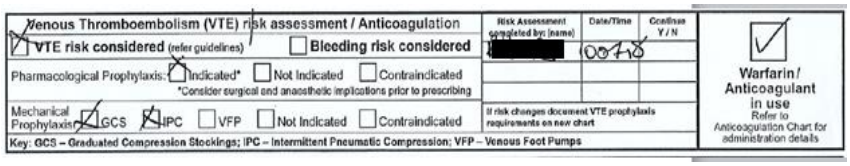
Government of Western Australia
Department of Health

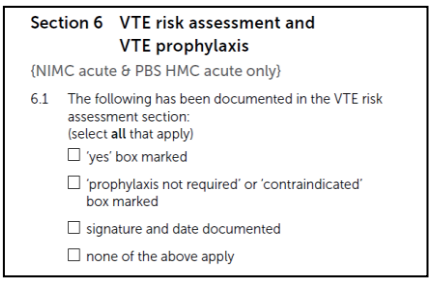
National Standard Medication Chart (NSMC) Audit WA Quick Reference Guide

Chart type – For all adult charts (in public hospitals) select NIMC acute or NIMC long stay. For paediatric chart select appropriate paed NIMC version.
(PBS HMC audit includes PBS-related questions- WA public hospitals do not use the chart PBS functionality)

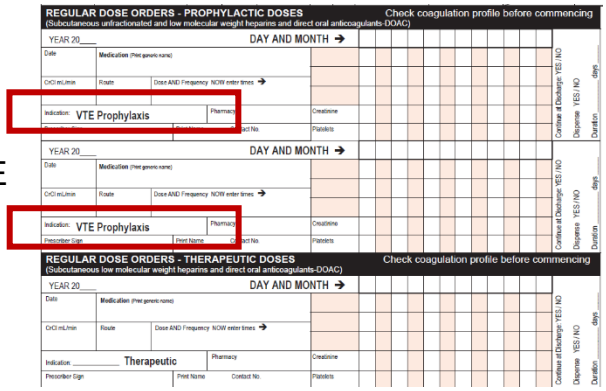
Section 2 - Prescriber Detail – Not required for WA Public Hospitals
Section 6 – VTE Prophylaxis – only pharmacological prophylaxis

- Section 6.1 'yes' box marked
  = VTE risk considered box ticked





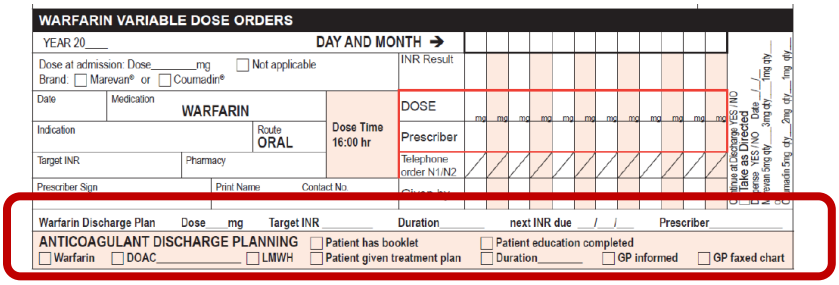
- Section 6.2 if patient has been charted for VTE prophylaxis on the WA Anticoagulant Chart choose 'Y"
- Section 6.3 Please annotate where this VTE prophylaxis has been charted –
  "the VTE prophylaxis order section" of anticoagulant chart



Section 9 – Anticoagulant education record

- Section 9.1 and 9.2 refer to WA Anticoagulant Chart (Adult) for this question.

  This question only relates to patients that have been **INITIATED** on an anticoagulant during their hospital admission



Ongoing treatment would be charted in the 'Therapeutic section for DOACs and the variable warfarin section of the anticoagulant chart. Education should be marked on the bottom of this chart.

Section 10/11/12/13 – Regular, PRN, Once only and phone orders, variable dose orders.

- Total number of orders = active orders on current charts (i.e. not ceased medications)
- When reviewing all of the orders in the specified section, record the number of orders where the specified error has been identified. Record the number of orders where one or more errors have occurred, not the total number of errors.
- SR medications - For 10.4 record the number of medicine orders that are slow release (SR) or modified release, regardless of whether the 'SR' box has been ticked.
  10.5 will capture the number of 'SR' orders that have not been ticked.

Abbreviations used for slow release products include:

Abbreviation	Meaning	Example
SR	Sustained/slow release	Veracaps SR (verapamil)
MR	Modified release	Diamicron MR (gliclazide)
LA	Long acting	Ritalin LA (methylphenidate)
XL	Extended release	Toprol XL (metoprolol)
XR	Extended release	Diabex XR (metformin)
ER	Extended release	Felodur ER (felodipine)
CR	Controlled release	Tegretol CR (carbamazepine)
CD	Controlled delivery	Cardizem CD (diltiazem)

Other common medications that are available as a SR preparations include –

oxycodone, oxycodone/naloxone (Targin®) morphine, hydromorphone, tramadol, tapentadol, paracetamol, nifedipine, isosorbide mononitrate, potassium chloride, quetiapine, venlafaxine.
List not conclusive – please check if unsure

**Most of these drugs are available as immediate release (IR) and slow release (SR) products – when auditing you need to check the intention and dose of the order.

A good example is tramadol which is available in both IR and SR formulations in a variety of strengths. The usual maximum dose of immediate release tramadol tablets is 50-100mg four time daily. The usual dose of sustained release tramadol tablets is 100-200mg twice daily.

- For question 10 and 13, when counting the total number of required doses prescribed – this is the number of doses required since the order was written up to the time/date that the chart is audited.
- Missed doses – where a blank administration box is present on the medication chart that does not have a code for not administering documented.

Section 12-13

- 12.5/13.5 Total number of doses prescribed
- This should include all orders prescribed up to the time and date of the audit. Any future orders that are required after the time and date of the audit should not be counted.
- 12.6/13.6 How many doses were missed without a reason?
- This should only include orders that are required up to the time and date of the audit.
- Any future orders that are required after the time and date of the audit should not be counted.

Section 14 – Orders in warfarin section Refer to 'Warfarin Variable Dose Order" section of the WA Anticoagulant chart

- 14.1 if warfarin is prescribed this should be 1
- 14.2 Order not legible = 0 (unless actual dose prescribed is illegible)
- Route not complete and correct = 0
- If one or more doses in the warfarin section are not documented and signed, count this as one incorrect order only.
- 14.9 should be 0

National Standard Medication Chart (NSMC) Audit
Frequently Asked Questions

This document is intended to be read in conjunction with the National Standard Medication Chart Audit Guide

Topic Question	Answer
Preparation for participating in NSMC Audit 2020	A. The best preparation for undertaking the audit is to read the Australian Commission for Safety and Quality in Health Care (ACSQHC)- NSMC Audit Guidelines and audit tool. WA Health also have a FAQ and quick reference list, and a Train-the-Trainer presentation to assist WA auditors in completing the audit. • ACSQHC New NSMC Audit website https://www.safetyandquality.gov.au/our-work/medication-safety/nsmc-audit/ • WA Health Safety and Quality website http://ww2.health.wa.gov.au/Articles/U_Z/WA-Hospital-Medication-Chart B. Sites must decide the method for collecting the data. Data can be collected either by: i. The **NSMC Audit Form** is a paper form for collecting data for one patient. Data collected on the NSMC Audit Form must be entered directly into the NSMC Audit System. ii. The **NSMC Audit System** is a web-based application which provides an electronic version of the Audit Form and into which audit data can be entered directly. All the audit tools, and guidance on how to use them, are available at https://www.safetyandquality.gov.au/our-work/medication-safety/national-standard-medication-chart-nsmc-auditing ○ If site is using paper tool, print off the required number of audit tools. ○ It is recommended that sites pilot the audit tool prior to the commencement of the audit period. ○ A meeting involving all auditors may be necessary to ensure consistency in the interpretation of the information on the NSMCs and the audit questions. ○ Sites will need to determine the number of charts that are going to be audited, and how the spread of charts will be managed. Sites will also need to determine the auditors involved, and any separate data entry personnel (if appropriate). Other materials to be compiled for each auditor before commencement of the audit includes: 1. WA Quick Reference Guide for NSMC Auditing 2. List of approved trade names 3. List of error-prone abbreviations 4. Paediatric dosing reference (for sites which have paediatric patients) 5. A calculator to ensure doses are calculated correctly (for sites which have paediatric patients) 6. A list of common medications that are available as a SR preparation (if available) 7. Site specific Information on medication history documentation and MMP processes Multiple uploads of data can occur from one site simultaneously as long as each user has a different user identification and password.

<table>
<tr><td>Selection of sample patients</td><td>Are we to pick patients at random from the wards, i.e. current inpatients as opposed to looking at medical records of those who have already been discharged?
It is up to the individual sites how the quota of patients is selected for audit.
The guidelines recommend that as many medication charts as possible are audited from each ward type.
The audit must be carried on medication charts that are active and in current use. Therefore, the audit should be done prospectively and not retrospectively.</td></tr>
<tr><td>How do I know the number of charts to audit.</td><td>The ACSQHC have provided a recommended sample size (Table 1) which is dependent on the number of beds at your facility. However as mentioned previously it is recommended that as many medication charts are audited (as feasible based on resources and time).

Table 1: Suggested audit sample size*<table><tr><th>Number of adult beds in hospital</th><th>Sample size</th></tr><tr><td>150 or more</td><td>20% of current patients</td></tr><tr><td>30 -149</td><td>30 current patients</td></tr><tr><td>Less than 30</td><td>All current patients</td></tr></table>* Suggested sample size derived from Indicators for Quality Use of Medicines in Australian Hospitals[2]</td></tr>
<tr><td>Time to complete survey per patient</td><td>Fully trained and experienced auditors will work more quickly than poorly trained or inexperienced auditors. Equally medication charts in medical or geriatric wards will take longer to audit than paediatrics or surgical wards.

To enable adequate numbers of patients charts to be reviewed, the data collection may take place over a number of weeks. For example if your hospital needs to audit a total of 40 charts. This can be done over 4 weeks by auditing 10 charts per week. (this is assuming audit data is entered directly into the audit system – consider time for data entry if using paper tools)</td></tr>
<tr><td>Handwritten patient details are legible and complete?</td><td>If there are no printed ID labels, are the handwritten patients details complete and legible and have AT LEAST 3 patient identifiers:
Patient Name,
Date of birth
Medical record number (UMRN)
Gender
Patient address</td></tr>
<tr><td>Patient’s name is handwritten under the patient ID label(s) by the first prescriber?</td><td>The guideline clearly indicates that handwriting the patient’s name under the addressograph must be completed by the first prescriber.

If a pharmacist or a second prescriber completed this section, then chose ‘N’
Record NA if no printed patient identification labels are used</td></tr>
</table>

Section 2 – Prescriber Details	This section is only relevant if your hospital uses the PBS claiming component of the chart (WA private hospitals) This section is not applicable for WA public hospitals as no public hospital uses the WA HMC for PBS prescriptions. Ensure you select **'NIMC acute'** or **'NIMC long-stay'** option for WA public hospitals.
Section 3: Patient weight **Date weighed is documented with weight on all charts**	**A. If a pharmacist completed the weight section in purple pen, is this Y or N?** This is only applicable to patients aged 12 years or younger AND using a paediatric NIMC (acute or long-stay). It doesn't matter who fills in the weight - as long as it is documented on ALL active charts. If documented by a pharmacist or nurse on all active charts answer 'Y'. B. This is a new question in the audit. The patient's weight must be documented on ALL active charts
Section 4 Adverse Drug Reaction (ADR) **Question 4.1**	A. This section has been amended to identify if the ADR details have been completed fully, partially or not at all. Select only 1 option that applies. B. **What happens if the prescriber has ticked the 'Nil known' and included their signature but no name or date?** This would be considered the third option "none of the above apply" **C. What about the ADR sticker should we consider this section completed in the audit only if the ADR sticker is affixed the chart?** This audit does not make reference to auditing the ADR sticker and is not assessed as part of the audit tool. Your hospital may want to collect information on the use of the ADR sticker at the same time as the NSMC audit data is collected or as a separate audit.
Question 4.2	**Would ADR documentation be considered incomplete if reaction details are not stated?** E.g. drugs are listed such as penicillin, tramadol, but no reaction details are specified such as nausea, or anaphylaxis. This question is only applicable if 'details of any medicine (or other) allergies or ADRs' box was selected in 4.1. ○ If the reaction detail is not documented, it is incomplete. Select "N". ○ If the reaction documented is "patient unsure" or "patient can't remember", it is considered completed. Select "Y".
Section 5: Medication history	For this question, you will have to refer to the WA Medication History and Management Plan (WA MMP) form. **A. My chart states to "see WA MMP" but I can't find it?** You will need to find the MMP to ensure that the medication history is documented on this form. Double check the medical record to ensure that the MMP hasn't been filed in here accidentally. If you cannot find the MMP then select "not documented" **B. I have three active charts but the MMP is only referenced on one chart, so how do I answer this question?** As long as the MMP is cross referenced on one active chart at the time of audit then 5.2 will be a "Yes". **C. What happens if the medication history is documented in the medical notes only and not on the MMP?** For this audit, WA will only be referring to the medication chart or the MMP to answer this section.

	D. I work in a maternity hospital so how will I answer this question for all the newborn patients? There is a section on the medication chart to document either 'nil regular medication' or similar. If there is no documentation, then the 'not documented' option should be selected. **E. What if the cross-referencing between the NSMC/NIMC and the MMP was done on a NSMC/NIMC that has been filed from the beginning of the admission as it is no longer current?** There must be documentation on one current chart that a MMP exists for the answer to be 'Y'
Section 6: VTE Prophylaxis	**These questions are only applicable to the 'NIMC acute' and 'PBS HMC acute' only** Even though the WA long stay chart has a VTE risk assessment, the National Long Stay Chart does not. Therefore, VTE prophylaxis question 6.1 will only be applicable to **'NIMC acute'** chart auditing for public hospitals. The national medication chart VTE risk assessment is slightly different to the VTE risk assessment on the WA medication charts. Please refer to the WA Quick Reference Guide for further information on answering this question for the 'NIMC acute' and 'PBS HMC acute' charts. **A. How do I answer questions 6.2 and 6.3?** Please refer to the WA Anticoagulation Medication Chart for question 6.2 and 6.3. These questions only refer to pharmacological prophylaxis. **B. What happens if my hospital doesn't use the WA Anticoagulation Medication Chart to prescribe all anticoagulants?** The recent Medication Chart Policy mandates the use of the WA Anticoagulation Chart to prescribe all anticoagulants.
Section 7: Pharmaceutical Review	**Refers to a clinician - what happens if this is signed by another health care professional?** This section is usually completed by the ward pharmacist, although it can be completed by another appropriately credentialled professional. As long as it is documented at least once on ALL ACTIVE charts select the 'Yes' option. Note: Pharmaceutical review is NOT the same as pharmacy annotation of individual medicine orders.
Section 8: Chart Numbering	**Does this refer to other specialised chart or only the WA Hospital Medication Charts?** The auditors should count the number of active hospital medications charts (WA HMC, NIMC) and no other specialised charts like Insulin, Fluid Order or Anticoagulation Chart.
Section 9 Anticoagulant education record	**Question 9.1 makes reference to the patient being initiated on an anticoagulant for ongoing treatment How will I know if the anticoagulant was initiated during this admission and if this is for ongoing treatment?** To work out if the anticoagulant therapy is for ongoing treatment look at the 'therapeutic doses' or the 'warfarin variable dose order' section on the WA Anticoagulation Chart. a. Warfarin Refer to the dose at admission section and see if this is complete or whether the 'Not applicable' box is ticked. b. Other anticoagulants Refer to the MMP to see if this is a new medication? Otherwise see if there is any annotation of the anticoagulant chart to suggest this is a new medication.

Sections 10 to 14

A. Are we auditing only what the prescriber has written on the NIMC/WA HMC or are we including pharmacist annotations?

The NSMC audit primarily looks at what has been annotated by the doctor – i.e. the medication order as it is intended, prior to pharmacist review.

Therefore, when auditing the medication order, consider the prescription prior to pharmacist annotation for appropriateness and legibility.

B. Are Roman numerals acceptable? (e.g. i, ii, iii)

Roman numerals are not acceptable abbreviations as per Commission Guidelines

The NSMC guidelines note that Roman numerals should not be used.

"ii" is often used for puffers and combination preparations, etc but as outlined in the *Recommendations for Terminology, Abbreviations, and Symbols used in the Prescribing and Administration of Medicines* document, it states that Roman numerals should not be used. Instead it should be written as "2".

C. Acceptable tradenames - Is there a list of acceptable trade names used statewide?

There is no existing statewide list of acceptable brand names - this is left up to site policy/guidelines.

It is recommended that insulin products are prescribed by trade name. Some hospitals recommend that the trade name is prescribed alongside the generic name to differentiate the product formulation (ie Oxynorm® would be acceptable to clarify formulation of oxycodone), some sites find it acceptable to use tradenames for some combination products such as inhalers (e.g. Seretide®, Symbicort®) and for some liquid preparations such as Mylanta®. It is up to the site to decide what is acceptable.

D. Antibiotics such as Tazocin® where the strength is written as 4.5g – would this mean the dose is considered complete and correct or is this something that should be decided internally?

Technically this is unclear, and it should list the two components – piperacillin (4g) + tazobactam (500mg), so that clinicians are aware of what is in Tazocin® (especially when assessing allergy status and if the brand changes). So ideally the answer would be 'N'.

A decision will need to be made at a hospital level as to whether prescribing Tazocin® 4.5g is considered appropriate.

E. 'Dose not complete and correct'

How much analysis is expected for us to determine if a dose is correct?

Would doses falling under normal ranges be sufficient to be correct, or do we need to consider individual patient factors (eg. blood results, medical histories, adverse effects, treatment outcomes) to determine if the dose is correct?

This refers only to the documentation of the dose. Auditors will not need to check the appropriateness of the dose.

Record the number of orders where dose is not complete and correct, with potential for error identified. Note: where reviewing orders for paediatric patients, consider correctness and consistency with any dose calculations documented on the chart.

F. Frequency

If the frequency is missing, but times are charted (e.g. 'bd' is missing but times for 0800 and 2000 are written) is that considered "complete" or "clear"?

Also, what is an example of incorrect frequency?

In this case, the frequency would be considered not complete and clear as it does not include the frequency documented in the prescription order section.

An example of 'unclear frequency' may be use of error-prone abbreviations (i.e. 'od, '4º' etc.) or illegible writing.

An example of 'incorrect' frequency' may be the prescription "q4h" for Oxycontin® may be deemed as incorrect if the prescriber is unaware he has prescribed the wrong formulation (e.g. slow release instead of immediate release).

G. I have an order where the prescriber has written 'every 4 hours' however the dosage times have been written by a nurse. Would this be considered an error?

Yes, when auditing the medicine order section, it is the prescriber's responsibility to document the times a medication should be administered. If a nurse or a pharmacist has annotated these times this order would be considered incomplete.

H. Is an order of "daily" considered complete and correct?

If a time has been indicated and daily prescribed, then it would be considered 'Y' complete and correct in regard to frequency. Ideally a time of day should be specified when prescribing the medication – i.e. mane, midday, nocte.

I. Prescriber printing name as part of medication order

The auditing guide states that a prescriber must write their name next to their signature for at least one prescription on a medication chart to ensure that the prescriber can be contacted if there is an issue with a prescription. (E.g. a chart where one prescriber has written ten items, signed all orders, but only printed their name clearly on the first order.)

Each prescriber must print their name on the chart for at least one order on that chart.

If this has occurred and the name is legible then answer 0 for this question.

J. What happens if the second prescriber has prescribed medications on the medication chart but has not printed their name next to one of the orders? How would I answer this?

In this instance, the number of orders prescribed by the second prescriber would be considered an error. For example, if the second prescriber charted three orders and none of these orders had a printed prescriber name then the number of orders with errors for this question would be '3'.

K. SR medications

The chart has an order for Metformin however the SR box is not ticked. How do I know that this is the immediate release formulation and not the slow release formulation.

As an auditor you need to assess whether there is any potential for confusion/misinterpretation, however it is not your role to investigate whether this order has been charted correctly. If it can be easily obtained by looking at the annotations on the chart

	like ‘swallow whole’ or ‘do not crush’ then it may be safe to assume the order should be a SR. However, if there is no annotation on the order, refer to the MMP for further clarification. **L. What happens if the pharmacist has ticked the SR box can these be counted as ticked? (Q10.4 + 10.5)** Answer ‘Yes’ if a pharmacist or another clinician has ticked the SR box. You will need to count all the medicine orders that do not have this box ticked when the medicine prescribed is a SR formulation. **M. Indication box** **If the Indication: is "DHx" or "regular meds" or similar would this be considered documented?** The answer would be "N". The idea of documenting the indication is to ascertain why they are on the medications. "reg meds" or DHx does not suffice. **N. Doses required, and doses missed** Record the **number of required doses** in the regular medicines section that that should have been given and then record the number that appear to have been **missed**, that is, have **not** been documented as administered and a code/reason for not administering has **not** been specified. **O. What do we document for ceased regular medications where no doses have been given?** The audit only focuses on active charts and not ceased orders. Do not audit cease orders.
Calculation for paediatric medication orders	**Where is the place to document calculations if calculations have been done on the NIMC?** The calculation question only relates to paediatric charts. If not auditing a paediatric NIMC (long or short stay), you wont need to answer this question.
Section 12: Once only, nurse initated and phone orders	**The ‘route’ column in these sections of the chart are very small and make it difficult for the prescriber to clearly document acceptable abbreviations. Can the prescriber write outside of this box to clearly annotate the correct route?** Yes the prescriber can go outside the box to clarify the correct route, however it should be written as either ‘subcut’
Section 14 : Warfarin orders	The National version of the hospital medication chart has a dedicated warfarin prescription section. WA has a dedicated statewide WA Anticoagulation Chart for prescribing of all anticoagulant medications. Please refer to the WA Anticoagulation Chart for Section 14 questions. **The first prescriber has completed the warfarin order section, however a subsequent prescriber has prescribed a warfarin dose, where would this prescriber print their name clearly and is this considered an error?** There is no section on the Anticoagulant Chart for other prescribers to clearly print their name. This will not be counted as an error.

This document can be made available in alternative formats on request for a person with disability.