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Hospital-initiated post-discharge medication reviews in Australia: expert opinion on the barriers and enablers to implementation

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Abstract

Medication-related harm can occur during transitions of care. Revised Home Medicines Review (HMR) and Residential Medication Management (RMMR) Program Rules were published in April 2020 which allowed provision for some hospital medical practitioners to refer 'at risk' patients for medication review. In turn, the Society of Hospital Pharmacists of Australia (SHPA) Transition Care and Primary Care Leadership Committee (SHPA TCPC) developed a framework to support hospitals facilitating hospital-initiated medication reviews (HIMRs) via three pathways: HMR, RMMR and hospital outreach medication review (HOMR). Following compilation of draft barriers and enablers to implementation of the SHPA HIMR framework, refinement occurred following broad consultation with hospital- and primary care-based pharmacists with transition care experience. The finalised list of barriers and enablers can inform broadscale implementation of the SHPA HIMR framework to reduce medication-related harm when high-risk patients transition from hospital to primary care and aged care.

Introduction

In Australia, 250,000 hospital admissions per year have been attributed to medication-related harm. (1) In 2017, the World Health Organization (WHO) initiated the Third Global Patient Safety Challenge: Medication Without Harm, seeking to optimise systems to reduce global medication-related harm by 50% by 2024. (2) Transitions of care is one of the three flagship areas of the WHO Challenge.(2) In response to the WHO challenge, the Australian Commission on Safety and Quality in Health Care (ACSQHC) highlighted the need for medication reconciliation and review to occur routinely at transitions of care. (3) In late 2019, Quality Use of Medicines and Medicines Safety was designated the tenth National Health Priority Area, with transitions of care a major focus.(3) The national Review of Pharmacy Remuneration and Regulation (known as the King Review) (4) involved extensive consultation regarding the current use of pharmacists in the primary healthcare network. Published in 2017, the King review recommended that pharmacists be better integrated into primary care on the basis that increasing the involvement of pharmacists in primary healthcare improves patients' health. The lack of action on this policy opportunity and the need for further integration of pharmacists in primary care was recently reiterated by Thai et al. (5)

Home Medicines Review (HMR) and Residential Medication Management Review (RMMR)

HMR and RMMR are long-standing Commonwealth-funded flagship programs, yet the provision of timely HMRs and RMMRs to patients at risk of medication-related harm both in the general community setting and after discharge from hospital is unacceptably low.(6)

HMRs and RMMRs are effective at identifying and resolving inappropriate medication use and other medication-related problems. Systematic reviews have found, on average, three or four medication-related problems in community-dwelling patients receiving a HMR, (7) and similar impacts during RMMRs in aged care homes. (8) A systematic review of medication review in Australia highlighted the access gaps for underserved populations and strongly recommended implementing additional referral pathways and facilitating greater collaboration between health professionals.(7)

Post-discharge medication review

When medication reviews are conducted for patients discharged from hospital, a high number of medication-related problems (mean 5.6 per patient) are identified,(9) reflecting increased risk of medication-related harm at transitions of care. Luetsch et al. highlighted the need for multiple, interacting elements to be in place to ensure pharmacist-conducted post-discharge medication reviews are successful.(10)

Hospital-initiated medication review (HIMR)

Since the inception of the HMR and RMMR programs, there has been capacity for hospital teams to alert general practitioners (GPs) when they identify a patient at risk of medication-related harm and likely to benefit from a post-discharge medication review conducted by an accredited pharmacist. In response to the Interim Report of the Royal Commission into Aged Care Quality and Safety,(11) changes were made to Commonwealth-funded HMR (12) and RMMR (13) programs (effective from 21 April 2020) enabling some hospital doctors to refer patients for medication reviews, and funding accredited pharmacists to provide a ‘cycle of care’; up to two follow-ups (after 1 month and within 9 months) after the initial medication review. (14) However, the revised Program Rules (12, 13) and the Government-funded, Pharmaceutical Society of Australia (PSA) ‘Guidelines for Comprehensive Medication Management Review’(15) did not provide any specific guidance beyond stating that ‘hospital referral pathways require flexibility for linkage and communication with other health professionals involved in the patient’s care’.(15) Of note, no additional resources for hospitals to employ transition care pharmacists to oversee HIMRs were made available. The onus remains with

each hospital to integrate referral pathways into patient care according to their local workforce and needs.

Transition care pharmacists are ideally positioned to facilitate post-discharge HMRs and RMMRs;(16) however, few hospitals engage transition care pharmacists for this role. (17)

Thus, in October 2020 the Society of Hospital Pharmacists of Australia (SHPA) Transition Care and Primary Care (SHPA TCPC) Leadership Committee developed a framework to support hospitals facilitating HIMRs via three pathways; HMR, RMMR and hospital outreach medication review (HOMR).(16) The SHPA HIMR framework stresses that wherever possible, the patient's usual GP should be engaged to progress referral for a timely HMR or RMMR. If the GP is unavailable, or urgent referral is required, direct HMR/RMMR referral by an eligible hospital-based medical practitioner, or HOMR (if available at the hospital), is recommended. The steps in the HIMR process are detailed in the SHPA HIMR framework and address screening and referral, the flow of information, home visits, follow-ups and the roles and responsibilities of each clinician. (16)

Aim

Members of the SHPA TCPC Leadership Committee are elected by the broader TCPC Practice Group on the basis of their expertise in transitions of care and/or primary care and thus are considered 'experts'. Our aim was to formulate a list of barriers and enablers, drawn from expert opinion based on our knowledge of the literature and clinical practice, to inform implementation of the SHPA HIMR framework to ultimately optimise post-discharge processes for patients at risk of medication-related harm transitioning from hospital to primary care and aged care.

Method

One member of the SHPA TCPC Leadership Committee developed a draft document outlining barriers and enablers to implementation of hospital-initiated medication reviews (HIMRs). The draft was then circulated to other experts which included pharmacists working in public and private hospitals, academia and primary care, and a hospital-based clinical pharmacologist. Feedback from this consultation was used to finalise the list of barriers and enablers.

Results and discussion

A summary of barriers and enablers to implementation of HIMRs in Australia is presented in Table 1.

<u>Hospital</u> barriers and enablers to implementation of HIMRs

Hospital barriers

Time pressures on pharmacists and hospital doctors

Hospital pharmacists work under considerable time pressures and post-discharge medication review may not be prioritised. Hughes et al highlight that hospital-based pharmacists have a duty of care to carefully consider what supports are needed after a patient leaves hospital, which includes planning for HIMRs.(18) Hospital doctors are similarly time pressured. HIMRs need to be viewed as an important risk mitigation strategy to ensure medication-related interventions that are initiated in hospital are then fully implemented and sustained in the post-discharge period. This is particularly so when high risk medicines are initiated in hospital.

Limited resources and role definition for transition care pharmacists

Although dedicated hospital-based transition care pharmacists are a key enabler to implementation of HIMRs, which is consistent with evidence from research trials (19-21), there are limited resources for funding these positions. Further, a lack of career pathway or vision for transition care pharmacist roles are barriers, and that they are often designated as low priority by pharmacy departments or

hospital administrators. Another major barrier is related to hospital and primary care funding models. As transition care services span this divide, there is tension regarding who (i.e., state/territory or the federal government) should fund the role of the transition care pharmacist.

Low awareness of HMR and RMMR services and the program rules

Another barrier is poor awareness of HMR and RMMR services and their program rules among hospital-based medical practitioners, nurses, allied health and pharmacists. There is a lack of understanding of the process and procedures for organising a post-discharge medication review and the potential benefits of HIMRs.

The revised HMR and RMMR program rules (12, 13) stipulate that only physician-trained medical specialists are eligible to make HMR and RMMR referrals. As surgical medical specialists are not eligible, this is a barrier to surgical patients having HIMRs.

Lack of risk assessment tools to prioritise patients for referral

Predicting the risk of medication-induced harm for an individual patient is challenging and the lack of standardised tools to determine risk of medication-related harm post-discharge was identified as a further barrier to referral. One example is PHarmacie-R, a novel app-based readmission risk prediction tool, that focuses on polypharmacy and high-risk medication use.(22) PHarmacie-R can assist clinical pharmacists to identify medical inpatients who may benefit from an early post-discharge medication management service; it requires validation in other settings.(22) Further research is urgently needed regarding development of standardised risk assessment tools.

Medicolegal concerns

Another key barrier identified was confusion and concern relating to hospital-based medical practitioners' medicolegal responsibility as the initial referrer, particularly with respect to reviewing accredited pharmacists' HMR and RMMR reports and generating medication management plans. The SHPA HIMR framework suggests explicit direction be provided in the patient's discharge summary outlining expectations from any HIMR referral. Perceptions of 'conflicts of interest' if hospital medical practitioners refer directly to accredited pharmacists was identified as a barrier. However, as outlined in the PSA Guidelines for Comprehensive Medication Management Review, (15) the importance of patient consent and choice regarding the pathway to HIMR is paramount.

Hospital enablers

Collaboration and communication

The hospital treating team clearly identifying that a person is at risk of medication-related harm, providing specific reasons why a post-discharge medication review is necessary, and communicating it clearly to primary care practitioners, was identified as an enabler to timely medication reviews. Studies have shown this process has resulted in very high levels of uptake of post-discharge HMRs in general 'at risk' populations (20) as well as specific conditions such as heart failure. (23) A randomised controlled trial (RCT) reported that a transition coordinator pharmacist who facilitated information transfer, timely post-discharge medication reviews and case conferences, was associated with less inappropriate prescribing and lower risk of hospital readmission for patients discharged to residential care (24)

Transition care stewardship roles

There are notable similarities seen with the antimicrobial, analgesic and anticoagulant stewardship roles and the transition care pharmacist role.(25) A key enabler could be to elevate and fund the transition care pharmacist to a stewardship role.

Other **potential** hospital enablers that could be implemented by a transition care pharmacist that were identified are:

- 'top down' drivers e.g. a key performance indicator (KPI) for post-discharge medication reviews for high-risk patients;
- hospitals developing a 'rapid response team' database of accredited pharmacists as per previous research studies;(20, 21, 26, 27) and,
- hospitals developing a database of accredited pharmacists who hold contracts with aged care homes within the hospital catchment area to enable direct communication for hospital-initiated RMMRs.

Facilitation of post-discharge medication reviews via GP referral pathway

There was consensus that the hospital treating team should facilitate GP-initiated HMR or RMMR referrals where possible, but without a dedicated transition care pharmacist this can be challenging. In the scenario where the eligible hospital-based medical specialist makes the referral instead, there should be efforts by the hospital treating team towards 'warm handover' to the primary care team, and that an internal process should be developed by GPs to ensure reports are actioned appropriately. Research has shown facilitation of post-discharge medication reviews via an embedded GP pharmacist reduces hospital presentations. (28) In early 2020, the Workforce Incentive Program (WIP) - Practice Stream commenced, providing eligible general practices with financial support to employ a range of health professionals, including pharmacists. (29) Despite the availability of the WIP, pharmacists are not yet widely integrated into general practice in Australia although the role is slowly gaining traction.

<u>Primary care</u> barriers and enablers to implementation of HIMRs

Primary care barriers

Difficulties engaging GPs in the hospital-initiated medication review process

Difficulties engaging GPs to action HMR or RMMR referrals or medication review reports when the need for an early post-discharge medication review was identified by the hospital treating team was highlighted as a key barrier and has been observed in research studies. (20, 21, 26) Promotion of GP engagement to maximise timely actioning of hospitals' requests for HMR/RMMR referrals and timely review of pharmacist reports following hospital doctor-initiated HMR/RMMR or HOMR was considered pivotal to success.

GPs not eligible to claim Medicare items when hospital doctors directly refer for HMR and RMMR

The Medicare Benefits Schedule (MBS) rules state that if an eligible hospital-based medical practitioner makes referral for HMR (30) or RMMR, (31) the patient's GP cannot be remunerated via Medicare items for reviewing the medication review report and generating the medication management plan. This is problematic as items 900 and 903 attract a higher remuneration than a standard Medicare consultation in recognition of significant GP input to the referral and the medication management plan for the patient.

Limit on the number of HMRs that can be provided by accredited pharmacists

As is known for any pharmacist-led home-based medication review, the patient's location can pose a barrier; specifically, there may be limited capacity for an accredited pharmacist to provide HIMR services to patients in rural and remote regions. Where the local capacity to conduct medication reviews in limited in a region, the cap on HMR monthly services per pharmacist (currently 30 funded/month) can prevent timely provision of post-discharge medication reviews. Recently

published research has revealed that program changes in 2011 and 2014 which restricted access to medication reviews, specifically caps on HMR, impacted on HMR provision.(6) Other recent research on RMMR uptake revealed that if residents lived outside major cities they were 25-33% less likely to receive a RMMR in the first three months following admission to an aged care home.(32)

Primary care enablers

Educational visiting campaign promoting benefits of timely post-discharge reviews

Development of an educational visiting campaign regarding benefits of timely post-discharge medication reviews was identified as an enabler. In the early years of the HMR program, HMR facilitators were funded to raise awareness of the HMR process and its benefits. An educational visiting program could focus on the April 2020 changes to the HMR and RMMR program rules, including the provision for some hospital medical practitioners to refer and the enhanced service i.e. 'cycle of care' for which accredited pharmacists are now funded to deliver. Such a campaign should be targeted towards GPs, practice nurses, accredited pharmacists, community pharmacists, consumers, and hospital staff, including 'GP liaison' staff. The educational visiting campaign could highlight the benefits of identifying change champions and 'trailblazers' and sharing their experiences. The campaign should also focus on raising awareness within medical organisations of the April 2020 changes to the HMR and RMMR program rules.

On-site general practice and aged care pharmacists

Recent research has identified that pharmacists embedded in general practices are ideally positioned to facilitate timely post-discharge medication reviews which can result in reduced hospital presentations. (28) Post-discharge HMRs have also been successfully facilitated when practice nurses are engaged in the process. (21)

As funding for on-site aged care pharmacists has been pledged from January 2023, (33) there is potential for facilitation of timely HIMR-RMMRs to have similar positive results on hospital admissions and ED presentations as reported in a recent study involving on-site general practice pharmacists,(28, 34) although further research is needed.

<u>Other</u> barriers and enablers to implementation of HIMRs

Barriers

Patient-related barriers

Patient barriers were identified and mostly related to patient acceptance; these are also barriers to uptake of medication reviews generally.(35) The patient may feel too unwell/overwhelmed after a hospital admission for an accredited pharmacist home visit post-discharge. Cultural and/or language factors are barriers common across health service delivery and systemic approaches are needed to reduce these barriers,(36, 37) as well as targeted solutions specific to post-discharge medication review.

Limitations of My Health Record

Currently there is no capacity to upload medication review reports to My Health Record, yet the HMR(12) and RMMR (13) program rules, and PSA Guidelines, (15) recommend this. When this goal is realised, the HIMR report could then be broadly accessed, including by a hospital pharmacist if the patient subsequently represents to hospital.

Enablers

Policy drivers

The current climate was identified as an enabler for broadscale implementation of HIMRs . The latest National Health Priority, 'Quality Use of medicines and Medication Safety',(3) and the WHO Medication Safety Challenge provide leverage for implementation of the HIMR framework. (2)

Further leverage can be gained from the recommendations in the Aged Care Royal Commission final report, (34) specifically:

- Recommendation 58 (multi-disciplinary outreach teams from hospitals that include pharmacists); and,
- Recommendation 64 (increased access to medication reviews).

Information technology

Another enabler identified was improving and engaging technology for information transfer and developing standardised templates for information transfer and reports to drive quality of reporting.

Conclusion

Our expert consultation identified a number of key barriers and enablers. We propose that funding Transition of Care Stewardship (ToCS) pharmacists in hospitals will be a key driver of increased access to timely HIMRs and should be trialled. Additional funding for ToCS pharmacists will serve to build capacity of primary care pharmacists and maximise their role in reducing medication safety of high-risk patients at care transitions. This will serve to better integrate pharmacists in primary care as recommended in the King review. (4) Academic detailing techniques could also be used to promote awareness of the ToCS pharmacist role and the importance of engaging GPs with the HIMR review process.

As outlined by Luetsch et al, (10) ensuring medication safety at care transitions is complex issue, requiring a multi-faceted intervention to resolve it. Complex interventions require organisational support and implementation via collective action with all parties collaborating and working together.

Hospital issues such as bed block and ambulance ramping are problematic nationally. The role of a ToCS pharmacist working collaboratively with hospital doctors and GPs could ensure a safe discharge as bed pressures increase. Our vision is that a ToCS pharmacist will facilitate HIMRs and a 'warm handover' of the medication-related information for 'at risk' patients transitioning from hospital to either home or residential aged care. Through this, it will be possible to ensure that a timely HIMR 'cycle of care' occurs and, in turn, medication-related risk at care transitions is reduced.

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Competing interests

MA, DC, DR, JG, AP, SG and JKS are pharmacists who are accredited to provide HMRs and RMMRs. JKS has received grant funding from the Australian Association of Consultant Pharmacy.

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Table 1. Barriers and enablers to implementation of hospital-initiated medication reviews in Australia

Hospital	**Barriers**	• Time pressures on pharmacists and hospital doctors • Limited resources and role definition for transition care pharmacists • Low awareness of HMR and RMMR services and the program rules • Lack of risk assessment tools to prioritise patients for referral • Medicolegal concerns
	Enablers	• Collaboration and communication • Transition care stewardship roles • Facilitation of hospital-initiated medication reviews via GP referral pathway
Primary Care	**Barriers**	• Difficulties engaging GPs in the hospital-initiated medication review process • GPs not eligible to claim Medicare items for HMR and RMMR when hospital doctors directly refer for these services • Limit on the number of HMRs that can be provided by accredited pharmacists
	Enablers	• Educational visiting campaign promoting benefits of timely post-discharge reviews • On-site general practice and aged care pharmacists
Other	**Barriers**	• Patient-related barriers • Limitations of My Health Record
	Enablers	• Policy drivers • Information technology