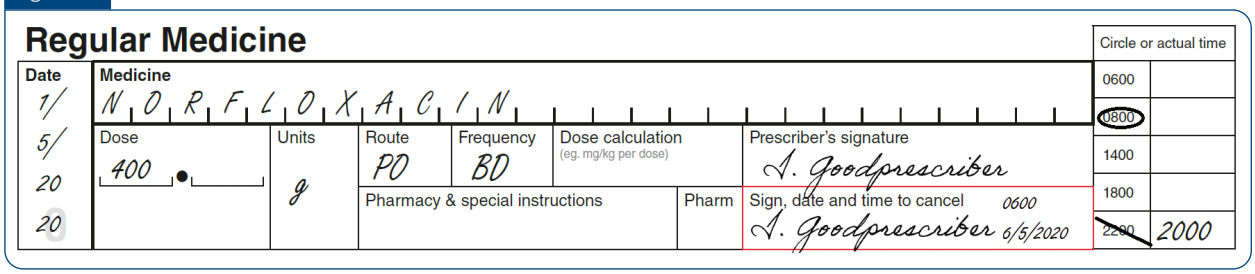
Figure 33

Date	Time	Dose	Route	Giv/Chck
1/5/20	1700	50mg	PO	SM
1/5/20	2200	50mg	PO	SM
2/5/20	400	50mg	PO	SM
2/5/20	1000	50mg	PO	SM
2/5/20	1400	50mg	PO	SM

Section 8: Regular medicines and subcutaneous sticker

Regular medicines are ones that are administered for more than one dose and have a set time period between administrations (eg, twice daily, twice a week, once a month).

Figure 34



Use each line in order. Do not jump to the following pages of the booklet unless needed.

TIP

8.1 Regular medicine orders

1 Follow the instructions in Section 3 (numbers 1 to 10) for completion of regular medicine prescriptions, pharmacy information and administration.

In addition, the following are specific instructions related to regular medicine orders (Figure 34).

2 Document the frequency.

If the administration frequency of a dose is not stated, a medicine may be administered more frequently than recommended (eg, morphine 10 mg administered at 15-minute intervals). Use of unclear frequencies can also lead to administration errors and patient harm (eg, 'qd', which is the American abbreviation for 'daily', could be misinterpreted for 'four times a day' as in 'qds').

- Use only commonly used and widely understood abbreviations to indicate the frequency of administration. Commonly used and 'DO NOT USE' abbreviations are listed in Appendices A and B.
- Be explicitly clear when prescribing instructions for medicines that are **not** intended to be given daily (Figure 35).
- When prescribing a medicine with different doses depending on the time of the day, prescribe it on two separate lines (Figure 36).

Figure 35

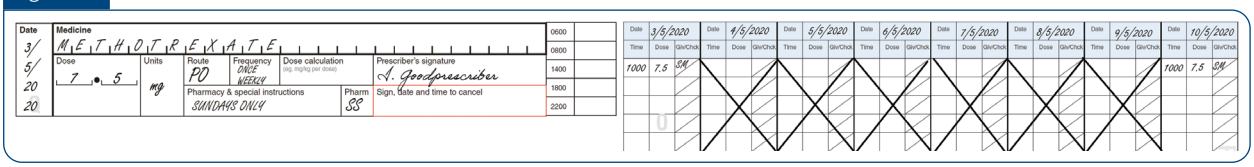
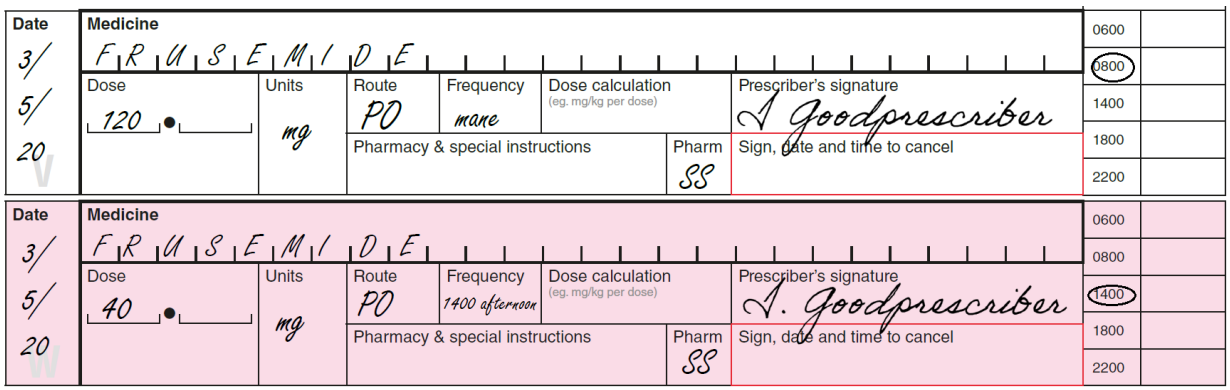


Figure 36



3 Sign, date and time to cancel (Figure 37).

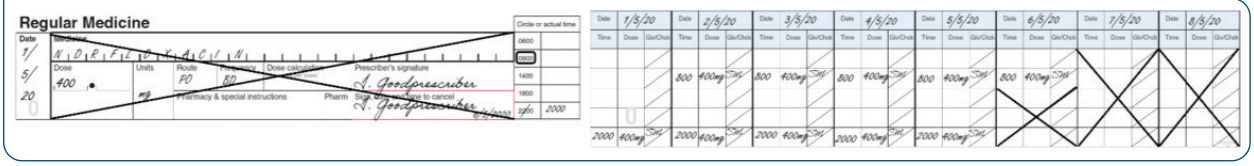
If an order has not been clearly cancelled, or a date and time specified in the future for when it is to be cancelled, it creates the risk that additional doses may be administered.

This space should be completed when:

- a medicine is intended to be stopped at some date in the future and advance warning is given
- a medicine is to be stopped immediately, in which case the prescriber stopping the medicine should sign the box and add the date and time.

When stopping a medicine, the original order must not be obliterated. The prescriber must draw clear lines through the order in both the prescription and the administration record sections, taking care the lines do not impinge on other orders.

Figure 37



4 Specify the actual administration times – circle or actual time.

Specifying the administration times reduces the potential for nurses/midwives to misinterpret prescribed administration frequency instructions and gives clarity of the prescriber's intent with dosing (eg, if an oral antibiotic is prescribed, whether the patient should be woken up during the night for administration).

- If the time of intended administration corresponds to one of the times listed, circle that; otherwise write the intended time in the space provided (Figure 38).

Figure 38

Circle or actual time	
~~0600~~	0700
0800	
(1400)	
1800	
~~2200~~	2100

Circle or actual time	
(0600)	
0800	
(1400)	
1800	
(2200)	

Circle or actual time	
(0600)	
~~0800~~	0900
(1400)	
~~1800~~	1900
(2200)	

8.2 Administration record for regular medicines

Figure 39

Date	2/5/2020		Date	3/5/2020		Date	4/5/2020		Date	5/5/2020		Date	6/5/2020		Date	7/5/2020		Date			Date		
Time	Dose	Giv/Chck	Time	Dose	Giv/Chck	Time	Dose	Giv/Chck	Time	Dose	Giv/Chck	Time	Dose	Giv/Chck	Time	Dose	Giv/Chck	Time	Dose	Giv/Chck	Time	Dose	Giv/Chck
800	50	SM	800	50	SM	800	50	SM	800	50	SM	800	50	SM	800	50	SM						
1800	50	EG	1800	50	EG	1800	50	EG	1800	50	EG	1800	50	EG	1800	50	SM						

1 Document each administration of the medicine in the spaces provided with date, time, dose, give (initials of who administered the medicine) and check (initials of who checked the medicine before it was given to the patient, if required by local policy) (Figure 39).

2 The medicine administration record on the NMC provides space to record up to 8 or 16 days of therapy. At the end of 8 or 16 days, a new prescription should be written.

- **Note** that the orientation of the administration section differs in this section from the PRN administration section, in that the date is written horizontally across the page rather than vertically down the chart.
- Regular medicines are more likely to be given daily (although some are given weekly or monthly) so it is a better use of space for a whole column to be devoted to one particular day.
- The 16-day chart has fold-out flaps to increase the number of administration days. Check under the flaps when administering medicines to ensure all the administration spaces are used.

8.3 Continuous subcutaneous infusion prescription sticker

A subcutaneous charting sticker has been introduced for optional use. Subcutaneous medication can now be prescribed in the regular section of the NMC using a sticker template (Figure 40). This is to be placed across two regular medicines rows for multiple medicines. The sticker has rows for up to four medicines to be prescribed in a single syringe (Figure 40).

The continuous subcutaneous infusion prescription sticker can also be placed on the fluid and infusion prescription page (last page of the NMC booklet) if that is preferred (see your local policy for guidance).

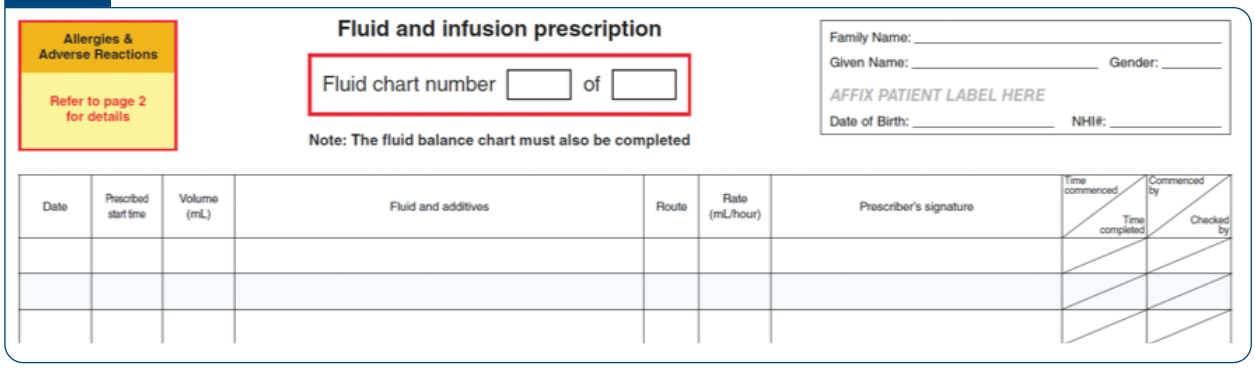
Figure 40

Continuous subcutaneous infusion prescription (in a single syringe)

Date	Medicine	Dose	Units	Diluent & volume (as per policy)	Prescriber's signature
4/6/2020	1 MORPHINE	60	mg	Sterile water for injection	A. Goodprescriber
	2 MIDAZOLAM	20	mg		
	3			Duration: 24 hours	Pharm:
	4				Sign, date & time to cancel:

Section 9: Fluid and infusion prescription

Figure 41



9.1 For all fluids and infusion prescription

Document (Figure 41):

1 date to start infusion
2 time to start infusion (prescribed start time)
3 volume (mL) of infusion fluid to give
4 type of infusion fluid to give and any additives (Intravenous and subcutaneous fluid and additives)
   - Note the continuous subcutaneous infusion prescription sticker (Section 8) may be used if prescribing multiple medicines for subcutaneous administration in a single syringe.
5 route of infusion
   - Note that 'IV' is an acceptable abbreviation for intravenous, or 'subcut' can be used in this section (see Appendix A).
6 rate (as mL per hour)
7 prescriber's signature.
   - Signatures and initials must correspond to the details on sample signatures and initials outlined in Section 1.7.

9.2 Administration record

1 Document the actual time the infusion was commenced.

2 Initial the 'Commenced by' box and instruct the checker (if required by local policy) to initial the 'Checked by' box.

- Signatures and initials must correspond to the details on sample signatures and initials outlined in Section 1.7.

3 Document the time of completion and the actual volume administered (Figure 42).

Figure 42

Allergies & Adverse Reactions

Refer to page 2 for details

Fluid and infusion prescription

Fluid chart number 1 of 1

Note: The fluid balance chart must also be completed

Family Name: Brown
Given Name: John Gender: M
AFFIX PATIENT LABEL HERE
Date of Birth: 01/01/2001 NHI#: AAA1234

Date	Prescribed start time	Volume (mL)	Fluid and additives	Route	Rate (mL/hour)	Prescriber's signature	Time commenced / Time completed	Commenced by / Checked by
02/05/20	1415	1000	Sodium Chloride 0.9%, Potassium Chloride 20 mmol/L	IV	100	A. Goodprescriber	1415 / 0015	SM / EG
03/05/20	0015	1000	Sodium Chloride 0.9%	IV	100	A. Goodprescriber	0015 / 1015	SM / EG

Appendix A: Commonly used abbreviations

Administration	
ac	before food
cc	with food
pc	after food
Frequency	
BD	twice daily
mane	morning
midi	midday
nocte	night
prn	when required (as needed)
q4h or Q4H	every four hours
q6h or Q6H	every six hours
q8h or Q8H	every eight hours
q12h or Q12H	every twelve hours
QID	four times a day
STAT	immediately
TDS	three times a day
Route	
buc	buccal
IM	intramuscular
inh	inhalation
IV	intravenous
neb	nebuliser
ng	nasogastric
po	oral
pr	per rectum
pv	per vagina
nj	nasojejunal
subcut	subcutaneous
subling	sublingual
top	topical
PEG	percutaneous endoscopic gastrostomy

Appendix B: 'DO NOT USE' abbreviation and symbol list

The following list of abbreviations, acronyms and symbols should **not** be used when prescribing as they are considered prone to misinterpretation and can lead to an increased risk of serious adverse events.

DO NOT USE	Intended meaning	Misinterpretation	Preferred term
Abbreviated chemical names (eg, $MgSO_4$, HCl, KCl)	MgSO4 = magnesium sulphate	Mistaken as morphine sulphate.	Write the complete chemical name (eg, magnesium sulphate, hydrochloric acid, potassium chloride). Drop-down selection lists should contain the full chemical name.
	HCl = hydrochloric acid	Mistaken as potassium chloride.	
	KCl = potassium chloride	Mistaken as hydrochloric acid	
Abbreviated medicine names (eg, MTX, HCT, AZT)		Mistaken MTX as methotrexate or mitozantrone.	Write the complete medicine name. Prescribe generically unless you need to give a patient a specific brand medicine. Sometimes brand names do not adequately identify the medicine being prescribed (eg, Augmentin or Timentin may not be identified as containing a penicillin). The funded brand often changes in New Zealand and prescribing generically enables suitable products to be dispensed or administered, saving delay and sometimes expense to the patient.
		Mistaken HCT as hydrocortisone or hydrochlorothiazide.	
		Mistaken AZT as azathioprine, zidovudine or azithromycin.	
µg or mcg	microgram	Mistaken as mg (milligram).	Write 'microgram'.

DO NOT USE	Intended meaning	Misinterpretation	Preferred term
U or IU	U = unit	Mistaken U as zero, four or cc.	Write unit or international unit.
	IU = international unit	Mistaken IU as IV (intravenous), 10 (ten) or as a trailing 1 (one).	
ng	nanogram	Mistaken as milligram.	Write 'nanogram'.
OD, od, or O.D.	once a day, daily or every day	Mistaken as QID (four times a day) or BD (twice daily).	Write 'daily' or the intended time of administration (eg, morning, night).
Q.D, q.d., qd, QD	every day (in USA only)	Mistaken as QID or BD.	Write 'daily' or the intended time of administration (eg, 'morning', 'night').
SC	subcutaneous	Mistaken as SL (sublingual).	Write 'subcut' or 'subcutaneous'.
SL or S/L	sublingual	Mistaken as SC (subcutaneous).	Write 'subling' or 'sublingual'.
mEq or milliequivalent		Confusion between milliequivalent and millimole.	Use only standard international units. State required dose in millimole or mmol.
Zeros: lack of a leading zero (eg, .5 mg)	.5 mg = 0.5 mg	Mistaken .5 mg as 5 mg if the decimal point is missed, leading to a tenfold error.	Avoid leading zeros by rewriting the dose as smaller units (eg, 0.5 mg = '500 microgram').
Zeros: adding a trailing zero (eg, 1.0 mg, 100.0 g)	1.0 mg = 1 mg 100.0 g = 100 g	Mistaken 1.0 mg as 10 mg and 100.0 g for 1000 g if the decimal point is missed, leading to a tenfold error.	Never write a zero after a decimal point. Write 1.0 mg as '1 mg'. Write 100.0 g as '100 g'.
Roman numerals (eg, ii, iv, x)	numbers 1, 2, 3, 4 etc	Latin is no longer the predominant language of medical literature. Not every health care professional has been trained in its use.	Use words or Hindu-Arabic numbers (ie, 1, 2, 3 etc).

Health Quality & Safety Commission New Zealand

Kupu Taurangi Hauora o Aotearoa

New Zealand Government