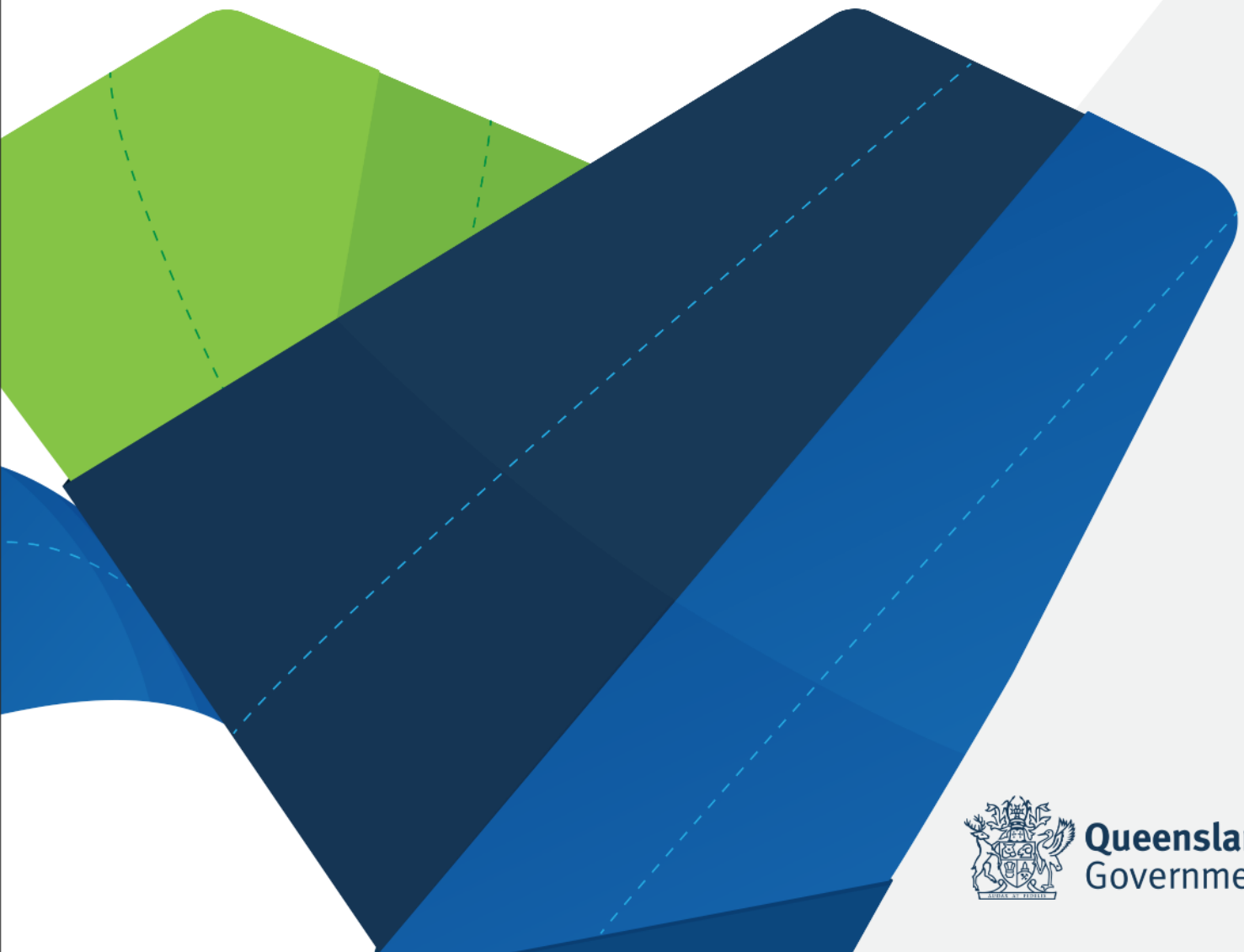
Queensland Health

Transition of Care Pharmacy Project

Model of Care

Version 1.0



Queensland Government

Introduction

The Transition of Care Pharmacy Project (ToCPP) is sponsored by the Office of the Chief Allied Health Officer and was established to identify and implement a pharmacist-led intervention to improve transitions of care.

Two pilot models of care were developed in consultation with a project oversight committee consisting of pharmacy, medical, and nursing representatives from hospital and primary health care settings.

- ToCPP model of care for patients discharging to home
- ToCPP model of care for patients discharging to residential aged care facilities (RACFs)

Model of Care Terminology

***Discharge summary**: a* collection of information about events during care by a provider or organisation. It is a document produced during a patient's stay in hospital, as either an admitted or non-admitted patient, and issued when or after a patient leaves the care of the hospital.[1]

Enterprise Discharge Summary (EDS): a computerised patient discharge summary which imports information automatically from various Queensland Health systems. The summary is sent to the patient's general practitioner (GP) via secure, electronic transfer.

***Discharge medication record (DMR)**:* a medication list which is provided to patients on discharge. Includes current medicines (including dosing regimens, indications, and any changes to medication during admission), recently ceased medicines, and allergies/adverse drug reactions.

***Medication management plan**:* a continuing plan for the use and management of medicines which is developed in collaboration with the patient[2]

***Enterprise-wide liaison medication system (eLMS)**:* a Queensland Health web-based application that assists sites to produce medication-related information for patients while facilitating the exchange of information with community health care providers.

***General Practice Pharmacist**:* a pharmacist who delivers professional services from or within a general practice medical centre with a coordinated, collaborative, and integrated approach with an overall goal to improve the quality use of medicines of the practice population.[3]

***Home Medicine Review (HMR)**:* an Australian Government-funded collaborative medication review service involving the patient, an accredited pharmacist, and a medical practitioner.

***MedsCheck**:* a medication review service provided under the Seventh Community Pharmacy Agreement. It is undertaken in a community pharmacy by a registered pharmacist, and includes medication reconciliation, consultation, and development of an action plan.

[1] The Australian Commission on Safety and Quality in Health Care. National guidelines for on-screen presentation of discharge summaries. Sydney: ACSQHC;2017.

[2] The Society of Hospital Pharmacists of Australia. Standards of Practice for Clinical Pharmacy Services. Journal of Pharmacy Practice and Research. 2012; 43(2): S26-S27.

[3] The Pharmaceutical Society of Australia. Guidelines for General Practice Pharmacists. Deakin West, PSA;2019.

Patient risk assessment

Management under the ToCPP model of care is dependent on the patient's risk of readmission. Risk will be determined using the LACE index for readmission.[4]

THE LACE index predicts patient risk of readmission or death within 30 days of discharge from medical and surgical wards. The tool has been validated in several studies.[5,6]

Risk of readmission is calculated as a score from 1– 19 based on the following criteria:

- **L**ength of stay
- **A**cuity of admission (acute or elective)
- **C**harlson Co-morbidity index
- Number of **E**mergency presentations within the previous 6 months (not including the current admission)

Risk is attributed as follows:

- High risk: ≥ 10 points
- Moderate risk: 5-9 points
- Low risk: 1-4 points

Online calculators are available for clinicians to calculate the LACE score: https://www.mdcalc.com/lace-index-readmission[7]

Note: patients who are LACE classified as having a low or moderate risk of readmission can be managed under the high risk pathway in the following circumstances:

- Medical team referral for post-discharge follow-up
- Identified risk of medicine misadventure

[4] van Walraven C, Dhalla IA, Bell C, Etchells E, Stiell IG, Zarnke K, et al. Derivation and validation of an index to predict early death or unplanned readmission after discharge from hospital to the community. CMAJ. 2010;182(6):551-7

[5] Shaffer BK, Cui Y, Wanderer JP. Validation of the LACE readmission and mortality prediction model in a large surgical cohort: Comparison of performance at preoperative assessment and discharge time points. J Clin Anesth. 2019;58:22-6.

[6] Gruneir A, Dhalla IA, van Walraven C, Fischer HD, Camacho X, Rochon PA, et al. Unplanned readmissions after hospital discharge among patients identified as being at high risk for readmission using a validated predictive algorithm. Open medicine : a peer-reviewed, independent, open-access journal. 2011;5(2):e104-e11.

[7] MD+ CALC. LACE Index for Readmission [Internet]. MDCalc. Available from: https://www.mdcalc.com/lace-index-readmission

Figure 1: Overview of Transition of Care Pharmacy Project Model of Care for patient's discharging to home

<table>
<tr><th colspan="3">Hospital health care providers</th><th colspan="3">Community healthcare providers</th></tr>
<tr><th>Low risk patient</th><th>Moderate risk patient</th><th>High risk patient</th><th>High risk patient</th><th>Moderate risk patient</th><th>Low risk patient</th></tr>
<tr><td colspan="3">• Undertake shared decision-making and education of patient regarding medicines. Determine discharge plan (hospital teams)
• Identify patient as ready for discharge (hospital teams)
• Reconcile medication and generate discharge prescription (hospital medical officer/hospital medical officer and hospital pharmacist in collaborative prescribing partnership)
• Review discharge prescription, reconcile medication, organise supply of medicines as required, and provide medicines education to patient (hospital pharmacist)
• Generate discharge summary for GP (hospital medical officer)</td><td colspan="3">• Review discharge summary and reconcile medication (GP)
• Undertake shared decision-making and education with patient. Update medical/medication records and generate a prescription, as appropriate, for ongoing supply (GP/GPP)
• Review GP prescription, reconcile medication, update pharmacy records, and supply medicines as required (CP)
• Provide medicines education to patient (CP)</td></tr>
<tr><td></td><td colspan="2">• Generate DMR in eLMS (hospital pharmacist)
• Provide DMR and medicines education to patient (hospital pharmacist)
• Communicate copy of DMR to patient's nominated GP and CP (hospital pharmacist)</td><td colspan="2">• Review DMR, reconcile medication and update medical records as above (GP/GPP)
• Review DMR, reconcile medication and update pharmacy records as above (CP)</td><td></td></tr>
<tr><td></td><td></td><td>• Post-discharge follow-up, dependent on hospital model of care (hospital pharmacist)
• Prepare medication management plan (hospital pharmacist)
• Communicate medication management plan to GP (hospital pharmacist)
• Communicate medication management plan to CP (hospital pharmacist)
• Document action plan/information from CP (hospital pharmacist)</td><td>• Undertake medicines reconciliation/review and prepare an action plan. Recommend HMR if required (CP)
• Communicate copy of action plan to appropriate health care professionals, including hospital pharmacist (CP)
• Review medication management plan and action plan (as applicable). Refer for HMR if required (GP)
• Undertake monitoring/ actions identified in medication management plan & action plan. (GP/GPP/CP)
• Undertake HMR if applicable (accredited pharmacist)</td><td></td><td></td></tr>
<tr><td colspan="3">Close transition of care episode</td><td colspan="3">Ongoing medication management as appropriate</td></tr>
</table>

Key: GP=general practitioner, GPP=general practice pharmacist, CP=community pharmacist, DMR= discharge medication record, HMR =home medicines review

ToCPP model of care for patient discharging to home

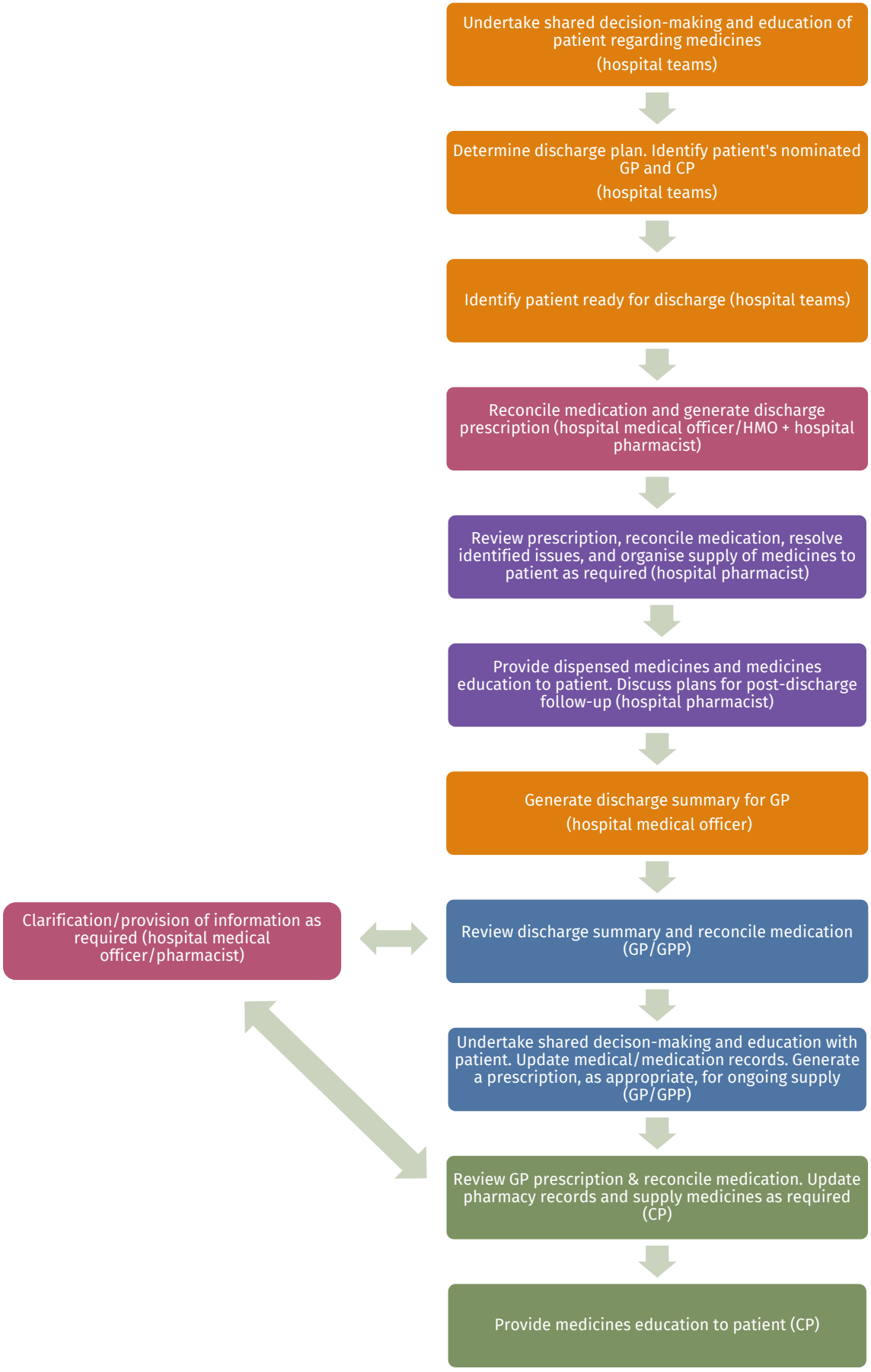
An overview of the ToCPP model of care for patient's discharging to home is shown in Figure 1. The patient is managed by one of three pathways according to their identified risk of readmission.

Low risk patients discharging to home

1. Undertake shared decision-making and education of patient regarding medicines **(hospital teams).**
2. Review patient to determine discharge plan. Identify patient's nominated GP and community pharmacist for post-discharge follow up **(hospital teams).**
3. Identify patient as ready for discharge **(hospital teams).**
4. Reconcile patient's current inpatient medicines against the admission medicines. Determine variations and ongoing clinical need and generate a discharge prescription as appropriate **(hospital medical officer (HMO)/HMO and hospital pharmacist in collaborative prescribing partnership).**
5. Review the discharge prescription and reconcile against admission and inpatient medicines to determine variations. Identify any clinical, legal, and PBS issues and resolve identified issues with HMO. Liaise with patient and review patient's own admission medicines (if available) to determine which medicines need to be supplied and/or if the patient's own admission medicines need to be re-labelled. Verify and annotate discharge prescription. **(hospital pharmacist)**.
6. Risk assess patient's medication management and medicines access status and determine whether discharge prescription is to be dispensed by the hospital pharmacy or whether it can be given to the patient for dispensing by a community pharmacist. **(hospital pharmacist).**
7. Provide any dispensed medicines and medicines education to patient*. Discuss plans for post-discharge follow-up by GP and community pharmacist **(hospital pharmacist).**
8. Generate discharge summary in EDS for patient's nominated general practitioner (GP) **(hospital medical officer).**
9. Review hospital discharge summary. Reconcile discharge medicines with pre-admission medicines to identify variation. Access additional information (for example, from The Viewer) as necessary. Contact the hospital medical officer and/or pharmacist for clarification/provision of medical or medicines information as required. **(GP/general practice pharmacist).**
10. Undertake shared decision-making and education with patient. Update medical/medication records and generate a prescription, as appropriate, for ongoing supply. **(GP/general practice pharmacist).**
11. Review GP prescription, reconcile discharge medicines with pre-admission medicines to identify variation, update pharmacy records, and supply medicines as required **(community pharmacist)**.
12. Provide medicines education to patient **(community pharmacist).**

*Note: patient education may be provided at any step prior to discharge

Figure 2: low risk patients discharged to home

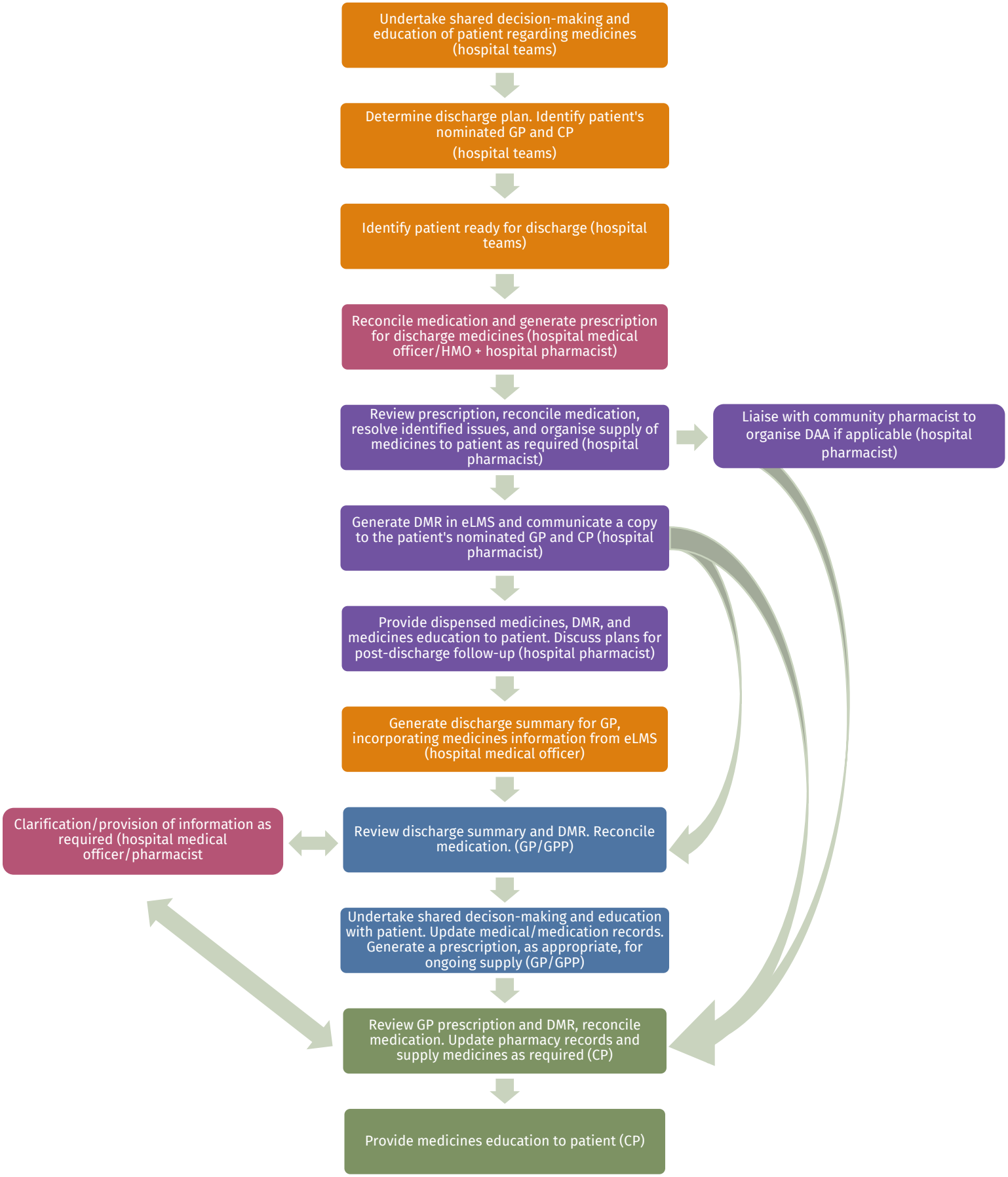


Moderate risk patients discharging to home

1. Undertake shared decision-making and education of patient regarding medicines **(hospital teams)**.
2. Review patient to determine discharge plan. Identify patient's nominated GP and community pharmacist for post-discharge follow up **(hospital teams)**.
3. Identify patient as ready for discharge **(hospital teams)**.
4. Reconcile patient's current inpatient medicines against the admission medicines. Determine variations and ongoing clinical need and generate a discharge prescription as appropriate **(hospital medical officer (HMO)/HMO and hospital pharmacist in collaborative prescribing partnership)**.
5. Review the discharge prescription and reconcile against admission and inpatient medicines to determine variations. Identify any clinical, legal, and PBS issues and resolve identified issues with HMO. Liaise with patient and review patient's own admission medicines (if available) to determine which medicines need to be supplied and/or if the patient's own admission medicines need to be re-labelled. Verify and annotate discharge prescription. **(hospital pharmacist)**.
6. Risk assess patient's medication management and medicines access status and determine whether discharge prescription is to be dispensed by the hospital pharmacy or whether it can be given to the patient for dispensing by a community pharmacist. Liaise with community pharmacist to organise dose administration aid if applicable **(hospital pharmacist)**.
7. Generate discharge medication record (DMR) in eLMS. Note: additional medicines management advice can be added to 'recommendations to GP' if required **(hospital pharmacist)**.
8. Provide any dispensed medicines, DMR, and medicines education to patient*. Discuss plans for post-discharge follow-up by GP and community pharmacist **(hospital pharmacist)**.
9. Communicate DMR to patient's nominated GP and community pharmacist. (**hospital pharmacist)**.
10. Generate discharge summary in EDS for patient's nominated general practitioner (GP), incorporating medicines information prepared by pharmacist in eLMS **(hospital medical officer)**.
11. Review hospital discharge summary and DMR. Reconcile discharge medicines with pre-admission medicines to identify variation. Access additional information (for example, from The Viewer) as necessary. Contact the hospital medical officer and/or pharmacist for clarification/provision of medical or medicines information as required. **(GP/general practice pharmacist)**.
12. Undertake shared decision-making and education with patient. Update medical/medication records and generate a prescription, as appropriate, for ongoing supply. **(GP/general practice pharmacist)**.
13. Review GP prescription and hospital DMR, reconcile discharge medicines with pre-admission medicines to identify variation. Update pharmacy records and supply medicines as required **(community pharmacist)**.
14. Provide medicines education to patient **(community pharmacist)**.

*Note: patient education may be provided at any step prior to discharge

Figure 3: moderate risk patients discharged to home



High risk patients discharging to home

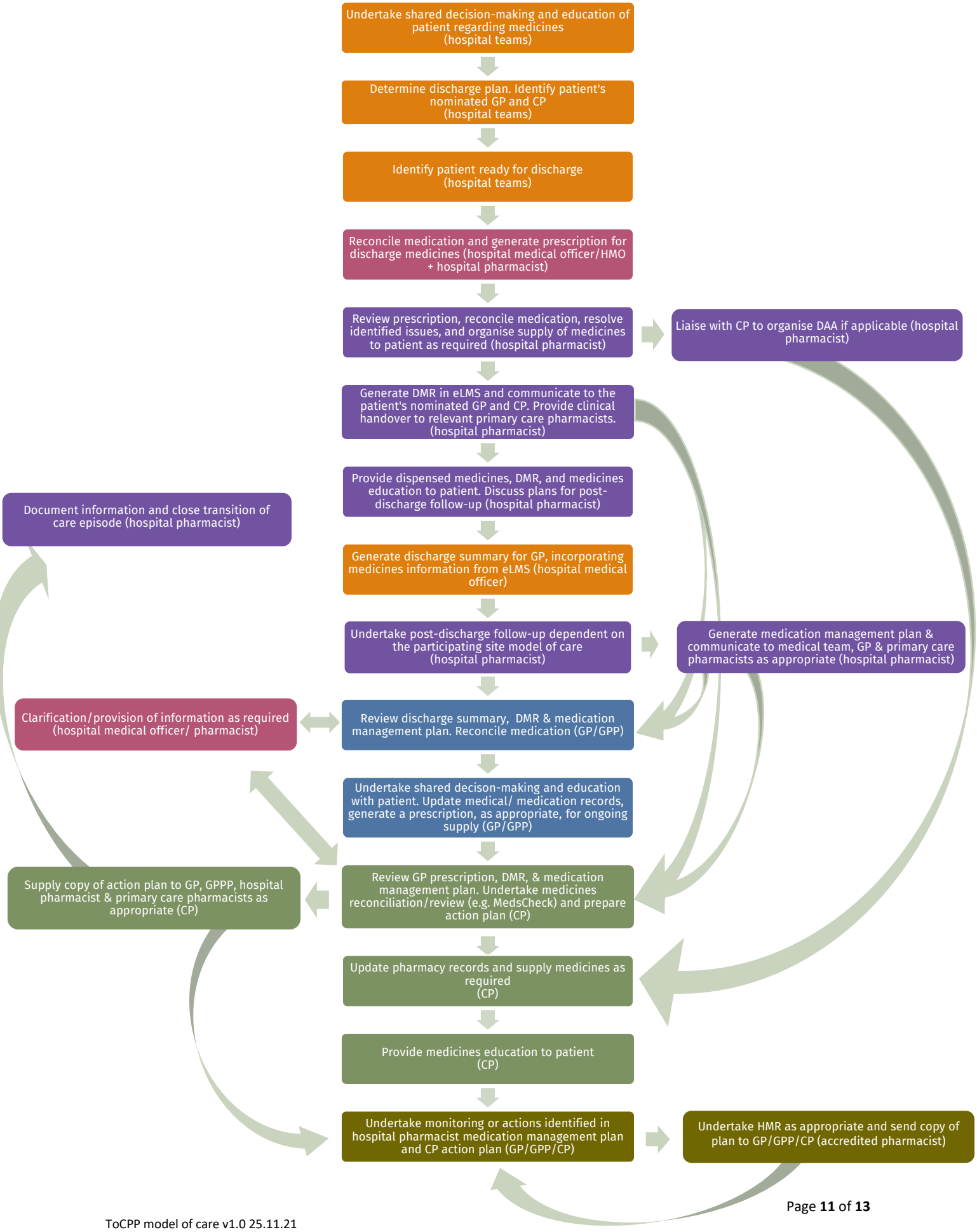
1. Undertake shared decision-making and education of patient regarding medicines **(hospital teams)**.
2. Review patient to determine discharge plan. Identify patient's nominated GP and community pharmacist for post-discharge follow up **(hospital teams)**.
3. Identify patient as ready for discharge **(hospital teams)**.
4. Reconcile patient's current inpatient medicines against the admission medicines. Determine variations and ongoing clinical need and generate a discharge prescription as appropriate **(hospital medical officer (HMO)/HMO and hospital pharmacist in collaborative prescribing partnership)**.
5. Review the discharge prescription and reconcile against admission and inpatient medicines to determine variations. Identify any clinical, legal, and PBS issues and resolve identified issues with HMO. Liaise with patient and review patient's own admission medicines (if available) to determine which medicines need to be supplied and/or if the patient's own admission medicines need to be re-labelled. Verify and annotate discharge prescription. **(hospital pharmacist)**.
6. Risk assess patient's medication management and medicines access status and determine whether discharge prescription is to be dispensed by the hospital pharmacy or whether it can be given to the patient for dispensing by a community pharmacist. Liaise with community pharmacist to organise dose administration aid if applicable **(hospital pharmacist)**.
7. Generate discharge medication record in eLMS. Note: additional medicines management advice can be added to 'recommendations to GP' if required **(hospital pharmacist)**.
8. Provide any dispensed medicines, DMR, and medicines education to patient*. Discuss plans for post-discharge follow-up by hospital pharmacist, GP, and community pharmacist **(hospital pharmacist)**.
9. Communicate DMR to patient's nominated GP and community pharmacist. Provide clinical handover to relevant primary care pharmacists. (**hospital pharmacist)**.
10. Generate discharge summary in EDS for patient's nominated general practitioner (GP), incorporating medicines information prepared by pharmacist in eLMS **(hospital medical officer)**.
11. Undertake post-discharge follow-up dependent on the participating hospital model of care. Initial follow-up to occur within 7 days of discharge. Generate ongoing medication management plan and communicate plan/identified issues to hospital medical team, GP, general practice pharmacist, community pharmacist, and accredited pharmacist as appropriate **(hospital pharmacist)**.
12. Review hospital discharge summary, DMR, and hospital pharmacist medication management plan. Reconcile discharge medicines with pre-admission medicines to identify variation. Access additional information (for example, from The Viewer) as necessary. Contact the hospital medical officer and/or pharmacist for clarification/provision of medical or medicines information as required. **(GP/general practice pharmacist)**.
13. Undertake shared decision-making and education with patient. Update medical/medication records and generate a prescription, as appropriate, for ongoing supply. **(GP/general practice pharmacist)**.
14. Review GP prescription, hospital DMR, and hospital pharmacist medication management plan. Undertake medicines reconciliation/review (e.g. MedsCheck review and develop action plan in collaboration with patient (including recommendation for HMR as appropriate). Communicate a copy of the action plan to the referring hospital

pharmacist, GP, general practice pharmacist, and accredited pharmacist as appropriate. Notify hospital pharmacist If unable to perform reconciliation/review; for example, due to patient eligibility, service cap, patient refusal or patient access **(community pharmacist)**.

15. Update pharmacy records and supply medicines as required **(community pharmacist)**.
16. Provide medicines education to patient **(community pharmacist)**.
17. Document community pharmacist action plan/information and close transition of care episode **(hospital pharmacist)**.
18. Undertake monitoring or actions identified in hospital pharmacist medication management plan and community pharmacist action plan, including referral for HMR if appropriate **(general practitioner/general practice pharmacist/community pharmacist)**.
19. Undertake HMR as appropriate and supply copy to GP, general practice pharmacist, and community pharmacist, as appropriate **(accredited pharmacist).**

*Note: patient education may be provided at any step prior to discharge

Figure 4: high risk patients discharged to home



ToCPP model of care for patient discharging to residential aged care facilities

Preparation for discharge

1. Hospital pharmacist identifies patients discharging to Residential Aged Care Faculties (RACFs) and determines the suitability for management under the ToCPP model of care (e.g., new medicines, changes to medicines, high-risk medicines).
2. Hospital pharmacist/clinical assistant determines and documents community pharmacy supplying medication to patient at RACF.
3. Hospital pharmacist determines if the patient has been reviewed or is being managed by any other Hospital and Health Service outreach aged care service (e.g., RADAR, SPaCE, FRAIL).
4. Hospital pharmacist collaborates with treating team and, where appropriate, outreach aged care service to identify medication handover information to be communicated to primary healthcare providers.

Discharge process

1. Hospital medical officer (or hospital medical officer and hospital pharmacist in collaborative prescribing arrangement) reconciles current inpatient medicines against admission medicines, determines variations and ongoing clinical need, and prepares a discharge prescription.
2. Hospital pharmacist reviews discharge prescription and reconciles against admission and inpatient medication to determine variations. Hospital pharmacist identifies any clinical, legal, and supply issues and resolves identified issues with hospital medical officer.
3. Hospital pharmacist determines medicines requiring an interim supply upon discharge (liaison with RACF and/or community pharmacy may be needed). Hospital pharmacist supplies 5-7 days of required medicines.
4. Hospital pharmacist/clinical assistant enters the discharge medication regimen information in eLMS (including changes to pre-admission medication).
5. Hospital pharmacist uses the recommendations tab to enter identified medication handover information (for example, rationale for medicine changes, medicine review requirements, suggestions for monitoring). The 'general practitioner' and 'patient' types should be selected to ensure information populates the electronic discharge summary and discharge medication record. Note: the pharmacist must add their name, designation, and contact details to the recommendations in eLMS to denote in the discharge summary who has initiated the recommendation.
6. Hospital pharmacist/ clinical assistant prints the medication handover information from eLMS. If the medication handover page is not generated on its own separate page through eLMS, the information should be copied and pasted onto a Word® document and then printed.
7. In sites where the interim medication administration record (IMAR) is used, the hospital pharmacist/clinical assistant prints the IMAR from eLMS. Note: if discharge medication is entered by a clinical assistant, the IMAR must be authorised by the pharmacist. In sites where the IMAR is not used, hospital pharmacist facilitates the generation of a National Inpatient Medication Chart (NIMC) for supplying to the RACF.
8. Hospital pharmacist places a hard copy of the IMAR/NIMC, and medication handover information in the patient's discharge envelope.

9. When needed (for example, multiple medicine changes, critical follow-up requirements), hospital pharmacist contacts RACF and/or community pharmacy to provide supplemental verbal handover of medicines information.
10. Where applicable, hospital pharmacist provides medicines information (verbal and/or written) to patient/carer.
11. Where applicable, hospital pharmacist advises outreach aged care service (e.g., RADAR, SPaCE, FRAIL) that a patient is being managed under the ToCPP and provides a copy of the medication handover information provided to the service.

Post-discharge follow-up telehealth/telephone (high-risk patients)

12. Hospital pharmacist contacts the community pharmacy servicing the RACF 7-14 days following patient discharge.
13. Hospital pharmacist reconciles discharge medication and discharge recommendations with ongoing medicines supplied to RACF by community pharmacy. Hospital pharmacist identifies any emergent clinical or supply issues and liaises with RACF, outreach aged care service (e.g., RADAR, SPaCE, FRAIL), and patient's GP, as appropriate, to resolve concerns.