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

Best Practice Principles for Medication Review

Guidance Document

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Contents

Introduction

The *National Medicines Policy* [1] is an endorsed framework that endeavours to bring about better health outcomes for all Australians. The overall aim of this policy is to provide equitable, timely, safe and quality use of medicines (QUM). To achieve QUM, patients must be provided with the most appropriate treatment, and have the knowledge and skills to use medications to their optimum effect. Healthcare professionals have an important role in promoting the QUM through good treatment choices, good communication with patients and collaboration with other health professionals.

The Department of Health and Aged Care's '*Guiding principles to achieve continuity in medication management*' (guiding principles) [2] provide a framework for comprehensive continuity of medication management for all individuals receiving care and includes actions to support vulnerable groups that use the healthcare system.

The aim of this guidance document is to provide a resource for the Health Service Provider (HSP) to develop systems and processes, for the implementation of a minimum practice level set of requirements for the 4 standards of medication review within hospitals and health services including:

- Medication Reconciliation on Admission
- Medication Chart Review
- Provision of Medication Education during Hospitalisation and on Discharge
- Medication Reconciliation (including medication liaison) at Discharge/Transfer of Care.

Medication Review and the Medication Management Cycle

Medication review is the systematic appraisal of all aspects of a patient's medication management to optimise patient outcomes and ensure the QUM principles are adhered to. The medication management cycle (Figure 1) encompasses all the activities required to achieve QUM for patients at each episode of care. The patient is at the centre of the medication management process, in partnership with a multidisciplinary healthcare team. These activities include:

- Deciding upon appropriate treatment and if a medication is required, deciding to prescribe the safest and most cost-effective medication.
- Documenting this decision to prescribe via a prescription or medication order to inform others involved in the medication management cycle.
- Reviewing the medication order/prescription to ensure optimal use of the medication, compliance with legislation, clinical appropriateness, and verification of prescribing intent and expected outcomes.
- Preparing the medication safely and accurately or issuing the correct medication with appropriate labelling to ensure the person administering the medication understands the prescriber's intent.
- Providing appropriate information to the patient about the medication, including how to store and use it properly.

- Distributing and storing the medication safely.
- Reassessing the need for the medication (for example, pain relief and symptom control) prior to administration. Consideration should be made whether continuation of therapy is required.
- Confirming that the correct medication has been supplied and administered as prescribed.
- Monitoring the response to the medication; including self-monitoring by the patient and clinical monitoring by the healthcare professional.
- With the patient's consent, and in a timely manner, transferring accurate information about the medication to the healthcare professional involved in the next episode of care.

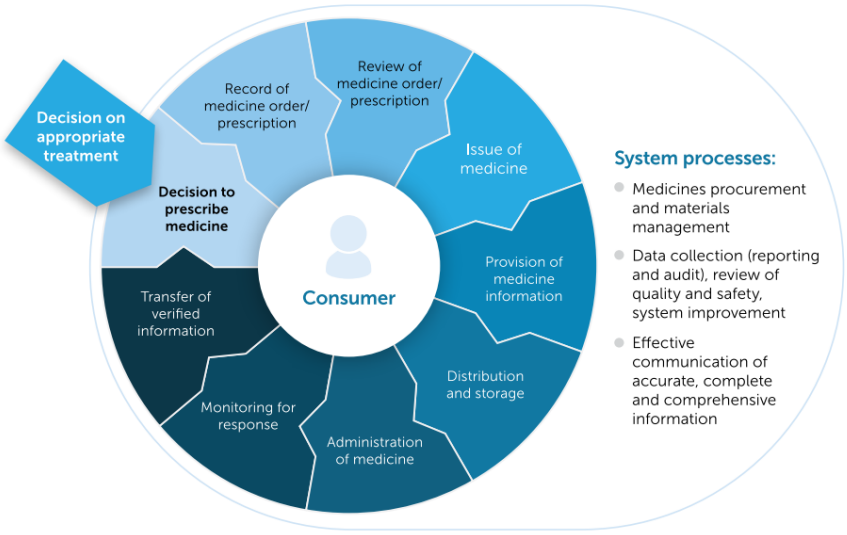

Figure 1: Medication Management Cycle, adapted from the Australian Commission on Safety and Quality in Health Care National Safety and Quality Health Service Standards Guide for Hospitals [3].

This process of prescribing, dispensing, administering and monitoring is complex and involves several different health professionals. Continuity in medication management occurs when all components of the medication management cycle relevant to the episode of care are completed and information transferred to the next care setting. Significant patient harm and sub-optimal use of medications frequently results from discontinuity in patient care.

Medication Review Standards

Medication Reconciliation on Admission

Guiding principle 5 indicates that a best possible medication history (BPMH) should be obtained at time of admission, or as early as possible by an appropriately credentialed health professional [2].

A complete and accurate medication history including documentation of allergies and adverse drug reactions (ADRs) is the foundation of all decisions concerning medication management and assists patient care by reducing discrepancies in medication orders. Refer to Patient Alert Procedure for Adverse Drug Reactions (ADRs) within *MP 0053/ 17 Patient Alert Policy*.

Obtaining a medication history

The *MP 0104/19 Medication Review Policy* requires that medication reconciliation, including an accurate medication history, is conducted for all inpatients. This should be completed by an appropriately credentialed professional, by the end of the next calendar day (ENCD) after admission and balanced against patient risk.

Further to obtaining this medication history from the patient/carer/family, one other source should be consulted to confirm the patient's current medications. This other source should ideally be the patient's community pharmacist (CP) or general practitioner (GP). Prior to contacting a community clinician for a medication history, it is important to obtain consent from the patient/carer/family.

Some patients may not be a reliable source of information for the medication reconciliation process (e.g. unconscious, low cognitive status, inaccessible or unidentified patients). In these instances, attempts to contact alternative sources should be made according to the clinical situation.

Other potential sources of medication history include:

- the patient's own medications from home
- the patient's current medication list (if they have one with them)
- a patient's previous hospital discharge summaries/transfer letter/documents (if recent)
- a patient's *My Health Record*
- nursing home summaries.

The BPMH should be documented on the WA Medication History and Management Plan (WA MMP) or the 'Medicines taken prior to presentation to hospital' section on the WA Hospital Medication Chart (WA HMC)[1]/WA Paediatric Hospital Medication Chart (WA Paediatric HMC). The WA MMP should be kept together with the current WA HMC/WA Paediatric HMC throughout the episode of care.

Patient's Own Medications

HSPs should have a local policy on the management of patient's own medications (POMs) and self-administration of medications by a patient during hospital admission.

Obtaining a medication history on admission can be challenging. HSPs should encourage patients to bring their own medications to hospital, as this will assist the process of medication reconciliation at admission and discharge and aid in medication education/counselling.

If a HSP chooses to use POMs during a patient's admission, it is recommended that the HSP has a local policy to manage the use of POMs which includes, but is not limited to:

- indications on when it may be appropriate to use POMs

[1] For the most current version of the WA HMC and associated guidelines, please refer to Medication charts (health.wa.gov.au).

- a process for receiving consent from the patient to use their own medications if required
- an assessment of need for each POM prior to prescribing
- ensuring there is a prescription for each POM before administering
- assessment for suitability of use to ensure the integrity of the POMs
- a process for storage of POMs such that they are accessible during medication rounds
- a process for return of POMs to patients at the point of discharge
- a process to ensure adequate supply of medications at discharge if POMs are used
- the roles and responsibilities of staff and patients.

If a patient has brought their own medications into hospital, HSPs should ensure education has been provided to the patient not to self-administer medications during their hospital admission, unless this is consistent with the HSP's policy and medications have been reviewed and prescribed by the treating team and they are supervised by a nurse/midwife who can document the administration on the medication chart.

Medication Chart Review

Based on guiding principle 6, the assessment of a patient's current medications and other therapies, should be continually re-evaluated during hospital admission [2]. This should include selecting management options wisely, choosing suitable medications if a medication is considered necessary and using medications safety and effectively. As stated in the 'Your Safety in our Hands in Hospital' 2023 Report, medication clinical incidents represented 26.5 per cent of all confirmed incidents in the report period [4]. A breakdown in communication and lack of documentation are major contributors to these type of incidents [4]. These clinical incidents can be minimised by undertaking medication reconciliation at admission and on discharge/transfer, and ongoing medication review whilst the patient is an inpatient. Benefits associated with chart review by an appropriately credentialed health professional, such as a clinical pharmacist, include reduced medication related adverse events, reduced length of stay, reduced probability of readmission and reduced medication costs [5].

It is important that all of the patient's current medications are continually reviewed throughout the patient's admission in order to ensure optimal treatment is being provided to the patient. This process involves reviewing medications that need to be prescribed for the patient to treat their current medical conditions, as well as de-prescribing medications that are no longer required for that patient's care. De-prescribing can be considered as the *"systematic process of identifying and discontinuing drugs in instances in which existing or potential harms outweigh existing or potential benefits within the context of an individual patient's care goals, current level of function, life expectancy, values and preferences"* [6]. Review of current medications can assist in identifying polypharmacy, which is the concurrent use of 5 or more medications by a single individual. It is important to not focus solely on the number of medications used, but review the effectiveness, utility and potential harm of each medication both individually and in combination [7].

Clinicians may consider the possibility of de-prescribing in situations such as [7]:

- a change in a patient's clinical condition
- progression of an existing condition
- an increased need for assistance with daily activities
- an increased risk of falls
- a decline in weight or liver/renal function
- following a transition in care.

It is imperative that rationale for de-prescribing of medications is communicated and discussed with the patient, GP and other community clinicians to ensure safe ongoing management and care. De-prescribing requires close, consistent monitoring of the patient to ensure that the medication taper, or discontinuation, is both safe and effective. Further information on polypharmacy and deprescribing can be found at CATAG Cumulative Medicine Practice Tool.

Undertaking a medication chart review

The *MP 0104/19 Medication Review Policy* requires that all patients admitted to hospital have a medication chart review undertaken. It is important to be able to prioritise patients who are at a high risk of medication misadventure (see definitions) using a risk assessment tool such as the SHPA Risk Factors for medication-related problems [8].

Review of all of the patient's medication chart(s) (WA HMC/WA Paediatric HMC, WA Anticoagulation Medication Chart, Insulin Chart, any other electronic or specialised medication charts etc.) should be undertaken by an appropriately credentialled healthcare professional, which could include the patient's prescriber, pharmacist and nurse/midwife administering the medication to the patient, to ensure the order is safe and appropriate (see below). The patient's medical record must be reviewed in conjunction with the medications prescribed on the chart(s). Recent consultations, pathology results, investigations, treatment plans and daily progress should be taken into account when determining the appropriateness of current medication orders, and when planning patient care.

The frequency of chart review should be dependent on the acuity or clinical risk of the patient. Once the review has occurred, it needs to be documented on the patient's chart. The reviewer should sign the 'Pharmaceutical Review/Pharmacist Review signoff box on the WA HMC (Figure 2) or the WA Paediatric HMC respectively.

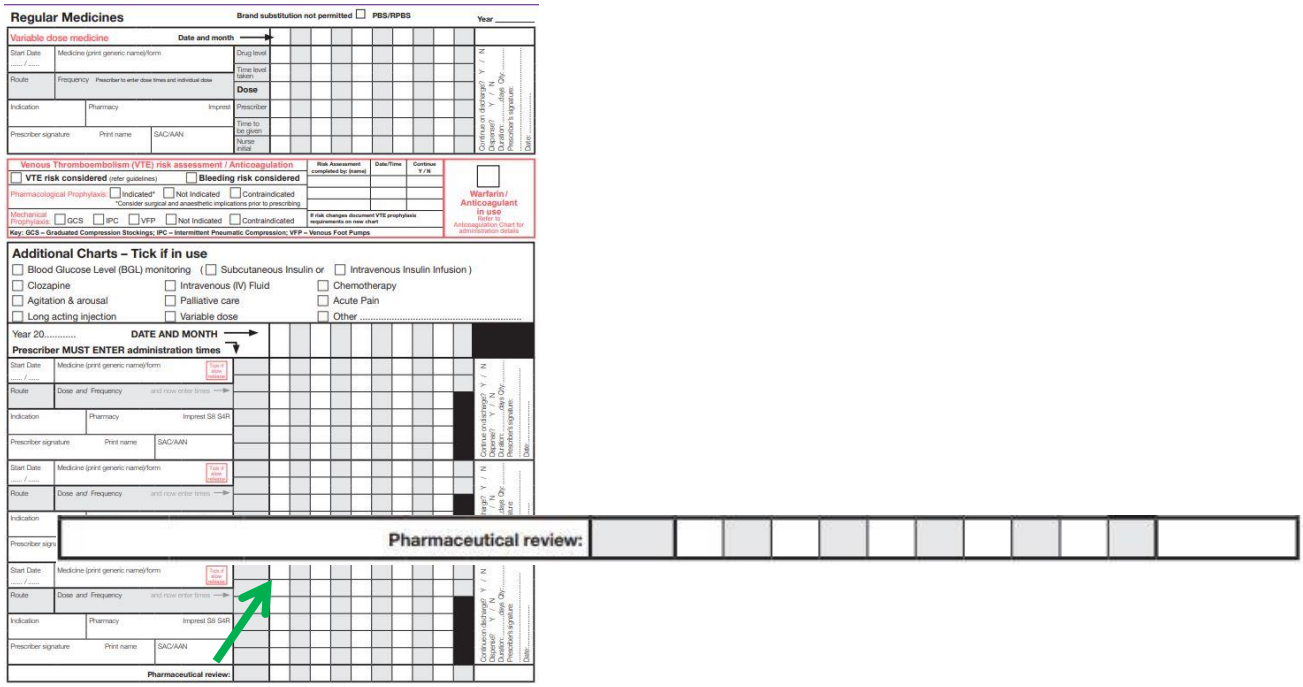

Figure 2: Pharmaceutical Review daily sign-off box on WA HMC.

Prescriber chart review

A medication chart review must be completed daily by the patient's prescriber. 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 a chart review conducted by the prescriber should include, but are not limited to:

- Identifying, clarifying and documenting (on the WA HMC/WA Paediatric HMC and in the patient's medical record) the patient's allergy/ADR status. This should include the name of the suspected medication, reaction type and, the date of reaction (if known).
- If a suspected ADR occurs from a newly commenced medication, the medication must be reviewed and the ADR documented in the patient's medical records and on the ADR section of the WA HMC/WA Paediatric HMC. (Refer to *MP 0053/17 Patient Alert Policy*)
- Ensuring that:
  - generic medication names are used for medication orders (note that there are a small number of exceptions where there is value to include the brand name, as the generic name of multiple combined products may be confusing (such as insulin products) or where there is no bioequivalence between the products (such as warfarin), in such instances the brand name should be used to prescribe the medication)
  - indication is recorded for all medications prescribed (including PRN medications) to specify the purpose for which they should be used and is appropriate for the patient's care
  - the prescription is legible and meets legal requirements
  - 'Recommendations for terminology, abbreviations and symbols used in medicines' documentation are adhered to, to ensure no error-prone abbreviations are used
  - each medication prescribed is appropriate for the patient

- medications prescribed are in accordance with hospital policies, guidelines and restrictions on use
- doses are appropriate for all medications prescribed, this includes calculation of doses be recorded for all orders for the WA Paediatric HMC
- dosing times are clarified with respect to meal times or other ward/team regimes
- dosing forms are clarified for the medication and how it is to be delivered; and
- reconstitution directions and administration guidelines are provided where appropriate.

Before a new medication is to be commenced, it is the responsibility of the prescriber to review the medication chart to ensure the addition of the new medication will not cause interactions with current medications which may interfere with the patient's management. The prescription of medications should adhere to the Statewide Medicine Formulary and QUM principles [9] which include:

- selecting management options wisely
- choosing suitable medications if a medication is considered necessary
- using medications safely and effectively.

When a decision is made to de-prescribe a medication, it is the responsibility of the prescriber to discuss this with the patient/carer/family and inform the patient/carer/family of any monitoring requirements during this period.

At the time of discharge, a review should be undertaken to determine which medications are required for ongoing management and the rationale for any changes from medications on admission should be included in the medication profile/list as part of the discharge summary.

Pharmacist chart review

All patients admitted to hospital for inpatient care must have a review of their medication chart(s) (WA HMC/WA Paediatric HMC, WA Anticoagulant Chart, Insulin Chart etc.) completed by a 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 pharmacist should include, but are not limited to:

- identifying, clarifying, monitoring and assessing medications prescribed for potential ADRs and interactions
- ensuring that the medication order 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, warfarin, respiratory inhalers).

Refer to the following resources:
- Active ingredient prescribing fact sheet
- Active ingredient prescribing user guide
- List of Medicines for Brand Consideration (LMBC)
- List of Excluded Medicinal Items (LEMI)
- Commission advisory on Safer Insulin Prescribing

  - 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

    Refer to the Australian Commission on Safety and Quality in Health Care Resource: Recommendations for terminology, abbreviations and symbols used in medicines documentation
  - formulation 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.

Chart Review at Time of Administration

The clinician administering the medication should review the patient's medication chart before administering the medication to the patient.

The tasks associated with chart review undertaken by the administrator (i.e. nurse/midwife) should include, but not limited to, verifying:

- the 6 Rights of Safe Medication Administration [10, 11]:
  - the right patient
  - the right medication – including a check for allergies/ADRs
  - the right dose
  - the right time/frequency
  - the right route
  - the right documentation

    Refer to the Australian Commission on Safety and Quality in Health Care Resource: National Residential Medication Chart: User guide for nursing staff or Six Rights Poster

    Some services also include a 7th right: the right indication [11].
- whether there are any existing interactions
- that the medication order is legible, clear and standardised abbreviations are used
- there is an indication to administer a PRN medication
- that the patient has an understanding of the medication to be administered (including what the medication is, what it is for and how it is to be administered whenever possible).

The clinician administering the medication should conduct the review within his or her scope of clinical practice and consult local hospital policy for further guidance.

Provision of Medication Education to the Patient during hospitalisation and on discharge

The *MP 0104/19 Medication Review Policy* requires that patients/carers/families are provided with medication education, by an appropriately credentialed health professional during their hospitalisation to ensure they have an understanding of their medications. The policy also requires the provision of a medication profile or list on discharge.

The patient is the central focus of the medication management pathway. Patients/carers/families should be provided with suitable education and information about their medications. This can be provided as either written and/or verbal education to the patient/carer/family and includes discussions about medication management including consent to treatment. Education provided to the patient should be documented on the WA MMP or in the patient's medical record.

Providing medication information ensures that patients/carers/families have sufficient information to make informed choices about their medications and use their medications safely and effectively. Educating patients about their medications has been shown to result in patients having a greater understanding about their medications and consequently, higher medication regime compliance rates on discharge [12]. As the provision of medication education in conjunction with other written information has been documented to increase compliance [13, 12], an inverse relationship can be expected between patient education, medication regime non-compliance and medication-related hospital admission. To avoid information overload at the time of discharge, it has been identified that patients also benefit from receiving some education during their hospital admission [14].

Medication education should be:

- requested, encouraged or organised, depending on the needs of the patient
- provided when any additions, cessations or dosing alterations are made to the patient's medications
- prioritised for patients who are prescribed high-risk medications.

When a clinician engages in providing medication education, factors that the patient/carer/family should understand include:

- what the medication is for and the expected outcome
- how to administer the medication
- how long the medication should be taken for
- the dose and frequency to be taken
- special directions
- potential side effects of the medication
- lifestyle changes or self-care advice that the patient can make to complement their medication therapy.

The patient/carer/family must be provided with a medication profile/list on discharge which details the medications the patient is to take and how to take them after discharge from hospital. The patient should be encouraged to share the medication profile/list with their GP, or other health professionals, as appropriate.

If the patient has experienced an ADR during hospitalisation a 'Consumer Adverse Drug Reaction Brochure' should be provided to the patient as per *MP 0053/17 Patient Alert Policy.*

Hospitals are encouraged to provide the 'How to Manage Your Medicines' brochure developed by the WA Medication Safety Group (WAMSG) to patients/carers/families at discharge.

Medication Reconciliation at Discharge or Transfer

Medication reconciliation at discharge or transfer is the formal process of ensuring that the medications prescribed for the patient at discharge are correct and reconciled with the information provided in the discharge summary, including provision of an accurate medication list to the patient. This forms part of discharge liaison, communicating the current list of medications at transfer of care with community clinicians, to ensure smooth and safe transitions for the patient after transfer or discharge from the hospital setting.

The hospital discharge summary is the primary document communicating a patient's care plan to GPs and other healthcare professionals taking over the care of the patient following hospital transfer (e.g. to another hospital or care facility for continuing care) or discharge. It should be a clear, concise and complete document which includes the patient's medication list/profile and therefore medication management requirements and plans for follow up care/management. This is the basis of guiding principle 9 [2].

Communication with Community Clinicians

Communication between hospital staff and the GP and other community clinicians is important throughout a patient's hospitalisation and is imperative at point of discharge or transfer. A GP's awareness of a patient's hospital admission can enable the GP to play a greater role in the patient's care [15]. Poor clinical handover following discharge or transfer is a factor associated with increased readmission rates [16].

Appropriate communication of medication information will enable the patient and subsequent healthcare professionals to continue the safe and effective management of their medications. The medical officer should consider contacting the GP directly if the patient requires significant follow up. The initial period post discharge or transfer is a vulnerable time for patients at risk of medication misadventure.

Medication Reconciliation at discharge

A process should be in place whereby the medication chart is cross referenced with the discharge summary and discharge prescriptions. Any discrepancies identified must be clarified with the prescriber and documented ideally on the WA MMP or medical record.

Discrepancies commonly occur between discharge prescriptions, transfer letters and discharge summaries [17]. Medication reconciliation at the point of discharge or transfer is important to

ensure the correct information is conveyed to the receiving clinician, prior to the patient's transfer into the next health care setting [18].

A patient's medication related information (including ADR, allergies or alerts) is to be provided in the discharge summary to their GP and healthcare provider at the time of discharge or transfer. Refer to *MP 0095/18 Clinical Handover Policy*.

- It is the medical officer's responsibility to ensure that accurate medication related information is included in the discharge summary with additional verbal communication where appropriate.
- Ideally a pharmacist should be involved in the medication component of the discharge summary (i.e. preparation of a medication list/profile and any recommendations for follow-up of outstanding medication related problems).
- The medication related information in the discharge summary should reflect the information in the patient's medication profile.
- For patients using dosing administration aids, information about the patient's medications should be communicated directly to the patient's preferred community pharmacy.
- The key elements relating to medications that a discharge summary should include are:
    - generic medication name (and brand name where relevant)
    - dose, form and frequency
    - medication status (changes to therapy between pre-admission and discharge, e.g. increased dose, decreased dose, new, withheld or ceased)
    - rationale for changes, including both the initiation and cessation of medications
    - intended duration of treatment
    - surveillance requirements for interactions or therapeutic monitoring
    - expected outcomes
    - any details on ADRs experienced in hospital.

Hospital Transfers

When transferring a patient from one hospital to another the following must be included with the transfer documents/summary:

- A copy of all current medication charts (including WA HMC/WA Paediatric HMC, WA Anticoagulant Chart, insulin chart, intravenous fluid therapy chart etc.)
- A copy of the completed WA MMP form (if available)
- A completed transfer summary with the key elements relating to medications that are applicable to the discharge summary.

Other considerations

If the patient's medication management is complex or deemed at high risk of medication misadventure, a Home Medicines Review (HMR) [19] or Residential Medication Management Review (RMMR) [20] should be discussed with the GP following discharge. Consider recommending an in-pharmacy MedsCheck [21] for patients being discharged home from hospital if not deemed high risk (refer to Appendix 1 for more detail).

Definitions

Adverse Drug Reaction (ADR)	A harmful or undesirable effect associated with exposure to a medication. A serious adverse drug reaction may lead to a life-threatening event and has an absolute or relative contraindication to repeat administration of the medication.
Community clinician	A clinician that is involved in the patient's healthcare in a primary health setting. This can include, but is not limited to, a general practitioner (GP), community pharmacist, or specialist nurse/midwife.
De-prescribing	De-prescribing is the conscious process of reducing or ceasing medications that may no longer be of benefit or may be causing harm. The goal is to reduce medication burden or harm while improving quality of life. It is important to note that some medications may require a slow dosage wean in order to avoid withdrawal effects. It requires verbal and written communication of this action with the patient/carer/family and when planned for ongoing management post hospitalisation it must be communicated to the GP or community clinician.
Drug Use Evaluation (DUE)	A systematic quality improvement activity undertaken with the purpose of improving the safety, quality and cost effectiveness of medication use, thereby improving patient care.
Guiding principles	The Department of Health and Aged Care "Guiding principles to achieving continuity in medication management" are based on current best practice and available evidence and are intended to be applicable to all healthcare settings. The guiding principles promote practice that keeps the patient at the centre of an integrated health system.
High Risk Medications	High Risk Medications are medications that have a heightened risk of causing significant or catastrophic harm when used in error and include: • Medications with a narrow therapeutic index • Medications that present a high risk when administered via the wrong route or when other systems errors occur. The "APINCHS" acronym provides a guide to medications considered high risk including antimicrobials, potassium concentrated solution, psychotropics, insulins, narcotics and sedatives, chemotherapy, heparin and anticoagulants and systems. Refer to *MP 0131/20 High Risk Medication Policy.*
Medication related adverse event	An incident resulting in harm as a result of the intrinsic nature of a medication as well as harm resulting from medication errors associated with the distribution and use of medications. This includes events resulting from under-use of medications or failure to prescribe, administer and monitor a medication when indicated.
Medication review	Medication review is a multidisciplinary responsibility and should be patient centred. It ensures ongoing safe and effective use of medications at all stages of the medication management pathway including at the point of prescribing, dispensing, administering and monitoring the effects of a medication. This should also incorporate

	chart review, monitoring, evaluation of ongoing requirements for medication and discharge planning as outlined in the Medication Management Cycle.
Patients considered High Risk of Medication Misadventure	A patient who meets one or more of the following criteria: • has multiple co-morbidities • is prescribed a medication with a narrow therapeutic index • is receiving therapy with high-risk medication (such as anticoagulants and immunosuppressants) • is admitted as a result of a medication related problem • has known allergies or ADRs • has known or suspected adherence problems • has or potentially has a disability or impairment • is currently prescribed five or more regular medications (not including complementary medications). HSPs should risk rate patients using a risk assessment tool such as the SHPA risk factors for medication-related problems [8].
Prescribing	Prescribing is the conscious decision to add a medication to the patient's current regimen to manage the patient's clinical condition. It requires verbal and written communication of this action with the patient/carer/family and when planned for ongoing management post hospitalisation, it must be communicated to the GP or community clinician.
Quality Use of Medicines (QUM)	QUM is one of the central objectives of Australia's National Medicines Policy. The goal of QUM is to ensure the best possible use of medications to improve health outcomes for all Australians, and is based on the principles of: • selecting management options wisely • choosing suitable medications if a medication is considered necessary • using medication safely and effectively.

References

[1] Department of Health and Aged Care, “National Medicines Policy,” Department of Health and Aged Care, 2023. [Online]. Available: https://www.health.gov.au/resources/publications/national-medicines-policy?language=en. [Accessed 21 Dec 2023].

[2] Department of Health and Aged Care, “Guiding principles to achieve continuity in medication management,” Commonwealth of Australia, 2023. [Online]. Available: https://www.health.gov.au/resources/publications/guiding-principles-to-achieve-continuity-in-medication-management?language=en. [Accessed 21 Dec 2023].

[3] Australian Commission on Safety and Quality in Health Care, “NSQHS Standards Guide for hospitals,” 2017. [Online]. Available: https://www.safetyandquality.gov.au/publications-and-resources/resource-library/nsqhs-standards-guide-hospitals. [Accessed 21 Dec 2023].

[4] Unit, Patient Safety Surveillance, “Your Safety in Our Hands in Hospital. An Integrated Approach to Patient Safety Surveillance by WA Health Service Providers,” Patient Safety Surveillance Unit, Perth, 2023.

[5] M. Dooley, K. Allen, C. Doecke and e. al, “A prospective multicentre study of pharmacist initiated changes to drug therapy and patient management in acute care government funded hospitals,” *Britisj Journal of Clinical Pharmacology,* vol. 57, no. 4, pp. 513-21, 2004.

[6] I. Scott, S. Hilmer, E. Reeve and e. al, “Reducing inappropriate polypharmacy: the process of deprescribing,” *JAMA Internal Medicine,* vol. 175, no. 5, pp. 827-34, 2015.

[7] Institute for Safe Medication Practices Canada, “Deprescribing: Managing Medications to Reduce Polypharmacy,” ISMP Canada Safety Bulletin, 2018. [Online]. Available: https://ismpcanada.ca/wp-content/uploads/ISMPCSB2018-03-Deprescribing.pdf.

[8] The Society of Hospital Pharmacists Australia, “Fact Sheet: Risk factors for medication-related problems,” SHPA Federal Council, 2015. [Online]. Available: https://shpa.org.au/publicassets/7f4d5fd6-de53-ec11-80dd-005056be03d0/shpa_fact_sheet_risk_factors_for_medication_related_problems_june_2015.pdf. [Accessed 21 Dec 2023].

[9] Australian Commission on Safety and Quality in Health Care, “Quality Use of Medicines,” ACSQHC, 2023. [Online]. Available: https://www.safetyandquality.gov.au/our-work/medication-safety/quality-use-medicines. [Accessed 21 Dec 2023].

[10] Australian Commission on Safety and Quality in Health Care, “National Residential Medication Chart Version 4: User guide for nursing staff,” ACSQHC, 2021. [Online]. Available: https://www.safetyandquality.gov.au/sites/default/files/2021-10/nrmc_user_guide_for_nurses_2021.pdf. [Accessed 08 January 2024].

[11] M. Smeulers, L. Verweij, J. Maaskant, M. de Boer, C. Krediet, E. van Dijkum and H. Vermeulen, “Quality Indicators for Safe Medication Preparation and Administration: A Systematic Review,” *PLoS One,* vol. 10, no. 4, 2015.

[12] S. Al-Rashed, D. Wright, N. Roebuck, W. Sunter and H. Chrystyn, “The value of inpatient pharmaceutical counselling to elderly patients prior to discharge,” *British Journal of Clinical Pharmacology,* vol. 54, no. 6, pp. 657-64, 2002.

[13] L. Smith, L. McGowan, C. Moss-Barclay, J. Wheater and D. C. H. Knass, “An investigation of hospital generated pharmaceutical care when patients are discharged home from hospital,” *British Journal of Clinical Pharmacology,* vol. 44, no. 2, pp. 163-5, 1997.

[14] D. Calkins, R. Davis, R. P, R. Phillips, K. Pineo, T. Delbanco and L. Iezzoni, “Patient-physician communication at hospital discharge and patients' understanding of the postdischarge treatment plan,” *JAMA Internal Medicine,* vol. 157, no. 9, pp. 1026-30, 1997.

[15] J. Balla and W. Jamieson, “Improving the continuity of care between general practitioners and public hospitals,” *Medical Journal of Australia,* vol. 161, no. 11, pp. 656-9, 1994.

[16] C. Walrave, M. Mamdani, J. Fang and P. Austin, “Continuity of care and patient outcomes after hospital discharge,” *Journal of General Internal Medicine,* vol. 19, no. 6, pp. 624-645, 2004.

[17] E. Roughead, A. Gilbert, J. Primrose and L. Sansom, “Drug-related hospital admissions: a review of Australian studies published 1988-1996,” *Medical Journal of Australia,* vol. 168, no. 8, pp. 405-8, 1998.

[18] K. Fitzsimons, “WA Medication Reconciliation Data Report July to December 2016,” Quality Improvement and Change Management Uni, WA Department of Health, Perth, WA., 2017.

[19] Pharmacy Programs Administrator, “Home Medicines Review,” Australian Government Department of Health and Aged Care, 2022. [Online]. Available: https://www.ppaonline.com.au/programs/medication-management-programs/home-medicines-review. [Accessed 21 Dec 2023].

[20] Pharmacy Programs Administrator, “Residential Medication Management Review and Quality Use of Medicines,” Australian Government Department of Health and Aged Car, 2022. [Online]. Available: https://www.ppaonline.com.au/programs/medication-management-programs/residential-medication-management-review-and-quality-use-of-medicines. [Accessed 21 Dec 2023].

[21] Pharmacy Programs Administrator, “MedsCheck and Diabetes Medscheck,” Australian Government Department of Health and Aged Care, 2022. [Online]. Available: https://www.ppaonline.com.au/programs/medication-management-programs/medscheck-and-diabetes-medscheck. [Accessed 21 Dec 2023].

[22] WA Department of Health, “Complex Needs Coordination Team (CoNeCT),” 2020. [Online]. Available: https://fsh-healthpoint.hdwa.health.wa.gov.au/directory/clinicalsupport/CoNeCT/pages/default.aspx [NB access is restricted to WA Health employees]. [Accessed 21 Dec 2023].

[23] The Society of Hospital Pharmacists Australia, “Standards of Practice for Clinical Pharmacy Services,” SHPA, 2021. [Online]. Available: https://shpa.org.au/publications-resources/standards-of-practice/standards-of-practice-for-clinical-pharmacy-services. [Accessed 21 Dec 2023].

Appendix 1: Quality Activities Promoting Medication Safety and Related Initiatives

Introduction

Medication error is a significant contributor to adverse events and patient harm. Guiding principle 4 relates to the integration of safety and quality systems with governance processes to actively manage and improve the safety and quality of health care. The primary objective of health services should be to provide safe and quality use of medications. This is best achieved by taking measures to:

1) identify the systems and procedures that increase the risk of medication errors occurring
2) amend these systems and procedures
3) continuously re-evaluate and refine systems and procedures to suit the environmental conditions.

By engaging in quality activities to promote medication safety, HSPs will help to achieve WA Health's vision of delivering 'a safe, high quality and sustainable health care system.' This document provides HSPs with suggested activities, training resources and other related initiatives to help promote medication safety.

Suggested activities

Health services should be involved in medication related safety and quality activities. These activities include, but are not limited to:

- Detecting, reporting and analysing medication related adverse events and adverse drug reactions (ADRs).
- Medication related adverse events must be reported via the hospital's clinical incident management process (e.g. Datix CIMS) per the *MP 0122/19 Clinical Incident Management Policy*.
- Reporting ADRs as per the Therapeutic Goods Administration (TGA) requirement.
- Identifying and reporting ADRs to an appropriate hospital based committee to assist in developing appropriate responses to reported ADRs. This committee should be responsible for the oversight and coordination of initiatives relating to the QUM and should have a clearly delineated relationship in the organisation's executive. This could occur via the establishment of an executive sponsor (e.g. Clinical Alert Committee, Medication Safety Committee).
- Promotion of participation in QUM activities (e.g. Medication Safety Self Assessment, Medication Reconciliation Audit) and providing feedback on audit recommendations to the clinical workforce.
- Participation in drug use evaluations (DUE).
- routine review/audit of charts (e.g. WA HMC/WA Paediatric HMC Audit as per *MP 0078/18 Medication Chart Policy*) for:
    - correct and complete patient identification
    - legibility
    - errors on charts
    - dose administration times

        - completion of ADR documentation including attachment of ADR sticker
        - dose omissions
        - medication review.
    - Involvement with other hospital and state medication safety working groups, and email discussion networks, such as the WA Medication Safety Collaborative.

Training resources

The following links are additional resources that can be used for training purposes related to medication reconciliation and medication safety initiatives:

- Get it right! Taking a best possible medication history (BPMH) – this online learning module is centered around a video that guides clinicians on how to obtain and record a BPMH.
- Medication Safety Online Course – this online course developed by the National Prescribing Service (NPS) is designed to explore the various causes of medication errors and equip clinicians with the knowledge and skills to help prevent errors from occurring.
- Medication safety resources and tools from the Australian Commission on Safety and Quality in Health Care.
- National Standard medication charts course – this training provided by NPS and endorsed by the Australian Commission on Safety and Quality in Health Care (ACSQHC) will guide clinicians on the principles of safe prescribing and demonstrate how to complete the National Standard Medication charts correctly.
- High Risk Medicines eLearning Modules – provided by the Australian Commission on Safety and Quality in Health Care and South Australia Health, there are a series of modules on awareness and risk mitigation strategies for selected high-risk medicines.
- Resources for medication reconciliation from the Australian Commission on Safety and Quality in Health Care.
- Deprescribing Guidelines and Algorithms
- Addressing the hidden risk of cumulative medicines CATAG Practice Tool – developed by CATAG, this practice tool assists to identify people at hidden risk of cumulative medicines toxicity and promote safe and appropriated deprescribing.

Related Initiatives

This section outlines various statewide and national initiatives that complement or support the implementation of the process of medication review.

Home Medicines Review, Residential Medication Management Review, and MedsCheck

Several pharmacist-led medication management services are available for recently discharged patients who meet certain criteria, usually depending on their living circumstances, and their perceived risk of medication misadventure. Wherever possible the pharmacist will provide a comprehensive assessment to identify, resolve and prevent medication related problems.

Available services include:

- Home Medicines Review (HMR) – a collaborative medicine management review service provided by an accredited pharmacist on referral from the patient's usual GP. Available

every 2 years or more frequently if the GP considers it is clinically indicated. (i.e. not limited by time or number) [19].

- Residential Medication Management Review (RMMR) – a collaborative medication management review service provided by an accredited pharmacist on referral from the resident's usual GP for residents living in aged care facilities. Available every 2 years or more frequently if the GP considers it is clinically indicated. (i.e. not limited by time or number) [20].
- MedsCheck or Diabetes MedsCheck – an in-pharmacy medicines review available for patients through their usual community pharmacy. Available only annually, and cannot be conducted more often, regardless of circumstances [21].

These services aim to assist in the QUM. The potential need for a medication management review may be identified by a health professional, including a hospital discharge coordinator. There is the potential for a reciprocal relationship between the HMR and the process of medication review. For eligible patients, the hospital discharge summary should prompt the GP to refer patients to the HMR Program. This will enable patients to obtain a better understanding of their medicines. In addition, where a patient with a HMR report is admitted to hospital, the patient and the GP will have an accurate record of all the patient's current medicines. This will increase the reliability and quality of the hospital medication reconciliation process.

Other hospital programs

Hospital outreach medication reviews may be available from certain hospitals where a patient is considered at risk and unable to access community services in the metropolitan and regional areas. CoNeCT Pharmacy [22] provides a metropolitan-wide post discharge service on referral for complex patients considered at high risk of medication misadventure (see definitions) and who are unable to access timely community pharmacy services. A clinical pharmacist visits the patient at home in the early post discharge period, engaging the patient's usual primary care providers wherever possible.

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