

Betterment of Patient to Get Optimal Health Outcomes through Home Medicines Review (HMR)

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Abstract

A Home Medicines Review (HMR) is a service provided to patients living in their own home. A HMR is a triangle and collaborative service involving the general practitioner, pharmacist and the patient. The main aim of the HMR process involving in the combined knowledge and professional skills of accredited pharmacist and General Practitioners (GPs) to provide the necessary medication related information to the patient. The HMR process is capable of accessing wide range of potential drug related problems in the community and also to maximize an individual patient's benefited from his/her medication regimen. The HMR process can be successfully utilized by patients when they are living in the home and are not able to manage their medication regimen. the HMR service was first implemented and developed by the Australian government for the optimum health care of the Australian patients .so, The main aim of this study is to introduce this service in India and to provide the new image of pharmacy profession to the Indian pharmacists which mainly helpful pharmacists as they are paid for that and also for work satisfaction, it also useful for the patients which helps in maintaining optimum health outcomes.

Keywords: - Home Medicines Review (HMR), Accredited Pharmacist, General Practitioners (GPs), patients.

Introduction

The Chemical Sciences involves various chemical entities that are intended or used to enhance human health and also for eradication of infection, disease or disorder. Thus the Health Science and Chemical Science are largely concomitant while Pharmacy serves as a link between the health sciences and chemical sciences. Pharmacy is a healthcare profession with a basic objective to ensure the safe and effective use of pharmaceutical drugs. Traditionally, the scope of pharmacy was limited only to activities like compounding and dispensing medications but today due to advancements in the profession that has occurred over the past few decades the scope of pharmacy also includes many other services such as clinical services, reviewing medications for safety and efficacy and providing drug information ^[1]. Thus the role of Pharmacist is being shifted from mere compounding and dispensing medication to optimization of medication to obtain maximum positive health outcomes for patients ^[2]. Pharmacists being healthcare professionals are true drug experts and

are however, needed to be highly trained and skilled.

Brief Overview on HMR

The Pharmaceutical care services are expanded over years and also include Home Medicines Review (HMR). HMR was introduced into the Medical Benefits Scheme (MBS) (item 900) in October 2001 as support for the National Medicines Policy 2000 by the Australian Federal Government in an attempt to reduce unnecessary drug-induced hospital admissions. The HMR is a service provided by doctors and pharmacist to people who are prescribed medications in order to maximize the patient's benefit from their medication regimen and to minimize or prevent medication related problems using a team approach. It involves collaboration of general practitioner, pharmacist and the patient. In other words, HMR helps or guides the patients to manage their medicines at home ^[3,4].

The HMR service has certain key advantages such as:

- 1) Optimize medicines,
- 2) Maximize health outcomes and
- 3) Harmonize general practitioners and pharmacists. However it holds disadvantages as well that it overlooks the changes in prescribing, patient acceptance and pharmacist issues.

In most of the services the general practitioner usually selects a health professional whereas in HMR, the community pharmacy is preferred by the patient who helps access to patient's pharmacy dispensing information and follow-ups by the consumer's preferred pharmacy. Thus it must be a community pharmacy, not an individual pharmacist. A HMR complements the general practitioners medicines review. It is available yearly to patients living at home in the community or more frequently if there is a significant change in condition^[5].

Important Components of HMR

HMR

HMR Service means a review requested by the eligible Patient's general practitioner, in which the general practitioner, Community Pharmacy, Accredited Pharmacist, Patient, and where appropriate, a carer or other member of the health care team participate.

Community pharmacy

Community Pharmacy means a pharmacy approved to dispense pharmaceutical benefits as defined in Section 90 of the National Health Act 1953

General practitioners (GPs)

Accredited Pharmacists

Accredited Pharmacist means a Registered

Pharmacist who has current accreditation to conduct medication management reviews from an approved Accreditation Body

Accreditation Body

Accreditation Body means the Australian Association of Consultant Pharmacy (AACP) or the Society of Hospital Pharmacists of Australia (SHPA)^[6].

Principle of HMR

The basic process involved in the HMR is the interaction of pharmacist with the patient at patient's home. The interaction helps pharmacist to understand patient's situation. The pharmacist also gets a deeper insight into cultural or language barriers, physical and economic limitations and family support. The patient's information such as actual medication use, additional non-prescribed medications, an understanding of the patient's motivation behind actual rather than directed medication use, and the patient's health and medication knowledge is dealt with. The patient is prioritized throughout the service. The information obtained is utilised to identify actual and potential Drug Related Problems (DRP). In this, the skills and knowledge of the pharmacist is of primary importance as it is essential to find clinically relevant DRPs from the available information. This requires a wide scope of knowledge, not only of medications, but of evidence-based guidelines and contemporary management of a variety of medical conditions. The pharmacist writes to the GP a report including recommendations to resolve any actual or potential problems. Consultation between the GP and the patient culminates in an actionable medication management plan designed to trial changes to existing therapy, and ideally, lead to improved medication use and improved patient health outcomes^[7].

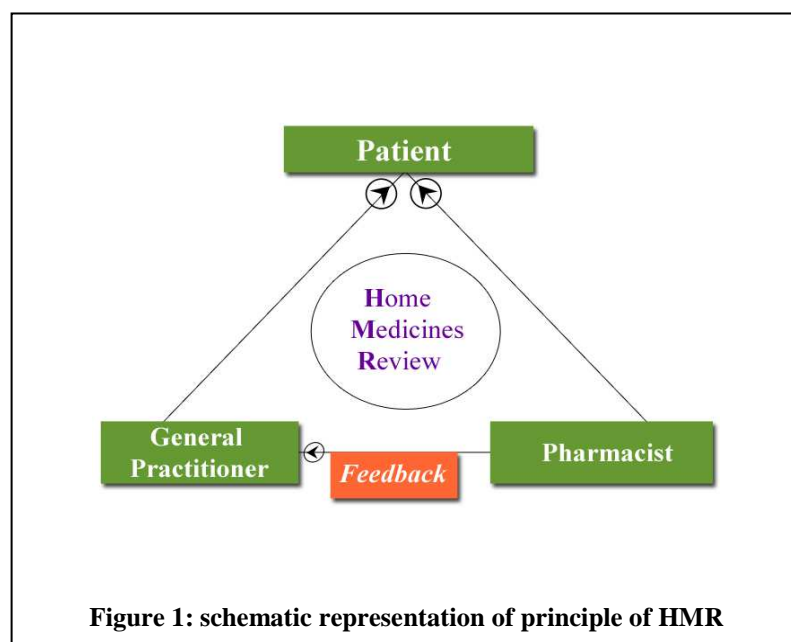


Figure 1: schematic representation of principle of HMR

Objectives of HMR ^[8]

The objectives of HMR are as follows:

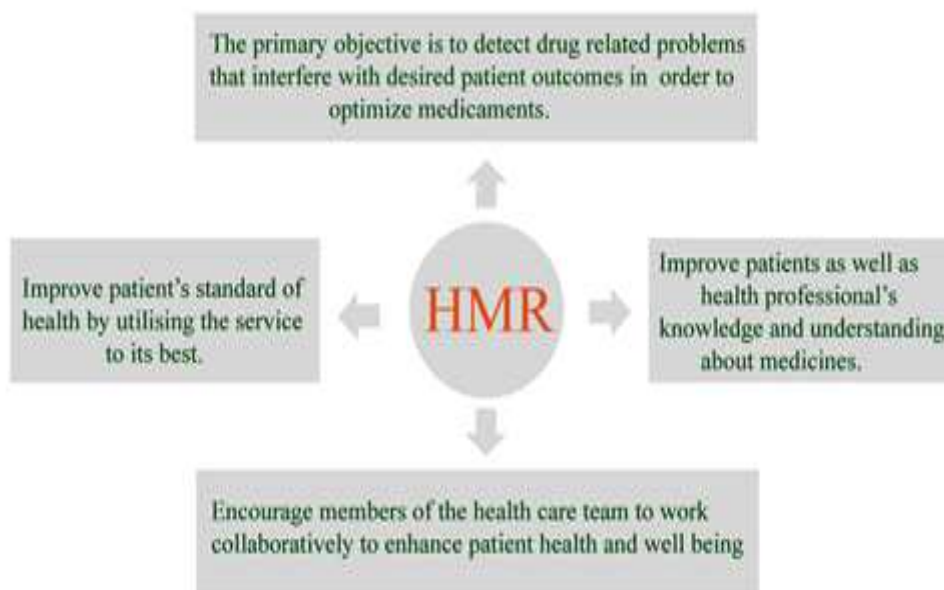


Figure 2: objectives of HMR

Potential Indications for HMR

Assessing the patient's clinical needs, the general practitioner with an accredited pharmacist initiates the service. It is available to any patient who requires a comprehensive review of all their medications at home. The patient needs to be counseled during the treatment regimen with risk factors for the patient such as:-

- (1) currently taking five or more regular medicines
- (2) taking more than 12 doses of medicine per day
- (3) with significant changes to their medicine regimen in the last three months, including recent discharge from hospital
- (4) taking medicine with a narrow therapeutic index or required therapeutic monitoring
- (5) with symptoms suggestive of an adverse drug reaction
- (6) having difficulty managing their own medicines because of literacy or language difficulties, impaired sight
- (7) attending a number of different doctors, both general practitioners and specialists
- (8) medication with a narrow therapeutic index or requiring therapeutic monitoring

- (9) suboptimal response to treatment with medicines
- (10) suspected noncompliance or inability to manage medication related therapeutic devices
- (11) recent discharge from a facility or hospital (past 4 weeks)

The HMR service is not available to in-patients of a hospital, day hospital facility or care recipients in residential aged care facilities ^[3,8].

Audit Requirements for HMR Service

HMR Service Providers will be subject to random audits to ensure that the HMR Service is provided according to these Program Specific Guidelines and the Medication Management Review (MMR) Programs Terms and Conditions. Service Providers that have not adequately demonstrated the ability to provide the HMR Service in line with the procedures described may be deregistered from the Program. HMR Service Providers and Accredited Pharmacists should also be aware that fraudulent claims may be subject to additional penalties, including civil or criminal charges and funds recovery ^[6].

The Process of HMR [9,10]

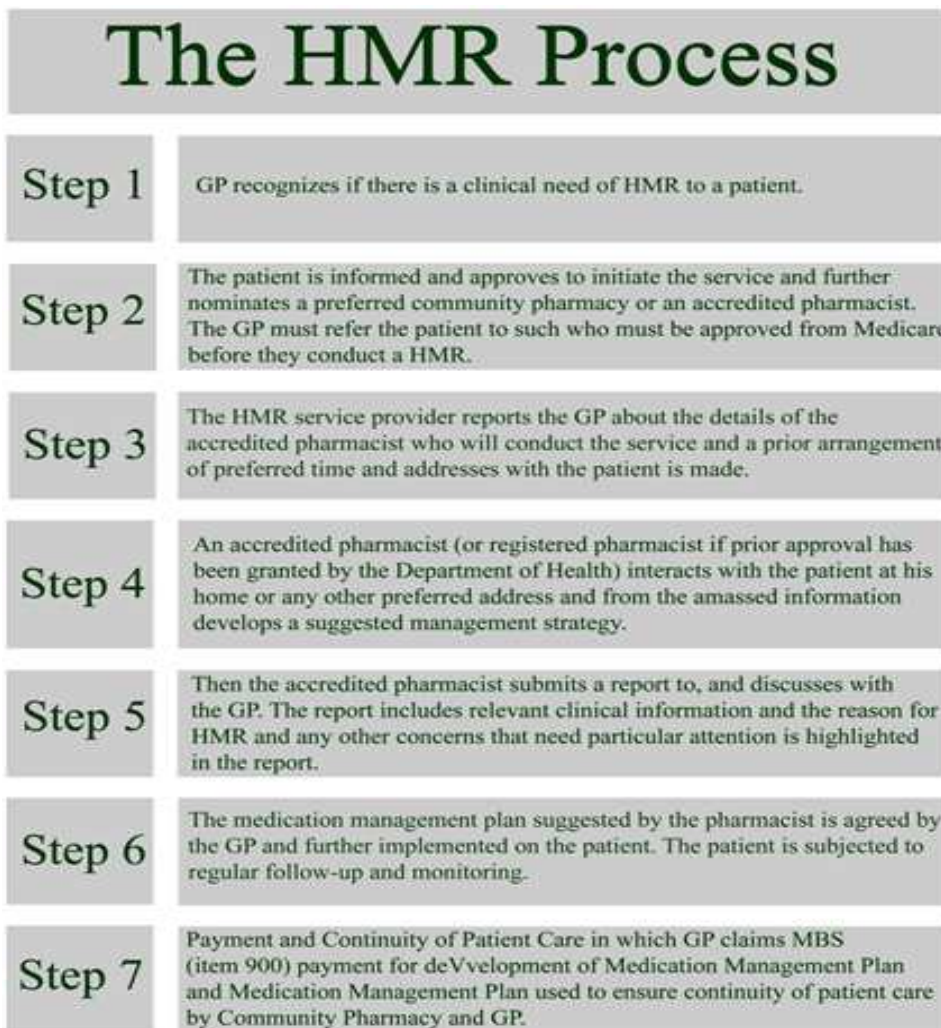


Figure 3: The process of HMR

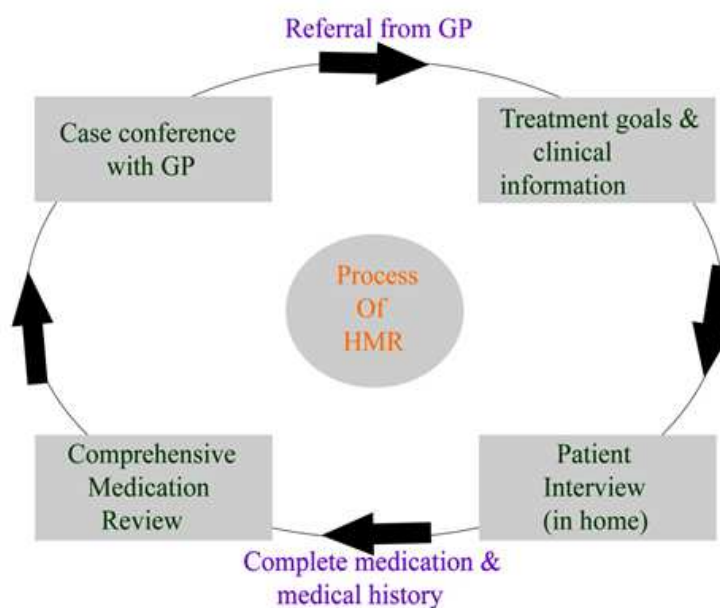


Figure 4: schematic representation of process of HMR

HMR SAMPLE CASE**Suggested medication review clinic questionnaire** ^[11]**Table 1: Questions included in the referral form for patients with congestive heart failure**

Sr.no	Congestive heart failure specific questions
1	If the patient is on a fluid action plan, do they have access to 'as required' diuretics?
2	Can the patient reliably follow a fluid action plan?
3	Does the patient have a reliable set of scales?
4	Can the patient reliably use their scales?
5	Is the patient adhering to fluid restriction?
6	Is the patient adhering to salt restriction?
7	What is his/her level of activity?
8	How many caffeinated drinks does the patient have in a day?
9	Does the patient understand the signs of worsening of their heart failure?
10	Is the patient on a maximum dose of an ACE inhibitor?
11	Is the patient on a maximum dose of a beta-blocker?
12	If the patient is on spironolactone, are they having regular potassium monitoring?
13	Does the patient complain of any dizziness or light headedness when they stand up, and do they have strategies to manage these?
14	Is the patient following a low saturated fat intake?
15	Is the patient's blood pressure controlled to target?
16	If the patient is on an angiotensin II receptor blocker, is there a valid reason why it rather than an ACE inhibitor is prescribed?
17	If the patient is on a combination of an angiotensin II receptor blocker and an ACE inhibitor, are they having regular potassium and renal function monitoring?
18	Does the patient have an emergency action plan in case of emergencies such as chest pain, fall, and collapse?

Suggested Examples of Drugs That Require Monitoring ^[12]**Table 2: Suggested examples of drugs that require monitoring.**

Class of drug	Sub-class	Individual drugs
Cardiovascular Medicines	Antianginal medicines	Bisoprolol, glyceryl trinitrate, isosorbide dinitrate, verapamil
	Antiarrhythmic medicines	Digoxin, epinephrine (adrenaline), lidocaine, verapamil, amiodarone
	Antiarrhythmic medicines	Digoxin, epinephrine (adrenaline), lidocaine, verapamil, amiodarone
	Medicines used in heart failure	Digoxin, furosemide, dopamine
Medicines Acting On The Respiratory Tract	Antithrombotic medicines	acetylsalicylic acid, streptokinase
	Lipid-lowering agents	Simvastatin
	Antiasthmatic and medicines for chronic obstructive pulmonary disease	Beclometasone, budesonide, epinephrine (adrenaline), ipratropium bromide, salbutamol
Muscle Relaxants (Peripherally-Acting) And Cholinesterase Inhibitors		Atracurium, neostigmine, suxamethonium
Antithyroid Medicines		Levothyroxine, potassium iodide.
Central Nervous System Medicines	Anticonvulsants/ Antiepileptics	Carbamazepine, Phenytoin, Sodium Valproate, phenobarbital

Perceived Benefits of HMR Service ^[13]

Participants identified key benefits of having an HMR:-

- (1) acquisition of personalized information and advice regarding medications;
- (2) reassurance regarding medications and coordination of their care;
- (3) feeling valued and cared for by a health care provider; and
- (4) Enhancing the patient-provider and pharmacist-GP relationships.
- (5) Sorting out the medicines cabinet and ensuring that the medical records of the GP are up-to-date were reported as secondary benefits.

How Indian Pharmacist Can Adopt the HMR Process

Proposed HMR model in India

Even in a developing country like India the HMR service can be easily adapted to local circumstances. For example in India, tuberculosis is largely epidemic and nearly two to three million people are affected. Such patients on medications for tuberculosis and can be asked that 1) do they know what medications they are meant to be taking and 2) are they taking them as they should?

Depending on the answers assistance may be possible. Insufficient money to buy the drugs may not easily be addressed but at least knowing that this is the issue and knowing what the issues are for a large number of patients who are not compliant is a very useful database for planning initiatives that seek to help patients. Medication review takes the pharmacist out of the shop into the community. It can be funded by Indian pharmacists with vision to demonstrate, with pilot studies, that medication review programs can work. A combination of pharmacist initiative and political astuteness to source funding support may see medication review become, as has been the case in Australia, an exciting opportunity for Indian pharmacists to contribute further to the health-care of their communities ^[14].

Seminars on HMR in India

Mysore Seminar on Home Medication Review-On November 30th 2005 in Mysore, India, a group of Indian and Australian pharmacists conducted a one-day seminar on home medication review (HMR) under the auspices of Dr B. G. Nagavi and the JSS College of Pharmacy, Mysore. The stimulus to run such a workshop came from a belief that a new model of professional practice

that has evolved in Australia over the last 5 years may have relevance to practice in India ^[14].

Survey on HMR in India

Researches on HMR in India is been carried out and survey is conducted. By the survey conducted certain conclusions can be made that polypharmacy was seen most in case of women's and hence, more incidences of ADRs and drug-food interaction were found amongst them. Although the females were found to be having healthier eating habits and lifestyle patterns than the males. The elderly patients are most at risk of developing adverse drug reactions. This is because of their ignorance of health, regular checkups, monitoring of disease and medications and also, because of their less knowledge about the diseases and medications. The most common diseases found prevailing in geriatrics were arthritis, joint and back pain, diabetes, spondylitis and hypertension. The most commonly used drugs were analgesics, multivitamins, antihypertensive, immunosuppressant and oral hypoglycemic. HMR services can be advantageous to such people. More and more people should be exposed to this service so as to enhance the safe use of medicaments. The mostly used alternative therapies were the home remedies, diet alteration and restriction, exercising, yoga, walk and physiotherapy ^[14].

Conclusion

From the present study it can be concluded that, the HMR has emerged as an important tool of pharmacist to provide pharmaceutical care of the patient. HMR improves rational use of medicines and also improves patient healthcare outcomes. HMR is not yet been implemented in India, but efforts can be taken up to bring up HMR in India. It is possible when pharmaceutical industry appoints pharmacist as HMR specialist or government of India can implement rules or guidelines for bringing up HMR in India. HMR is also benefitted to many pharmacists as they get employed thus, the employment is increased. HMR can then also be included in the scope of pharmacy as it would come out as a good profession. HMR promotes pharmaceutical care and employment. If HMR is executed in developing country especially in India, it will increase rational use of drugs and save national money.

“Cite this article”

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References

1. Merlin NJ, Pharmacy Careers - An Overview, Asian Journal of Research in Pharmaceutical Sciences, 2011; 1(1): 01-03.
 2. Ayushy S, Anupam KS, Sudhir SG. Pharmacy education in India and its neighbouring countries, International Current Pharmaceutical Journal, 2012; 1(9): 294-301.
 3. Graham E, Emmett M. Home Medicines Review – the how and why for GPs, Clinical practice. 2004; 33(1/2): 49-51.
 4. Preeti K, Parminder R. Home Medication Review- Its Status and Awareness Among Geriatric Population Of Dehradun, Asian Journal of Pharmaceutical and Clinical Research , 2012; 5(4): 146-150.
 5. James Q, Belynda W, Marisa G, Andrea H, Ann L. Home medicines reviews – do they change prescribing and patient/pharmacist acceptance?, Australian Family Physician , 2006; 35(4): 266-267.
 6. The pharmacy guild of Australia; Program Specific Guidelines Home Medicines Review 5th community pharmacy agreement, 2013. Australian Government Department of Health and Ageing, 2013.
 7. Colin C, Ivan B, Juanita W, Gregory P. An investigation into the types of drug related problems that can and cannot be identified by commercial medication review software, American Institute of Homeopathy. 2012; 11-20.
 8. www.medicareaustralia.gov.au [Home medicines review (HMR)-fourth agreement]. Australia: Australian Government department of human services; 2013. [Cited 2013 Dec 10]. Available from: <http://www.medicareaustralia.gov.au/provider/pbs/fourth-agreement/hmr.jsp>
 9. www.medicareaustralia.gov.au [Home medicines review (HMR)- fifth agreement]. Australia: Australian Government department of human services; 2013. [Cited 2013 Dec 10]. Available from: <http://www.medicareaustralia.gov.au/provider/pbs/fifth-agreement/home-medicines-review.jsp#N103BF>
 10. Veterans' Medicines Advice and Therapeutics Education Services; University of South Australia, Australian Government Department of veterans' Affairs. Home Medicines Review – The benefits for you and your patients, 2011. Therapeutic Brief 29: University of South Australia; 2011.
 11. Suzanna L, Robyn AC, Manya A, Anne PP, Desmond C, Sepehr S. Timeliness and Clinical Impact of Hospital-Initiated Medication Reviews, Journal of Pharmacy Practice and Research , 2009; 39(4): 269-273.
 12. www.who.int [WHO Model List of Essential Medicines-17th list]. World health organization ; 2011. [Cited 2014 Jan 01]. Available from: http://www.who.int/hq/2011/a95053_eng.pdf
 13. Lesley W, Christiane K, Grad D, Grad C, Stephen C, Consumer perspectives of the Australian Home Medicines Review Program: Benefits and barriers, Science direct- Research in Social and Administrative Pharmacy, 2012; 8: 4–16.
 14. David C. Pharmacist Conducted Medication Review in Australia: is there Relevance to Practice in India?, Indian Journal of Pharmaceutical Education and Research ,2006; 40(6): 73-76.
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