Government of **Western Australia**
Department of **Health**

Medication Reconciliation Audit Tool Guidelines

April 2020

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Contents

Acknowledgment:

The WA Medication Reconciliation Audit Tool and associated Guidelines were originally developed and endorsed by the WA Medication Safety Network (July 2017).

The current version was endorsed by the WA Medication Safety Collaborative (April 2020)

Medication Reconciliation Audit

Rationale and Aim

Medication reconciliation is recognised as an important safety initiative in the National Safety and Quality Health Service Standard 4 (Version 1)[1] (as outlined in core actions 4.6.1, 4.6.2, 4.8.1, 4.11.1, 4.12.3). This audit tool assists hospitals and health services to monitor the process of medication reconciliation on admission for a patient through to transfer or discharge from hospital.

All patients should receive a comprehensive medicines assessment by the medical team (and pharmacist if available) prior to any decision to prescribe a new medicine. A key component of this assessment is obtaining a thorough medication history. The history is used:

1. as the basis for therapeutic decision making
2. for ensuring continuity of regular medicines while a patient is in hospital
3. to identify adverse medicines events.

Medication histories are often incomplete, with medicines, strengths, frequencies and doses missing. Over the counter or complementary medicines (including vitamins and supplements), medicines for topical use, inhalers, and scheduled injections are often omitted. Studies have shown as many as 70% of medication histories contain one or more errors, with around one third having the potential to cause harm.[2,3] If not corrected, the errors can persist throughout the episode of care and at discharge. Inaccurate medication histories can lead to discontinuation of therapy, recommencement of medicines that have been ceased, inappropriate orders and failure to identify a drug related problem.

The Australian Pharmaceutical Advisory Council's *Guiding principles to achieve continuity in medication management* provides useful information on obtaining a good medication history and the information that should be recorded.[4]

At the end of an episode of care, verified information should be transferred to the next care provider. The aim of medication reconciliation is to ensure that a patient's medication information is as complete as possible, easily accessible, and communicated effectively to all involved in the patient's care so as to ensure continuity of medication management.

Local and national data indicate that medication errors and Adverse Drug Events (ADEs) constitute approximately 25 per cent of all adverse events. ADEs are a major source of system inefficiency and impart a large cost on the health care system. Approximately half of all medication errors are due to poor communication of medication information when care is transferred from the care of one doctor, ward or hospital to another.

Medication reconciliation aims to remedy these communication errors. It is the process of creating the most accurate list possible of all medications a patient is taking – including drug name, dosage, frequency, and route – and comparing that list against the admission, transfer, and/or discharge orders for each hospitalised patient. The goal is to provide correct medications to the patient at all transition points:

- on admission to a hospital
- moving within the hospital
- being discharged home or transferred to another hospital or care facility.

By ensuring a patient receives all the medications they are supposed to be receiving, at the appropriate dose and times, medication reconciliation reduces medication errors.

A well designed medication reconciliation process has the following characteristics:

- Uses a patient-centered approach.
- Makes it easy to complete the process for all involved. Staff recognise the “what’s in it for me” aspect of the change.
- Minimises the opportunity for drug interactions and therapeutic duplications by making the patient’s list of home medications available when doctors (or nurse practitioners) prescribe medications.
- Provides the patient with an up-to-date list of medications.
- Ensures that other providers who need to know have information about changes in a patient’s medication plan.

Eligible Patient Populations

All hospital inpatients that have been admitted for greater than 24 hours are eligible for inclusion. Over the 6 month collection period a total of 5-10 patients per ward at the hospital should be audited to ensure that data is collected from each clinical area.

Measurement Methods and Tools

Frequent monitoring of this measure should be undertaken to guide the improvement process. An audit tool has been developed by the WA Medication Safety Network to facilitate documentation.

Selection of a random sample of current inpatients is recommended. Sample size will depend on available resources and facility size, but the following recommendations are based on the number of beds included in the program:

Number of inpatient beds	Sample size
150 or more	20% of patients
30 – 149	30 patients
Less than 30	Actual number of beds

Random Sampling

In a random sample every patient within your audit population has an equal chance of selection. An easy way of selecting your cases is to use a random number table, as per the few lines given below.

Example 1

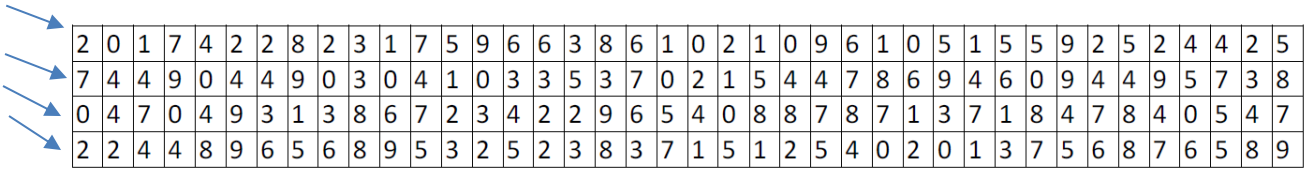
You could take one number at a time from left to right 2, 0, 1, 7, 4, ….

2	0	1	7	4	2	2	8	2	3	1	7	5	9	6	6	3	8	6	1	0	2	1	0	9	6	1	0	5	1	5	5	9	2	5	2	4	4	2	5
7	4	4	9	0	4	4	9	0	3	0	4	1	0	3	3	5	3	7	0	2	1	5	4	4	7	8	6	9	4	6	0	9	4	4	9	5	7	3	8
0	4	7	0	4	9	3	1	3	8	6	7	2	3	4	2	2	9	6	5	4	0	8	8	7	8	7	1	3	7	1	8	4	7	8	4	0	5	4	7
2	2	4	4	8	9	6	5	6	8	9	5	3	2	5	2	3	8	3	7	1	5	1	2	5	4	0	2	0	1	3	7	5	6	8	7	6	5	8	9

These cases then form your sample, e.g. the 2nd, 1st, 7th, 4th patients from a list of all the patients in your population.

Example 2: Using two number in grid at a time, reading down table 20, 74, 04, 22 …

These cases then form your sample, e.g. the 20th, 74th, 4th, 22nd patients from a list of all the patients in your population.



2	0	1	7	4	2	2	8	2	3	1	7	5	9	6	6	3	8	6	1	0	2	1	0	9	6	1	0	5	1	5	5	9	2	5	2	4	4	2	5
7	4	4	9	0	4	4	9	0	3	0	4	1	0	3	3	5	3	7	0	2	1	5	4	4	7	8	6	9	4	6	0	9	4	4	9	5	7	3	8
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2	2	4	4	8	9	6	5	6	8	9	5	3	2	5	2	3	8	3	7	1	5	1	2	5	4	0	2	0	1	3	7	5	6	8	7	6	5	8	9

Random sampling is an example of a probability sampling method. It should result in your sample being representative of the characteristics of the whole population, due to random selection reducing the possibility of any systematic bias that would make the selected group different in character from the overall population.

Central Department of Health reporting requirements

WA Health hospitals and health services will continue to monitor compliance with their process reporting the following measures on a 6 monthly basis.

Reporting Period	Due
January – June	August 31
July – December	March 1

(Refer to Appendix II - Medication Review Reporting Form)

Medication Reconciliation Audit Measures

MEASURE 1: Compliance with the Medication Reconciliation Process on Admission

Reconciliation on Admission

NOTE: "On admission" means this documentation is completed by the ***end of the next calendar day after admission (ENCD).***

Medication reconciliation performed at a pre-admission clinic is acceptable if the medication history is confirmed with the patient as current on admission to hospital.

Medication reconciliation on admission is the formal process of:

1. **Documentation of Previous Adverse Drug Reactions/Allergies to medications**
   The administration of medicines to patients with a known allergy or prior adverse drug reaction (ADR) is highly preventable by putting systems in place to alert clinicians who prescribe, dispense and administer medicines to previous adverse reactions. A patient should be interviewed to determine whether he/she has experienced a previous ADR or allergy to a medication. This should be clearly documented on the patient's National Inpatient Medication Chart (NIMC) with an alert label/sticker attached to the chart, and in the medical record. Details documented should include the medication responsible, the reaction and the date it occurred (where possible). For more information on ADR documentation refer to the WA Clinical Alert Policy.
2. **Obtaining and documentation of medication history**
   Obtaining a complete and accurate medication history of each patient's current medications (details include generic medication name, dosage, frequency and route). Medications should include prescribed medications, medicines available over-the-counter, and supplements.
3. **Confirmation of medication history**
   A patient's medication history should be confirmed where possible to ensure details of the medication history are correct. At least two sources of information should be used. Possible sources of information include (but are not limited to):
   i. Interview with the patient, relative or carer
   ii. Patient's own medications – includes dose administration aids such as WebsterPaks®, Dosette boxes, etc.
   iii. Medication list
   iv. General practitioner
   v. Community pharmacy
   vi. Nursing home or care facility
   vii. Discharge summary or transfer letter on hospital transfer

   Once the medication history has been confirmed with at least two sources, the list is then known as the Best Possible Medication History (BPMH).

   If clinical judgement determines that confirmation is not necessary, this decision should be explicitly documented in the medical record, or on the WA Medication History and Management Plan (WA MMP).
4. **Reconciliation of medications**
   The clinician's admission orders are to be compared to the medication history. Any discrepancies observed must be brought to the attention of the prescriber and, if

appropriate, changes are made to the orders. This can be completed by an appropriately credentialed health professional.

Indicators to be reported to Department of Health

1A	Percentage of inpatients with a complete medication history documented
1B	Percentage of inpatients with a medication history confirmed with a second source documented
1C	Percentage of inpatients with a reconciled list of medications documented
1D	Percentage of inpatients with all three admission steps (1A+1B+1C) of medication reconciliation documented
1E	Percentage of patients admitted just prior to or during a weekend of public holiday.
1	Percentage of patients with all steps of Medication Reconciliation on ADMISSION (documented by End of Next Calendar Day) 1 is Yes if = [(1A = Y) and (1B = Y or NA) and (1C = Y or Nil regular)] within ENCD)

MEASURE 2: Compliance with Medication Reconciliation on Discharge or Transfer

Reconciliation Process on Discharge or Transfer

Medication reconciliation on discharge or transfer is the formal process of:

1. **Medication reconciliation**

Comparing the doctor's discharge or transfer orders to the medication history and ensuring that any discrepancies are brought to the attention of the prescriber and, if appropriate, changes are made to the orders.

- Check the admission BPMH (as documented on the WA MMP) for any un-actioned discrepancies,
- Comparing what is on the medication chart/s with medications required at discharge (to see if any medication is missing), and
- Comparing the medication list on the WA MMP (once all discrepancies have been identified) with the medication list in the discharge summary.

2. **Discharge liaison**

Ensuring that frequent and accurate communication about the patient's medications occurs between all clinicians involved in the patient's care and relevant information is also communicated to the patient and/or carer.

While the measure reported refers to the overall process of medication reconciliation, the measurement of each of the individual aspects might assist hospitals to identify problem areas requiring a more targeted approach.

Indicators to be reported to Department of Health

2A	Percentage of inpatients with medications planned for the patient post-discharge confirmed as the same as the information in the discharge summary
2B	Percentage of inpatients with changes in medication therapy during admission communicated in the discharge summary
2C	Percentage of patients discharged or transferred during a weekend, public holiday or Monday morning up until 12 noon.

2	Percentage of patients with all steps of medication reconciliation completed and documented on DISCHARGE or TRANSFER **2 is YES if [(2A = Y) and (2B = Y)]**

Medication Reconciliation Audit Tool

Documentation of Previous Adverse Drug Reactions/Allergies to Medications (NSQHSS 4.7.1/4.7.2)

Documentation of ADR 4.7.1/2	**Allergy/ADR to drug/s identified:** Y/N	**ADR status documented NIMC** (includes NKDA, Unknown, ADR) Y/N	**ADR status documented notes** Y/N	**If patient has had past ADR/s** is reaction/s documented? Y/N is ADR sticker/s on NIMC? Y/N

Question 1
Allergy/ADR Identified

Review the medical record and medication charts (remember to include additional or specialised charts) to determine if there has been any previous allergy or ADR identified for the patient. The emergency triage record, anaesthetic record or pre-admission clinic records should also be reviewed if available.

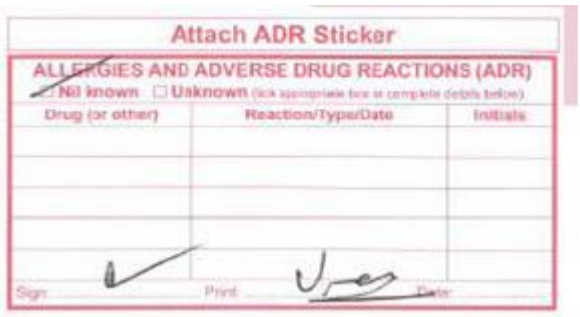
If a previous allergy or ADR has been documented for the patient	Select YES
If there is no documented record of a previous allergy or ADR	Select NO
If "No Known Allergy", "NKDA" or "Unknown" has been documented	Select NO

Question 2
Documented on the NIMC

The patient's allergy/ADR status, whether there is a previous ADR, "No Known Allergy", "NKDA" or "Unknown" must be documented on the NIMC.

If the patients' allergy/ADR status has been documented on the NIMC: • "Nil Known", "Nil Known Allergy" or "NKDA" (see Example 1) • Details of previous allergy/ADR – to include medication, reaction at a minimum and date/timeframe reaction occurred if possible (see Example 2). An ADR sticker should also be present on the front and back of each current medication chart.	Select YES
If there is no documented record of a previous allergy or ADR on the NIMC (i.e. ADR field left blank)	Select NO

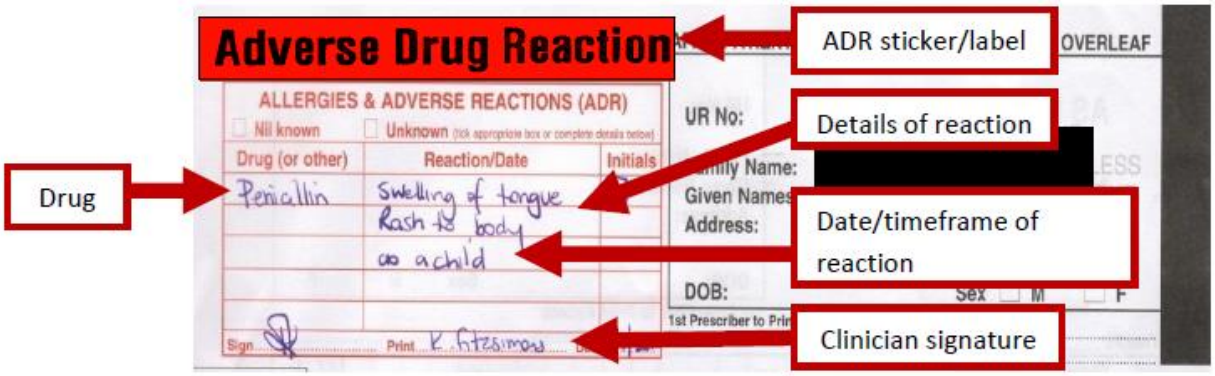
Example 1: Where a patient has no known drug allergy(s)



Ideally the clinician should also provide a date as to when the ADR status was determined.

Example 2: Where a patient has had previous allergy or adverse drug reaction

The use of an ADR alert label/sticker is a visual reminder to reduce the risk of patients being prescribed, administered or dispensed a medicine to which they have previously experienced an adverse reaction. There should be an ADR alert label/sticker placed on the front and back page of all current NIMCs for the patient.



Question 3
Documented in the notes (medical record)

The patient's medication history, including previous allergies or ADRs, must be documented by the medical officer on presentation to hospital in the medical record. This could be either by the emergency team or the admitting medical team. The triage nurse may also document this information on the hospitals nursing triage form.

If patient's allergy/ADR status has been documented in the admission section of the patient's medical record • "NKA", "NKDA" or "Unknown" • Details of previous allergy/ADR – to include medication, and reaction as a minimum and date/timeframe reaction occurred where possible	Select YES
If there is nothing documented in the admission section of the patient's medical record	Select NO

Question 4
Documentation of reaction and application of ADR sticker.

If the patient has had a past ADR(s)

(a) Is the reaction to the medication(s) documented?

(b) Is the ADR sticker on the medication chart(s)?

If patient has had a previous allergy/ADR identified:	
Details of previous allergy/ADR – to include medication, and reaction as a minimum and date/timeframe reaction occurred where possible have been documented.	Select YES
If no reaction is documented in the admission section of the patient's medical record	Select NO
If an ADR sticker is present on the front and back of each national inpatient medication chart (NIMC)	Select YES
If there is no ADR sticker or it is not present on all NIMCs	Select NO

Reconciliation on Admission (NSQHSS 4.6.1, 4.6.2, 4.11.1)

Question 1

Is there a medication history documented by a doctor?

This section assesses whether the doctor has documented a medication history. This may be documented either in the medical record, or on the front of the NIMC (medicines taken prior to presentation to hospital section) or on the medication management plan.

If there is a medication history documented by the doctor (including "Nil Regular")	Select YES
If there is medication history documented by the doctor, identify where this has been documented	Select all that apply
If there is no documented medication history	Select NO
If patient is not taking any regular medications	Select Nil Regular, then select YES

If a medication history is documented - is it complete? (i.e. including drug, dose, frequency +/- route)

This documentation is considered "complete" if the medication history includes information on the drug, the dose taken, the frequency of administration and the route of administration where pertinent (i.e. if the medication is only available via oral route then documenting the route may not be necessary). Ideally, for this medication history to be complete, the medication history should also state the formulation (i.e. slow release, liquid, etc) to confirm the correct medication for prescribing.

If medication history documented is deemed "complete" (as per definition above)	Select YES
If medication history documented is deemed "incomplete" (i.e. at least one detail is missing)	Select NO
If the patient does not take any regular medications – the completeness of documentation is considered not applicable	Select NA

Question 2

Is there a medication history documented by a pharmacist?

If there is a medication history documented by the pharmacist (including "Nil Regular")	Select YES
If there is medication history documented by the pharmacist, identify where this has been documented	Select all that apply
If there is no documented medication history	Select NO
If patient is not taking any regular medications	Select Nil Regular, then select YES

If a medication history is documented - is it complete? (i.e. including drug, dose, frequency +/- route)

This documentation is considered “complete” if the medication history includes information on the drug, the dose taken, the frequency of administration and the route of administration where pertinent (i.e. if the medication is only available via oral route then documenting the route may not be necessary).

If medication history documented is deemed “complete” (as per definition above)	Select YES
If medication history documented is deemed “incomplete” (i.e. at least one detail is missing)	Select NO
If the patient does not take any regular medications – the completeness of documentation is considered not applicable	Select NA

Question 3

Is there a medication history documented by a nurse/midwife?

If there is a medication history documented by a nurse (including “Nil Regular”)	Select YES
If there is medication history documented by a nurse, identify where this has been documented	Select all that apply
If there is no documented medication history	Select NO
If patient is not taking any regular medications	Select Nil Regular, then select YES

If a medication history is documented - is it complete? (i.e. including drug, dose, frequency +/- route)

This documentation is considered “complete” if the medication history includes information on the drug, the dose taken, the frequency of administration and the route of administration where pertinent (i.e. if the medication is only available via oral route then documenting the route may not be necessary).

If medication history documented is deemed “complete” (as per definition above)	Select YES
If medication history documented is deemed “incomplete” (i.e. at least one detail is missing)	Select NO
If the patient does not take any regular medications – the completeness of documentation is considered not applicable	Select NA

Question 4

Is a complete medication history documented by a health professional (either a doctor, pharmacist or nurse) [1A]

This question is intended to determine whether at least one health professional has documented a complete medication history for the patient. This is a parameter that is reported to the Department of Health where questions 1-3 are for hospital use only.

If documentation of medication history is deemed complete (by either a doctor, a pharmacist or a nurse)	Select YES
If documentation of "nil regular" medications is evident	Tick Nil Regular, then select YES
If there is no a complete medication history documented	Select NO

NOTE: The medication history may or may not accurately reflect the medicines a patient has been taking prior to presentation to hospital. This is why it is important that the medication history is confirmed by at least one other source and reconciliation of differences identified is undertaken.

Question 5

Is confirmation of medication history with a second source documented? [1B]

The patient's medication history should be confirmed by using at least two sources of information. Useful sources of medication information include (but are not limited to):

- Interview with the patient, relative or carer
- The patient's general practitioner
- The patient's community pharmacist
- The patient's own medications
- A WebsterPak® or other dose administration aid medication profile
- A nursing home or hostel medication list or profile
- Hospital transfer or discharge summary
- MyHealth Record

If the medication history has been confirmed with at least two sources of information (i.e. documented on the WA MMP or front of the NIMC)	Select YES
Tick the appropriate box(es) to identify which source(s) have been used to confirm medication history	Tick all boxes that apply. If "Other" specify source
If there is no evidence of confirmation of medication history	Select NO
If deemed unnecessary to confirm medication history (e.g. if patient is documented as having "nil meds" or "nil medications")	Select NA

NOTE: If clinical judgement determines that confirmation is not necessary, this decision needs to be explicitly documented.

Question 6

Is a reconciled list of medications documented? **[1C]**

Once a patient's medications have been confirmed with a second source and any differences are documented as part of the best possible medication list (WA MMP or front of NIMC) any discrepancies identified are clarified by the prescriber. It should be clear that the final list has been reviewed after confirmation.

If there is evidence that reconciliation between the initial medication history that has been documented in the medical record and comparison with second source of information has occurred. This may also be documented on the front page of the WA MMP in the "Identified Medication Management Issues" or the "Reconciled with NIMC" section.	Select YES
If there is no evidence of reconciliation of the medication history	Select NO
If deemed unnecessary to reconcile (e.g. if the patient is documented as taking "nil meds" or "nil regular medications"	Select Nil regular

Question 7

Are all three steps of medication reconciliation on admission documented? **[1D]**

Answer "YES" for 1 if = [(1A = Y) and (1B = Y or NA) and (1C = Y or Nil reg)]

Question 8

Was the patient admitted just prior to or during a weekend (i.e. Friday 12 noon to Sunday) or public holiday? **[1E]**

This information is taken from the date of admission to assess whether there were pharmacy services available to undertake medication reconciliation on admission.

Select "Yes" or "No" accordingly.

To be described as a percentage.

$$\frac{\textit{No. of patients admitted during a weekend (from Friday 12 noon onwards)}}{\textit{Total no. of patients audited for admission reconciliation process}} \times 100\% = \textit{\% of patients admitted on the weekend}$$

Question 9

Are all three steps of medication reconciliation on admission documented by the end of the next calendar day after admission (ENCD)?

Answer "YES" for 1 if = [(1A = Y) and (1B = Y or NA) and (1C = Y or Nil reg)]

If this was not done by the end of next calendar day after admission, how long did it take?

☐ ≤48 hours after admission ☐ ≤72 hours after admission ☐ > 72 hours after admission

Measure 1 calculation:

No. of patient records with all THREE steps of medication reconciliation documented by the end of the next calendar day after admission (ENCD) **[(1A = Y) and (1B = Y or NA) and (1C = Y or Nil reg)]** Within End of Next Calendar Day No. of patient records reviewed	x 100% =	% of patients who received the full THREE-step process of medication reconciliation by the end of the next calendar day after admission

Question 10

Were any medication discrepancies documented?

A medication discrepancy may be either intentional or unintentional.

An example of an *intentional discrepancy* would be when a medication has been intentionally withheld due to it causing an adverse side effect or prior to surgery. Intentional discrepancies should be documented either in the medical record or on a medication management plan.

An *unintentional discrepancy* is defined as an error or omission in the medication history. The medication may have been omitted from the list, or the wrong drug, dose, frequency or route may have been documented or prescribed. Unintentional discrepancies should be discussed with the medical team and can be documented in the medical record or on the medication management plan.

Select "Yes" or "No" accordingly for discrepancies that have been documented in the medical record or on the medication management plan.

Document the number of unintentional discrepancies, and the number of discrepancies resolved after reconciling the medications on admission to hospital.

High Risk Medications

Question 10 also asks if the discrepancy involves a high risk medication.

The intent of this question is to determine consequence of the patient receiving an incorrect medication, dose, frequency or via the wrong route. The assumption is that if the medication is deemed a high risk medication, then an error may have a higher significance to a patient's outcome to the error.

"High Risk Medications" are defined as those which have a heightened risk of causing significant or catastrophic harm when used in error. Refer to High Risk Medication Policy (OD 0561/14). At a minimum the following medications, recommended by Australian

Commission for Safety and Quality in Health Care should be considered as high risk medications.

A	Antimicrobials
P	Potassium and other electrolytes; Psychotropic medications
I	Insulin
N	Narcotics or Opioids
C	Chemotherapeutic agents
H	Heparin and other anticoagulants
S	Systems (e.g. safe administration of liquid medications)

High risk medications may also include:

- medications with a low therapeutic index
- medications that present a high risk when administered via the wrong route, or when other system errors occur

Commonly Used High Risk Medications

NOTE: This is not an exhaustive list of all "high risk" or "potentially high risk" drugs.

Antiarrhythmics	Amiodarone, digoxin, quinidine
Anticoagulants	Enoxaparin, unfractionated heparin, warfarin, rivaroxaban, dabigatran, apixaban
Antiepileptics	Carbamazepine, phenytoin, sodium valproate
Antineoplastics	Fluorouracil, methotrexate etc**.**
Antiretrovirals	**Fusion inhibitors** e.g. Enfuvirtide **NNRTI** e.g. Delavirdine, efavirenz, nevirapine **NRTIs** e.g. Abacavir, didanosine, lamivudine, stavudine, zalcitabine, zidovudine **NtRTI** e.g. Tenofovir **Pis** e.g. Amprenavir, atazanavir, indinavir, lopinavir, nelfinavir, ritonavir, saquinavir
Drugs for diabetes	Insulins, sulfonylureas (e.g. glibenclamide, glimepiride, gliclazide and glipizide)
Drugs for gout	Colchicine
Immunosuppressants	Azathioprine, cyclophosphamide, cyclosporin, everolimus, hydroxyurea, methotrexate, mycophenolate, sirolimus, tacrolimus
Non-steroidal anti-inflammatory drugs [NSAIDs] (combined with clinical risk e.g. renal failure, elderly etc)	Aspirin, celecoxib, diclofenac, ibuprofen, indomethacin, meloxicam, naproxen, piroxicam, parecoxib
Opioid analgesics	Methadone, morphine, pethidine, oxycodone

Common Medications with a Narrow Therapeutic Index That Require Therapeutic Drug Monitoring

Antibacterials	• Aminoglycosides (amikacin, gentamicin and tobramycin) • Glycopeptides (teicoplanin and vancomycin)
Anticoagulants	• Unfractionated heparin • Warfarin • Rivaroxaban • Dabigatran • Apixaban
Antiepileptics	• Phenytoin • Sodium valproate • Carbamazepine
Bronchodilators	• Theophylline
Psychotropics	• Lithium • Clozapine

Calculate the percentage of discrepancies on admission involving high risk medications

No. of discrepancies involving high risk medications / *Total no. of discrepancies* *x 100% =* *% of discrepancies on admission involving high risk medications*

Question 11

Has a clinical pharmacist reviewed all patient's medication by the end of the next calendar day?

All patients admitted to hospital for inpatient care must have a review of their medication chart/s (WA HMC, WA Anticoagulant Chart, Insulin Chart etc.) completed by a clinical pharmacist by ENCD.

If unable to undertake daily review, risk assessments must be conducted to determine the frequency of ongoing chart review, based on the acuity or clinical risk of patients.

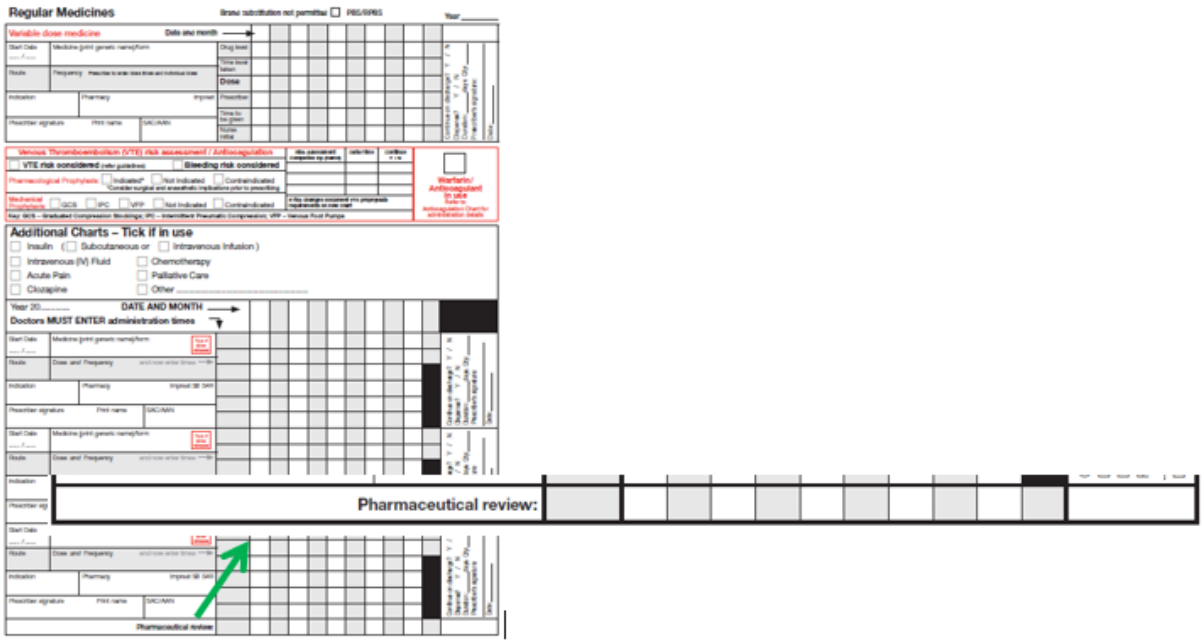
The tasks associated with chart review undertaken by a clinical pharmacist should include, but are not limited to:

- identifying, clarifying, monitoring and assessing medications prescribed for potential adverse drug reactions and/or drug interactions
- ensuring that the prescription meets legal requirements
- identifying changes in dose, frequency, formulation and route of administration to regular medications
- providing clarification of:

- medication names from trade names to generic Therapeutic Goods Administration (TGA) approved medication names where applicable (exceptions may include insulin, asthma/COPD inhalers)
- doses for all medications, particularly for all paediatric patients and inpatients with compromised renal or liver function,
- dosing times with respect to meal times or other ward/team regimes
- medication orders to ensure no error-prone abbreviations are used
- form of medication required by the patient and how it is to be administered.

- providing reconstitution directions and administration guidelines (or where to find them)
- monitoring the patient's response to the medication(s) (such as therapeutic drug monitoring and, biochemistry parameters)
- identifying new medications and providing or arranging for education, if required
- documenting the review in the appropriate signoff box on the medication chart.

Documentation of clinical pharmacist review in the 'Pharmaceutical Review' box on the WA Hospital Medication Chart is recommended.



If evidence is available that the pharmacist has undertaken a review of all medications by the end of the next calendar day and this is documented in the medical record, then this would also suffice.

If there is evidence a medication review by a clinical pharmacist has occurred by the end of next calendar day (ENCD) - either in the Pharmaceutical Review box or in the medical record.	Select YES
If there is no evidence of a medication review by a clinical pharmacist by the ENCD	Select NO

Reconciliation on Discharge or Transfer (NSQHSS 4.8.1, 4.11.1, 4.12.1, 4.12.3, 4.13.1)

Question 1

Has a discharge summary, which includes a medication list, been created for the patient at the time of discharge? (or up to one hour post discharge)

Select "Yes" or "No" accordingly.

The discharge summary should be completed at or within 48 hours of discharge as per Admission, Readmission, Discharge and Transfer Policy for WA Health Services (OD 054/14).

(Assume "Yes' if completed or printed within one hour of discharge – check if copy is available in medical record.)

Question 2

Are the medications planned for the patient post discharge the same as the information in the discharge summary with all recommendations resolved?

[2A]

The medications required at discharge for the patient should be identical to the medications listed in the discharge summary (this must be a complete list of current medications at discharge including medications initiated during admission).

If there were any requirements for medications to be reviewed for the patient on admission (i.e. medications withheld on admission) these must be resolved, or documentation is required for continued management in the discharge summary.

If the prescription orders of medications on the current medication chart(s) [including specialised charts e.g. Anticoagulation Medication Chart] are the same as the medication information in the discharge summary, with all recommendations resolved. If there is a discrepancy noted: check documentation in the medical record to determine if a medication has been added, changed or ceased immediately prior to discharge. (Medications required at discharge = discharge summary medication list)	Select YES
If the prescription orders of medications on the current medication chart(s) does not match the medication information in the discharge summary	Select NO
If the patient passed away during the admission, document that the patient is deceased on the audit tool. No further questions are required to be answered.	Select PATIENT DECEASED End of audit for this patient

Note: Exclude the deceased patients from the data reported. i.e. if have audited 50 patients and 2 patients passed away during admission, then new denominator for discharge reconciliation is 48.

Question 3

Is there evidence that a pharmacist was involved in checking and/or reconciling medications on discharge?

Evidence that a pharmacist has been involved in the checking and/or reconciling medications on discharge includes:

- At a minimum the discharge prescription has been reconciled with the medication chart at discharge
- Documentation that a pharmacist has checked the discharge summary on a medication management plan
- Electronic signature on TEDS/CGMS/NaCS where available

Select "Yes" or "No" accordingly.

Question 4
Were any medication discrepancies documented?

A medication discrepancy may be either intentional or unintentional. Both types of discrepancies should be documented either in the medical record or on a WA medication management plan.

An *unintentional discrepancy* is defined as an error or omission in the discharge summary. The medication may have been omitted from the list, or the wrong drug, dose, frequency or route may have been documented or prescribed.

A discrepancy on discharge may include:

i. Medications prescribed on NIMC intended for post-discharge therapy not included in the discharge summary
ii. Medications that were intentionally withheld on admission and not included for review or recommencement in the discharge summary (e.g. warfarin therapy recommenced post-surgery)
iii. An omission of a medication prescribed on a specialised medication chart (e.g. warfarin on WA Anticoagulation Medication Chart) but not included in the medication list in the discharge summary.

Question 4 also asks if the discrepancy involves a high risk medication. (NSQHSS 4.11.1) Refer to High Risk Medications section for Measure 1: Question 10. High Risk Medication Policy

The intent of this question is to determine consequence of the patient receiving an incorrect medication, dose, frequency or via the wrong route. The assumption is that if the medication is deemed high risk, then an error may have a higher significance to a patient's outcome to the error.

Select "Yes" or "No" accordingly.

Document the number of unintentional discrepancies, especially those involving high risk medications. Record the name of the high risk medications involved.

Document the number of discrepancies resolved on discharge.

Calculate the percentage of discrepancies on discharge or transfer involving high risk medications

$$\frac{\textit{No. of discrepancies on discharge/transfer involving high risk medications}}{\textit{Total no. of discrepancies}} \times 100\% = \textit{\% of discrepancies on discharge/transfer involving high risk medications}$$

Question 5
Were changes in therapy communicated?

(i) In the discharge summary? [2B]

If the answer to Question 1 (2A) is “No” then the answer to Question 5 (i) **[2B]** is “No”.

Changes to be documented in the discharge summary may include:

- whether the medication is “New” for the patient, or increased/decreased in dose/frequency compared with medications prior to admission
- monitoring requirements
- length of therapy (e.g. antibiotics)
- increasing/decreasing dosage regimes (e.g. amiodarone or prednisolone therapy)
- prior to admission medications that have been intentionally ceased.

Select “Yes” or “No” accordingly.

(ii) To the patient/care/community pharmacy/RACF?

If the answer to Question 1 (2A) is “No” then the answer to Question 5 (ii) is “No”.

Tick the appropriate box on the audit tool if:

- The patient or carer has been provided with a medication profile where appropriate.
- The community pharmacy has been provided with a medication profile and/or phoned to convey any changes that have been made to pre-admission medications.
- The RACF (residential aged care facility) has been provided with a medication profile and/or phoned to convey any changes that have been made to pre-admission medications.
- Other – please specify.

This information should be documented on the back page of the WA Medication History and Management Plan (WA MMP).
Select “Yes” or “No” accordingly.

Question 6
Was patient discharged or transferred during a weekend, public holiday or Monday morning up to 12 noon? [2C]

This information is taken from the date of discharge to assess whether there were pharmacy services available to undertake medication reconciliation process on discharge.

Select “Yes” or “No” accordingly.

To be described as a percentage.

No. of patients discharged on a weekend (including Mon morning, up to 12 noon)
_____ *x 100% =* *% of patients discharged on the weekend*
Total no. of patients audited for discharge/transfer reconciliation process

Question 7

Are both steps (2A & 2B) of medication reconciliation on discharge or transfer documented? [2]

If 2A = Y and 2B = Y, then choose YES.

Measure 2 calculation:

No. of patient records with all TWO steps of medication reconciliation on discharge or transfer documented **[(2A = Y) and (2B = Y)]** / No. of patient records reviewed	x 100 =	% of patients who received the full TWO-step process of medication reconciliation at the time of the patient's discharge or transfer

Question 8 – Indicator 4

Is there documentation to confirm that the patient has been provided education/counselling on their medication?

If there is documented evidence that the patient was provided with education or counselling on their medications prior to discharge (Includes during admission) (e.g. documented on page 2 of WA MMP or in the patient's medical record) • Patient information leaflet • Consumers Medicines Information (CMI) • Verbal counselling • Accurate Medication list Sites may find it of value to audit who provided the education/counselling at discharge (☐ Doctor ☐ Pharmacist ☐ Nurse/Midwife ☐ Nurse Practitioner)	Select YES, then tick appropriate box(es)
If there is no documented evidence of patient education or counselling on medications	Select NO

APPENDIX I – WA Health Medication Reconciliation Audit Tool

While the measure reported refers to the overall process of medication reconciliation, the measurement of each of the individual aspects will assist hospitals to identify problem areas requiring a more targeted approach.

APPENDIX II – Medication Review Reporting Form

Government of **Western Australia**
Department of **Health**

Medication Review Reporting Form

STANDARD 1: MEDICATION RECONCILIATION ON ADMISSION

(From WA Medication Reconciliation Audit Tool)

Indicator 1A: Percentage (%) of inpatients with a complete medication history documented.	
Numerator: Number of patients with a complete medication history documented.	
Denominator: Number of patients in sample	
Comment:	

Indicator 1B: Percentage (%) of inpatients with a medication history confirmed with a second source documented.	
Numerator: Number of patients with a medication history confirmed with a second source.	
Denominator: Number of patients in sample	
Comment:	

Indicator 1C: Percentage (%) of inpatients with a reconciled list of medications documented.	
Numerator: Number of patients with a reconciled list of medications documented.	
Denominator: Number of patients in sample	
Comment:	

Indicator 1D: Percentage (%) of inpatients with all three admission steps(1A & 1B & 1C) of medication reconciliation documented	
Numerator: Number of patients with all three admission steps(1A & 1B & 1C) of medication reconciliation documented	
Denominator: Number of patients in sample	
Comment:	

Indicator 1E: Percentage (%) of patients admitted just prior to or during a weekend or public holiday.	
Numerator: Number of patients admitted just prior to or during a weekend or public holiday	
Denominator: Number of patients in sample	
Comment	

Indicator 1: Percentage (%) of inpatients with all steps of Medication Reconciliation on ADMISSION (documented by the next calendar day after admission) (1 = 1A+1B+1C)	
Numerator: Number of patients with a medication history confirmed with a second source documented by the next calendar day after admission.	
Denominator: Number of patients in sample	
Comment:	

Government of Western Australia
Department of Health

STANDARD 4: MEDICATION RECONCILIATION ON DISCHARGE/TRANSFER OF CARE

(From WA Medication Reconciliation Audit Tool)

Indicator 2A: Percentage (%) of inpatients with medications planned post discharge confirmed as the same as the information in the discharge summary	
Numerator: Number of patients with medications planned for the patient post discharge confirmed as the same as the information in the discharge summary	
Denominator: Number of patients in sample	
Comment:	

Indicator 2B: Percentage (%) of inpatients with changes in medication therapy during admission communicated in the discharge summary.	
Numerator: Number of patients with changes in medication therapy during admission communicated in the discharge summary.	
Denominator: Number of patients in sample	
Comment:	

Indicator 2C: Percentage (%) of patients discharged or transferred during a weekend, public holiday or Monday morning up until 12 noon	
Numerator: Number of patients discharged or transferred during a weekend, public holiday or Monday morning up until 12 noon	
Denominator: Number of patients in sample	
Comment:	

Indicator 2: Percentage (%) of inpatients with all steps of Medication Reconciliation completed and documented on DISCHARGE **(2 = 2A+2B)**	
Numerator: Number of patients with all a steps completed and documented at discharge	
Denominator: Number of patients in sample	
Comment:	

The following two indicators are new indicators that can assist sites to demonstrate compliance with the Medication Review Policy. It is recommended that they are collected at the same time as the medication reconciliation indicators to minimise audit load.

STANDARD 2: MEDICATION CHART REVIEW

Indicator 3: Percentage (%) of inpatients that are reviewed by a clinical pharmacist within one day of admission (End of next calendar day)	
Numerator: Number of patients that have been reviewed by a clinical pharmacist within one day of admission	
Denominator: Number of patients in sample	
Comment:	

STANDARD 3: PROVISION OF MEDICATION EDUCATION TO THE PATIENT DURING HOSPITALISATION AND ON DISCHARGE

(This indicator is sourced from question 8 on the WA Medication Reconciliation Audit Tool.)

Indicator 4: Percentage (%) of inpatients that receive medication education on discharge	
Numerator: Number of patients that have received medication education that is documented during discharge	
Denominator: Number of patients in sample	
Comment:	

Resources

Some of these resources may be protected by copyright, please ensure all copyright requirements are met prior to their use.

- This initiative has been modelled on the Safer Systems Saving Lives Toolkit for Preventing Adverse Drug Events. The associated Victorian Government website provides excellent information, invaluable tips, lessons from success, and measurement and data collection tools that can be used or adapted if desired: http://www.health.vic.gov.au/sssl/interventions/adverse.htm

- Useful supplementary resources include the 'How-to' Guides and websites of:

    - Institute for Healthcare Improvement (IHI) 5 Million Lives campaign: http://www.ihi.org/offerings/initiatives/PastStrategicInitiatives/5MillionLivesCampaign/Pages/default.aspx
    - Safer Healthcare Now! Campaign: http://www.saferhealthcarenow.ca/EN/Interventions/medrec/Pages/default.aspx

- Medication reconciliation is also a key component of the Medication Review Policy

References

1. Australian Commission on Safety and Quality in Healthcare. National Safety and Quality Heathcare Standards. Standard 4 – Medication Safety. http://www.safetyandquality.gov.au/our-work/accreditation/nsqhss/ http://www.safetyandquality.gov.au/publications/national-safety-and-quality-health-service-standards/

2. Tam V, Knowles S, Cornish P, Fine N, Marchesano R, Etchells E. Frequency, type and clinical importance of medication history errors at admission to hospital: a systematic review. Canadian Medical Association Journal 2005; 173 (5):510-15.

3. Cornish P, Knowles S, Marchessano R, et al. Unintended medication discrepancies at the time of admission to hospital. Archives of Internal Medicine 2005; 165: 424-9.

4. Australian Pharmaceutical Advisory Council. Guiding principles to achieve continuity in medication management. Canberra. Commonwealth of Australia, 2005.

5. Institute for Healthcare Improvement (IHI) 5 Million Lives campaign: http://www.ihi.org/offerings/initiatives/PastStrategicInitiatives/5MillionLivesCampaign/Pages/default.aspx

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