Implementation of a hospital referral pathway to enable urgent Home Medicines Reviews (HMR)

Aim
The aim of this paper is to present, for comment and discussion, the various parameters to be considered when implementing a hospital-discharge referral pathway to enable urgent access to a Home Medicines Review (HMR) service.

The development of this pathway recognises an identified gap for patients who are at risk of medication misadventure post-discharge, to primary care services (particularly medication reviews). It recognises the benefit a HMR service may offer to patients who are at high-risk of medication misadventure in the immediate post-discharge period, where they do not have access, or timely access, to a general practitioner (GP).

Stakeholders are invited to provide input on how and when a hospital referral for a HMR should be provided.

In providing input on the development of this hospital initiated pathway, it is important to note that a HMR is only one possible aspect of patient care post-discharge. It should be noted that this pathway is not intended to replace timely patient access to primary care (particularly the patient’s GP or other health provider), and should be considered in the broader context of current reforms of the wider health system such as Medicare Locals, Local Health Networks, and Hospital Reform.

Background
The Home Medicines Review (HMR) service has been provided to consumers by community pharmacy since 2001 and is well defined in terms of how and when a HMR is provided. HMRs are designed to assist consumers living at home to maximise the benefits of their medicine regimen and prevent medication related problems. As outlined on the Medicare website (http://www.medicareaustralia.gov.au/provider/pbs/fifth-agreement/home-medicines-review.jsp), a HMR involves the consumer, their GP, an accredited pharmacist and regular community pharmacy. In some cases other relevant members of the healthcare team, such as nurses in community practice, or carers, are included. The accredited pharmacist visits the consumer at their home, reviews their medicine routine and provides their GP with a report. The GP and consumer then agree on a medicine management plan. The service provided by the pharmacist under the Home Medicines Review Program is funded through the Fifth Community Pharmacy Agreement. The service provided by the GP is funded through the Medicare Benefits Schedule (MBS) item 900.

The objective of the HMR service is to:
- achieve safe, effective, and appropriate use of medicines by detecting and addressing medicine-related problems that interfere with desired patient outcomes;
- improve the patient’s quality of life and health outcomes using a best practice approach that involves cooperation between the GP, pharmacist, other relevant health professionals and the patient (and where appropriate, their carer);
- improve both the patient’s and health professional’s knowledge and understanding about medicines; and
- facilitate cooperative working relationships between members of the health care team in the interests of patient health and wellbeing.

Patients are currently able to be referred for a HMR through their GP. This paper seeks input on an additional pathway which will allow a hospital to refer a patient with urgent clinical need to receive a HMR.
Rationale for the development of a hospital referral pathway to HMR services

Recommendations from the Fourth Agreement Professional Programs and Services Advisory Committee (PPSAC) and the Home Medicines Review Program Qualitative Research Project Final Report conducted for the Department of Health and Ageing (the Department) by Campbell Research and Consulting, identified the need for the implementation of a hospital referral pathway for urgent HMRs. This recommendation was to enable urgent access to HMRs immediately post-discharge for patients deemed at high risk of medication misadventure and/or hospital readmission.

This referral model aims to allow the discharging hospital to trigger a referral to a HMR recognising that there may be issues with a patient’s timely access to a GP (or, where a patient may not access a GP post-discharge from hospital).

It is anticipated that in time, the introduction of a hospital referral pathway may:

- decrease the incidence of medicine misadventure in the immediate post-discharge period;
- reduce medication-related readmission rates;
- enhance the relationship and communication between the acute and primary health care sectors; and
- improve patient targeting for HMR services.

The HMR hospital referral pathway will not involve modification of the existing HMR service, nor will it involve the creation of a new medication management service. This referral pathway aims to ensure that relevant patients have timely access to a medication review service that best meets their needs.

Continuum of Medication Management Services

In the development of this pathway, it is important to recognise and consider other additional medication review and management services that are funded under the Fifth Community Pharmacy Agreement and available within community pharmacy, and may be relevant to patients in need of a post-discharge service:

- Dose Administration Aids, which may assist patients who are non-intentionally non-adherent with their medication regimen;
- Clinical Interventions by pharmacists, that support pharmacists to identify, manage, and resolve drug-related problems that are identified through patient attendance to a pharmacy;
- Staged Supply, which enables the provision of PBS medicines in instalments, and through this improves quality use of medicines and patient safety;
- Primary Health Care services offered within a community pharmacy, which may include medication support around diabetes, respiratory and other chronic diseases and complex clinical conditions;
- Community Services Support activities within community pharmacy such as return of unwanted medicines;
- Working with other health professional groups which provides support to community pharmacies to work with a wider range of primary care providers and health professionals;
- MedsChecks/Diabetes MedsCheck services aim to enhance the quality use of medicines by educating community based patients about their medicines, including how medicines affect medical conditions; identifying any problems they may be experiencing with their medicines; and understanding interactions between medicines. MedsChecks and Diabetes MedsChecks are currently undergoing a pilot and will be fully implemented in 2012; and

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- HMRs continue to be available to consumers living in the community whose GPs have identified a clinical need for a HMR.

Further information on these services can be found at www.5cpa.com.au. The role of hospitals in routinely managing and reconciling patients’ medication regimen during their stay and in the lead up to discharge should also be considered.

It is not intended that a hospital referral pathway will duplicate existing medication management services, such as medication reconciliation processes, counselling and services provided to in-patients and outpatients of hospitals. The aim of a hospital referral pathway is to enable urgent HMR services to be provided to a patient identified as being at a high risk of medicine misadventure in the immediate post-discharge period.

Existing research and trials
A number of published research projects relating to the implementation of a hospital referral pathway for medication reviews have been undertaken (Appendix 1 provides a bibliography and, where applicable, web addresses for the documents). Projects that have been undertaken typically adopted a consistently similar model. A typical description of a hospital referred medication review process includes:

- hospital pharmacist or member of the medical team identifying an eligible patient during hospital stay;
- hospital pharmacist or member of the medical team providing a referral to a community liaison pharmacist;
- community liaison pharmacist obtaining patient consent and medical history; and
- medication review referral provided by a hospital pharmacist or member of the medical team.

A number of existing studies have been undertaken that looked at the effect of hospital-initiated referral on the clinical outcomes of patients with certain conditions such as heart failure or on certain medications such as warfarin2.

Some models, for example Lovgren et al (2009), examined a hospital-initiated referral model that required the input or assistance of state and territory salaried pharmacists or other people working within public hospitals. In general, those positions were funded as part of the research project. While those models are instructive in terms of the types of personnel that can best facilitate a HMR from within the public hospital system, it should be noted that a HMR hospital referral pathway is being set up within a Australian Government funded program; there is no scope for the Australian Government to fund positions such as ‘community liaison pharmacists’ in public hospitals through the HMR Program. This also limits the input that these models have in providing insight into how a hospital referral pathway may be best implemented to work efficiently in everyday practice.

Further, in the particular model cited above, there was no resulting Medication Management Plan for the ‘hospital initiated medication review’, which differentiates it from a HMR service. This is consistent with a number of research projects, where the number of Medication Management Plans completed was significantly less than the number of reviews that were undertaken. For example, a research and development project undertaken through 4CPA, ‘Implementing and evaluating a parallel post-discharge Home Medicines Review (HMR) model’ (Angley et al, 2009) enrolled 97 patients for a study, of which only 2 received Medication Management Plans. The provision of a medication management plan is a key

output from a HMR which is utilised by both the patient’s GP and community pharmacy to ensure continuity of care for the patient.

Several studies examined high risk patients in detail. The study ‘Feasibility and Timeliness of Alternatives to Post-Discharge Home Medicines Reviews for High-Risk Patients’ (Angley et al, 2011), funded under the Fourth Community Pharmacy Agreement, characterised high risk patients receiving hospital referrals as falling into three main categories:

- Group ‘A’ – patients for whom their ‘usual’ GP did not agree or was unavailable to provide a HMR referral and for whom a HMR was organised by a hospital doctor;
- Group ‘B’ – patients for whom a GP provided a HMR referral but was not confident the HMR would occur within 7 days of discharge and which was instead organised by a liaison pharmacist with the community pharmacy;
- Group ‘C’ – patients for whom GP provided a HMR referral but a community pharmacy was unable to provide the service in the required timeframe, therefore an accredited pharmacist was engaged to conduct the review.

The study found the fastest pathway for referral was for group ‘C’ patients, as these patients received a HMR 3.9 +/- 2 days post-discharge, however all groups on average received a HMR service in under 10 days. This study did not measure if patients who received a timely HMR had a reduced risk of medication misadventure compared to those who didn’t.

Another key difference between many trials that have been undertaken to date and the existing HMR service is the funding arrangements of the review service. Previous projects have been funded through the public system or through 4CPA Research Funding and have often involved a coordinator role within the hospital whereas the HMR service is funded through both the Medicare Benefits Schedule and the Fifth Community Pharmacy Agreement. A hospital referral pathway for HMRs must be developed to ensure it is practical and functional without the requirement for additional funding or staffing.

The disparity between the services provided in many of the research projects and a HMR raises the question as to whether an urgent HMR is the most appropriate type of service for many post-discharge patients, or if some other type of medication management service (eg: MedsCheck) is more appropriate. As noted, a key part of a HMR is the ongoing medication management plan. For those patients that do not require a comprehensive medication plan, they may be better suited to receive a:

- Pharmacy services (for example, the provision of a Dose Administration Aid, to improve adherence with their medication regimen);
- MedsCheck or Diabetes MedsCheck; or
- clinical service, where identified drug issues (for example, an international normalised ratio outside the desired range for a patient taking warfarin) require consideration from a GP or other clinician.

It is important to recognise that these services do not replace services available to patients whilst in-patients in hospital. Consideration should be given to the most appropriate pathway for patients with an urgent need for medication-related services.

**Stakeholder considerations for the development of a hospital referral pathway**

The aim of a hospital referral pathway is to enable urgent HMR services to be provided to a patient identified as being at a high risk of medicine misadventure in the immediate post-discharge period. If the patient is at a lower risk or the need for a medication review is less immediate, the hospital should alert the patient, the patient’s GP and community pharmacy and inform them that the patient would benefit from a pharmacy service, MedsCheck/Diabetes MedsCheck or HMR as appropriate. For this reason, the HMR hospital referral pathway should not be considered in isolation.
A HMR hospital referral pathway must be implemented to be consistent with clinical and professional best practice, as set out in:

- National Medicines Policy 2000;
- Guiding principles for medication management in the community;
- Guiding principles to achieve continuity in medication management;
- National Competency Standards Framework for Pharmacists in Australia;
- Good Medical Practice: A Code of Conduct for Doctors in Australia; and
- Professional Practice Standards.

A hospital referral pathway will involve:

- hospitals identifying patients who are at a high risk of medication misadventure in the immediate post-discharge period and would benefit from an urgent post-discharge HMR service;
- hospitals providing a HMR referral directly to the patient’s preferred Community Pharmacy/Accredited pharmacist, and including relevant information related to the patient’s admission as part of this referral (i.e. test results, procedures etc.); and
- communication with the patient’s GP and usual community pharmacy as key members of the primary healthcare team.

A hospital referral pathway will not involve:

- modification of the HMR service; or
- additional funding for the provision of the HMR service.

Significant practical and logistical issues exist that need to be considered and addressed to allow the effective implementation of a hospital referral pathway for urgent HMRs. Stakeholders are invited to provide comment and suggested resolutions on the following hospital referral pathway considerations:

1. Patient eligibility criteria

Careful targeting of patient eligibility criteria will be required to ensure that only those patients in need of an urgent HMR are referred via this pathway, otherwise, the patient should be assisted through other medication management services and under the supervision of their GP. Based on existing research, potential criteria for referral have been developed which are set out below:
Proposed Criteria - patient must meet all of these criteria

- Patient is at risk of significant morbidity or death due to medication misadventure and requires urgent review within 10 days of discharge.
- Patient’s condition cannot be managed within a hospital as an in-patient or outpatient, particularly through the medication reconciliation process pre-discharge and pharmacist counselling.
- Patient’s condition cannot be managed by GP, or their other primary health care provider within the timeframe set out above.
- Patient’s condition cannot be managed within community pharmacy as part of a PPI or MedsCheck/ Diabetes MedsCheck, or managed through a non-urgent HMR.

Proposed Indicators – the patient would be expected to present with two or more of the following:

- Cognitively impaired and manages own medicines.
- Initiated on medication with a narrow therapeutic index during admission.
- Has had recurrent admissions to hospital (e.g. 2 within 6 months).
- Changes to regular drug regimen made during admission by hospital doctor with potential for confusion (excluding short-term courses under 14 days).

An additional or separate indicator could be that the clinical impression of the discharging care team within the hospital is that a post-discharge HMR is warranted on the basis of significant danger to the patient on return to the community setting, that is not related to the above matters.

The list of indicators above is not exhaustive, and input is sought from stakeholders on further criterion or indicators that may be included. It should be noted that there are a number of other patient indicators presented in previous research projects which would be more suitable for other medication management services, such as PPI or MedsCheck.

2. Timeframe for HMR to be conducted

The main reason for the development of a hospital referral pathway is to allow patients to access urgent HMR services in a timely manner.

Existing research commonly notes that patients at high risk require services within 10 days after discharge. Consideration should be given to the appropriate timeframe for referral and completion of services.

Stakeholder input is needed on what aspects of the HMR should be completed within the 10 day period after discharge:

- organising the HMR referral;
- completing a HMR interview and providing counselling on medication usage to the consumer;
- completing the HMR report and providing the information to the patient’s GP and community pharmacy; or
- completion of a Medication Management Plan by the GP that identifies ongoing actions for the patient, community pharmacy and GP to improve quality use of medicines.

Consideration should also be given to who will be responsible for ensuring the timeframe is met, and what actions can be taken if the timeframe is at risk of not being met.

3. Coordination

Currently only a GP is able to refer a patient for a HMR. This requirement is unsuitable for a hospital referral pathway because this pathway is being developed to cater for those situations where a HMR is required urgently and a GP is not available to immediately refer. The introduction of a hospital referral
pathway for urgent HMRs may enable other persons or practitioners in a hospital setting to provide a HMR referral for a patient in need.

Under some of the previous research models, the HMR referral is made by a medical-led team. If this is instituted for a hospital referral pathway, given the acute, episodic basis of hospital stays, consideration needs to be given to how a holistic review of the patient's pre-existing and current condition and medication issues can be provided, who among the team writes the referral and who coordinates the team. While the provision of a referral by a medical-led team may ameliorate some of the concerns GPs may have with not having referred the service themselves, there remains a question as to who within the team will take responsibility for providing the referral. In other research models, the referrals were managed by a community liaison pharmacist.

Recognising that the consultant-in-charge of the unit delivering patient care within the hospital is ultimately responsible for the referral, it is also important to consider the involvement of other health professionals in ensuring the referral is timely and is made on the basis of current, urgent clinical need. Communication to facilitate the referral is also important.

Stakeholder consideration needs to be given to the following issues:

- Who in the hospital will be able to identify patients and organise the referral? Hospital Discharge Team? Doctor? Hospital Pharmacist? Nurses? Liaison Pharmacist? Registrar? There may also be other health professionals not represented here that have an important role in the referral process (for example, professionals responsible for aged care within the hospital);
- Who has overall responsibility for the ongoing care of the patient (this may or may be the same person providing the actual HMR)?
- Who needs to follow up if part of the process is not being followed or the timeframe is at risk of not being met?
- Who writes the actual referral?
- How can medication reconciliation and counselling feed into the referral?
- Are there logistical or legislative barriers that may impact upon the provision of hospital referrals or the inclusion of patient information in the referral information?
- How can the HMR provider access relevant patient information from the hospital to inform the HMR?
- Who amongst the care team should receive a copy of the pharmacist’s report?

4. General Practitioner involvement

The involvement of the patient's GP in the HMR is essential as they are required to discuss the findings of the HMR with the patient and develop a medication management plan with them. GPs are also paramount in maintaining the communication loop with the community pharmacy and other health service providers.

The development of a hospital referral pathway for urgent HMRs may, depending on the final pathway, result in GPs being unaware that the patient has been referred for a HMR. A GP's lack of involvement in the referral process may have consequences in the later stages of the HMR, particularly if the HMR report is received by the GP without any prior knowledge of the patient's admission and/or HMR referral. These consequences may include the GP being concerned on medico-legal grounds about accepting the HMR report given they would be taking responsibility for a service they did not request. These concerns need to be addressed in developing a referral pathway.

Patients may also prefer that their GP be involved in, or be made aware of, the HMR referral process, and patients should be confident that their GP will be adequately communicated with.

Stakeholder input is required on the following aspects of GP involvement in a hospital referral pathway:
Should the GP be given the chance to refer the patient for an urgent HMR first? If so, how can this be done?

How to inform the GP that the patient has been referred for a HMR? Who is responsible for this?

What can be done to help ensure timely GP involvement and the development of a medication management plan?

At what point do GPs take on medico-legal responsibility for the patient? For what components of the service should a GP be responsible?

5. **Particular patient characteristics that may impact on effective referral and service provision**

It is also important to note that there may be particular sub-populations of individuals who are being discharged from hospital that would benefit from a timely referral to a HMR service. This could include:

- Aboriginal and Torres Strait Islander people, considering that there is evidence to highlight the benefit of the immediate post-discharge involvement of their doctor or aboriginal health worker;
- Patients with chronic and/or complex disease, who may require the post-discharge involvement of a range of health providers, or, who may not seek the post-discharge involvement of their health care professional;
- Patients without a usual GP. These patients may therefore not have access to seek a referral post-discharge and could therefore benefit from a timely HMR;
- Other particular circumstances, such as whether they are an inpatient of the hospital, short-stay or outpatients.

In providing input, there may be other populations that pose particular challenges, both in terms of referral as well as follow-up post HMR. Input on this is invited.

6. **Pharmacy involvement**

The involvement of the community pharmacy/accredited pharmacist of the patient’s choice is essential in the provision of HMRs. As in the case of the current HMR service, the HMR referral should be provided to the HMR Service Provider of the patient’s choice.

Stakeholder consideration needs to be given to the following aspects of pharmacy/pharmacist involvement in the provision of hospital referred urgent HMRs:

- How will the patient’s usual community pharmacy be kept in the loop?
- Will community pharmacies/accredited pharmacists be willing to accept referrals that have not had the involvement/input of the patient’s GP?
- Who can the pharmacy/pharmacist contact if the HMR cannot be provided within the required timeframe? What actions should be taken in this situation?
- Who has medico-legal responsibility for the patient during the period after discharge and before the patient has been reviewed by the GP?
- What actions should be taken by the pharmacy/pharmacist in the event that the GP does not accept the HMR report (due to the fact that they did not request it)?
- What processes should be followed if the patient does not have, or does not nominate a preferred HMR provider?

7. **Different hospital settings**

There are a number of challenges to implementing a hospital referral pathway that will be practical and functional for all hospital settings. Assessment and discharge protocols often vary between hospitals and patient’s should not be disadvantaged due to their location or choice of hospital.
Consideration needs to be given to ensure that a hospital referral pathway will be effective in at least the following settings:

- Public hospitals;
- Private hospitals;
- Large tertiary hospitals;
- Metropolitan area hospitals;
- Rural and remote hospitals (with different campuses/outposts);
- Small hospitals; and
- The transition between public and private health systems

There are a variety of circumstances which are pre-admission, as well as pre-discharge, that may lead to the need for a HMR referral. A patient’s journey from primary care to the acute care setting is not necessarily a one-way process; patients can move back and forth between care settings and services as their clinical condition and circumstances change over time. This should be taken into account in providing input.

8. **Training and support**

It is also important to consider what appropriate training and support should be available to providers involved in a hospital referral pathway for urgent HMRs. Therefore stakeholders are asked to consider the following:

- What training/support resources already exist that might be useful?
- What networks and communication/media exist that might be utilised to disseminate information to health care professionals in a targeted manner?
- What support networks exist that might be utilised to assist health care professionals, particularly those based in hospitals?
- What screening tools are available to assist in identifying appropriate patients for an urgent HMR?

9. **Evaluation**

The success of the new referral pathway will need to be measured to ensure it is achieving the intended outcomes and that HMRs continue to provide value for money. Input is sought on:

- Appropriate indicators for the success of the pathway?
- What data will need to be collected to inform an analysis of the success of the alternative referral pathway?
- What is the appropriate timeframe for evaluating the pathway? 12 months after implementation? Two years after implementation?
- What measures can be used to capture information on potentially unintended consequences arising from the introduction of the pathway?
Appendix 1 - Bibliography

A number of published research projects relating to the implementation of a hospital referral pathway have been undertaken. This includes, but is not limited to: