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Original Research

Pharmacists' performance of clinical interventions during adherence support medication reviews

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Abstract

Background: In New Zealand, pharmacists are funded to provide adherence support to their patients via a service called "Medicines Use Review" (MUR). The service is based on the assumption that the medication regimen is clinically appropriate and therefore does not include a clinical review. However, whether or not pharmacists make clinical recommendations to patients during MUR is unclear.

Objective: To identify the types of drug-related problems (DRPs) and interventions provided during MUR in order to understand whether clinical interventions occur.

Methods: A single district health board that funds MUR services was identified. The MUR providers that conducted MURs during the period (from 2007 – December 2011) were invited to participate. All MUR consultation records were reviewed and the data extracted were categorized according to the DRP Classification Scheme v6.2 by Pharmaceutical Care Network Europe (PCNE). DRPs that did not fit into the criteria were documented separately.

Results: Consultation records for 353 individual patients were obtained from five MUR providers. Of these patients, 56.4% were female and the median age was 73 years. A total of 886 DRPs were identified and resulted in a total of 844 interventions. During this period, 2718 medications were prescribed to these MUR patients. The most frequent DRPs identified were problems with "health literacy" and "non-adherence" to medications. However 18.1% ($n = 160$) of the DRPs were perceived as a clinical review that went beyond the practice of MUR. The most common intervention was "patient counselling" (20%), "compliance packaging provided" (16%) and "recommendation to change medication" (11%).

Conclusions: In this study, pharmacists perhaps based on ethical, legal and moral obligations provided clinical interventions that exceeded those expected and funded in a MUR. Since MUR detected a low number of clinical DRPs when compared to clinical medication review services conducted previously, a funding system that only supports MUR might not provide the important clinical support required by patients. Patients who receive only MUR may potentially be missing out on optimal care.

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Introduction

There are many potential areas for problems in medication use as patients may present with complex clinical conditions (e.g., multiple morbidities, or renal or liver impairment) and need to use more than one medication. Problems related to medication use are termed Drug-related Problems or DRPs. DRPs have been defined as "a circumstance related to a patient/customer's use of a drug that actually or potentially prevents the patient from gaining the intended benefit of the drug."[1] DRPs have been associated with serious drug-related morbidity and mortality, inconvenience to patients and could affect patients' quality of life.[2,3] It is important, therefore, to recognize and prevent DRPs from occurring.

In many countries, pharmacists are recognized as being responsible for medication-related care such as in "medication review services" or "medicines management." These services assess and provide assistance on medication use for patients.[4] Previous studies have reported that such services improved patients' knowledge of [5–7] and adherence to medications,[7] and improved patients' clinical outcomes such as asthma symptoms,[8,9] achievements in target LDL,[10,11] blood pressure[12,13] and diabetes control.[14,15] In New Zealand (NZ) and other countries, the service can be classified into four types: (1) prescription review, (2) adherence support review, (3) clinical review and (4) clinical review with prescribing.[16,17] A prescription review (Type 1) aims to address the technical issues of a patient's prescription such as anomalies and changed items and occurs as part of the dispensing process.[16,17] An adherence support review (Type 2) for example Medicines Use Review (MUR) aims to improve patients' knowledge of and adherence to medications.[16,18] A clinical medication review (Type 3) is more comprehensive as it optimizes medication use in the context of the patient's clinical condition. A Type 4 review is an extension of clinical medication review that includes the authority for pharmacist prescribing.

In 2007, some of the District Health Boards (DHBs) in NZ began funding MUR. The service is provided by community pharmacists free to patients who are at high risk of medication misadventure such as those with chronic disease or patients who use five or more medications.[18] Patients can self-refer or be referred by prescribers, pharmacists, primary health care nurses or nurse practitioners.[18] MUR can be conducted at the pharmacy, at the patients' home or by telephone. Accredited pharmacists are funded to provide up to four MUR consultations per patient per year. The fees for MUR vary between localities but pharmacists are usually paid between $100–$150 by their DHB for three MUR consultations per patient per year, and up to $181–$200 for four MUR consultations.[19] Eleven out of 20 DHBs are currently funding their community pharmacists for MUR, so the services are more widely funded than Medicines Therapy Assessment (MTA), a clinical medication review service which has recently commenced in only a few localities.[20] GPs are not reimbursed for implementing any recommendations resulting from a MUR. It is important to note that an MUR is not intended to be a clinical medication review, as it is founded on the techniques used to provide an improvement in adherence. It does not include assessment of whether or not medication therapy is clinically appropriate.[7,18] The service occurs in the absence of access to a patient's clinical information[18] and hence a formal clinical review is not feasible.

The clinical medication review (Type 3) known as MTA in NZ is similar to Medication Therapy Management (MTM) in the United States of America (USA), Clinical Medication Review in the UK or Home Medicines Review (HMR) in Australia.[18,21,22] The service, as occurs in other countries, involves pharmacists providing clinical interventions such as evaluating the therapeutic appropriateness of each drug and the progress of the conditions being treated.[23] The service also includes pharmacists ensuring medication adherence in patients.[18] In a clinical medication review pharmacists usually have access to patients' clinical notes and make recommendations to the multi-disciplinary team.[18] The difference between MUR (Type 2) and clinical medication review (Type 3) is that the latter is more comprehensive as it includes assessment of whether or not medications/doses prescribed are clinically appropriate. Although MTA is being proposed for NZ, it is only funded to be piloted in a minority of areas for limited patients.

In a UK study, general practitioners (GPs) whose patients had experienced a MUR were reported to be concerned with some inappropriate or ill-informed clinical recommendations made by the pharmacists providing the service.[24] As pharmacists do not have access to a patient's notes during MUR (a Type 2 review), providing clinical

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