



Management of medication therapy: The pharmacist's role

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Abstract Pharmacists and other healthcare professionals have developed medication therapy management (MTM) services to aid patients and caregivers in maximizing therapeutic results while decreasing healthcare costs. It has been a few years since the Medicare Modernization Act of 2003 allowed pharmacists to offer MTM services to Medicare recipients. Even though pharmacists have complained about problems with service delivery, MTM nevertheless gives them a chance to put their expertise to use. Before enhancing the delivery of MTM services in pharmacy practice, we need to identify the obstacles these services face. With the hope of sparking more discussion, service reconfiguration, and, eventually, service enhancement of pharmacist-provided MTM services, this review highlights the role of pharmacists, investigates pharmacists' present difficulties with MTM delivery, and aims to stimulate further discourse.

Keywords Medication management, retail pharmacy, drug therapy management

1. Introduction

Medication Therapy Management (MTM) refers to pharmaceutical care offered by healthcare professionals, such as pharmacists, to optimize medication therapy and enhance patient therapeutic results. Ever since the introduction of MTM in the 1990s [1], this innovative and comprehensive approach to enhancing patients' quality of life has garnered significant interest. The US government provided a robust endorsement for MTM services to expedite establishing a cohesive healthcare system, referred to as Fairview Health Services, which has benefitted millions of patients over several years [2]. To achieve these desired results, the MTM Pharmacist engages in various MTM services, such as Comprehensive Medication Reviews, Targeted Interventions, Adherence Monitoring Interventions, Cost-Effective Interventions, and Transitions in Care.

An estimated 4.3 million hospital visits in the United States in 2001 were due to adverse medication effects. [3]. A study discovered that over 12 percent of individuals who were admitted to the hospital encountered an adverse reaction to medication within three weeks after being discharged. [4]. The primary objectives of the MTM service, as acknowledged by the Modernization Act of 2003 (MMA), are to improve medication adherence, offer education on pharmaceutical therapy, and identify any adverse drug reactions. Achieving MTM goals requires a cooperative effort by pharmacists, doctors, and other healthcare professionals [5]. Touchette et al. conducted research revealing that pharmacists provided nearly all the MTM services [6].

Role of pharmacist in MTM

The function of the pharmacist has expanded beyond only filling prescriptions; many people now seek out their neighborhood pharmacist for advice on non-emergency health concerns and problems. There is an excellent chance



for pharmacists to showcase their many contributions to the modern healthcare ecosystem, as they are among the most recognized healthcare team

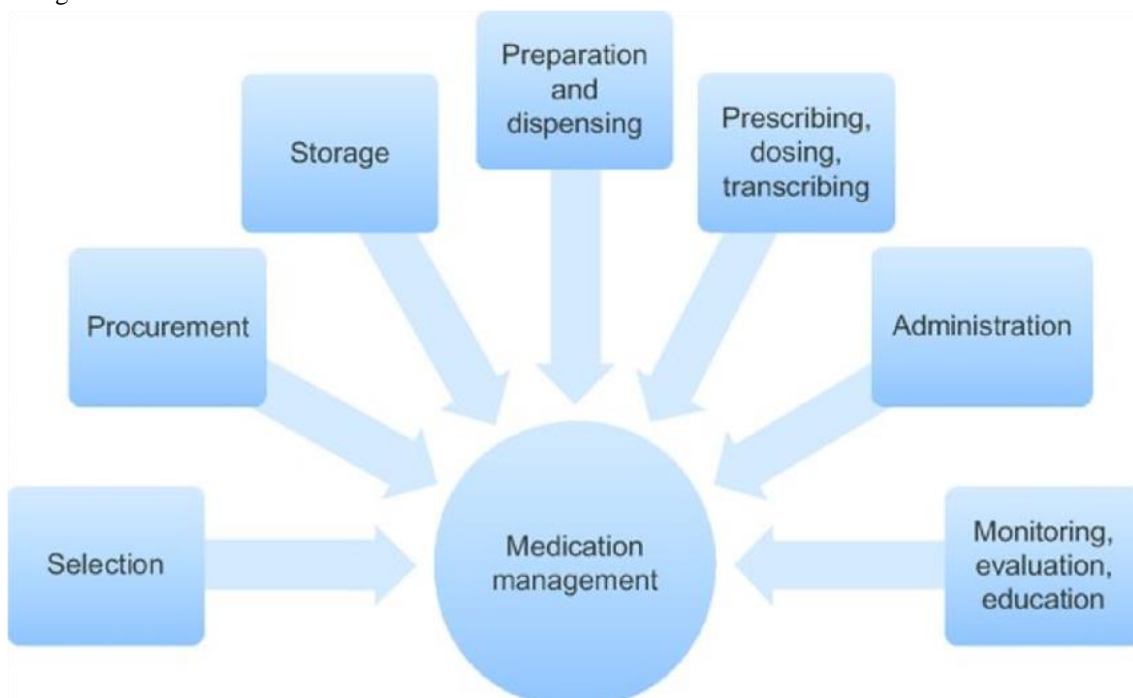


Figure 1: Medication management: seven critical processes from the Joint Commission.

Notes: Data from https://www.jointcommission.org/standards_information/standards.aspx. 9

Members and provide invaluable assistance to patients, members, and consumers. Here are some ways that pharmacists help with the MTM program:

1) **Assist patients with the management of their medications**

Polypharmacy, which refers to the consistent use of a minimum of five prescriptions, is prevalent among older persons and younger groups at risk, and it amplifies the likelihood of experiencing adverse medical outcomes [7]. According to research conducted in 2005-2006, which surveyed individuals aged 57 to 85 living in the community, it was found that 37.1% of men and 36% of women between the ages of 75 and 85 were using five or more prescription medications [8]. The elderly population faces an elevated susceptibility to adverse drug reactions (ADRs) due to age-related metabolic alterations and decreased drug elimination. Moreover, this risk is amplified by the concurrent use of many medications. The simultaneous use of many medicines further heightens the potential for drug-drug interactions [9].

Pharmacists are the leading providers of MTM service, as previously stated. Patients enrolled in Medication Therapy Management (MTM) programs get comprehensive consultations from a qualified pharmacist. A pharmacist specializing in Medication Therapy Management (MTM) is responsible for assuring the suitability of pharmaceuticals for patients' health conditions, minimizing hazardous side effects, and preventing any adverse interactions with other medications. Moreover, these experts evaluate the extent to which patients comply with their medication regimen and provide them with information on their prescribed medications.



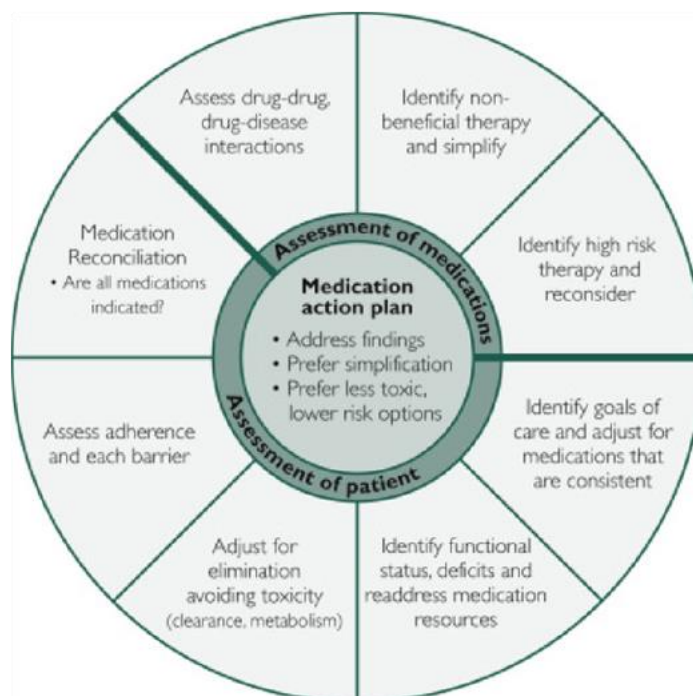


Figure 2: Polypharmacy consultation summary [10].

2) Collaborate with other healthcare providers

The primary responsibilities of the pharmacist are shifting from just distributing drugs to assuming more accountability for and promoting appropriate medication use via partnership [11]. The growing intricacy of pharmacological therapy highlights the need for collaborative, solid partnerships between pharmacists and doctors to enhance patient care. The structured framework of institutional settings enhances communication and cooperation among healthcare workers. Hospital pharmacists have shown their capacity to improve care by diminishing mortality and morbidity, mitigating adverse medication events, and curbing healthcare expenses [12]. The physician's responsibility is to develop a comprehensive treatment plan for the patient, including diagnosing their condition and choosing the most suitable drugs. Partnering with a pharmacist may enhance and bolster patient care. Pharmacists use drug education and oversee treatment to ensure safety, optimal utilization, and improved medication adherence. The growing number of pharmaceuticals used by patients leads to a rise in potential drug interactions, highlighting the need for collaboration between doctors and pharmacists to enhance the safety and efficacy of treatment. Consequently, this results in improved health outcomes for patients [13].

3) Use methods to ensure compliance with medication adherence

Medication adherence, as defined by the World Health Organization, refers to the extent to which an individual's actions align with the prescribed guidelines provided by a healthcare professional [14]. When patients visit the pharmacy to get their medicine, often once a month, the pharmacist is in an ideal position to have a conversation with them. This allows pharmacists to talk to patients and gauge how frequently they take their medication.

One common way to tell whether patients take their medicine as prescribed is to count the pills in their bottles or vials. The fact that patients may easily swap out bottles of medication is only one of the numerous drawbacks to an otherwise straightforward approach. They may even throw out tablets before going to the hospital to make it seem like it's following the routine [15]. Thus, this adherence metric is far from perfect.



In a closed pharmacy system, when refills are monitored at several periods in time, rates of prescription refills provide a reliable estimate of total adherence. This is especially true in health maintenance organization nations with universal medication coverage [16]

Asthma-metered dosage inhalers can record and mark the time of opening bottles, distributing drops (eye drops), or triggering canisters. Thus, they can also evaluate adherence. Patients may open the container and not take the medicine, take too much medication, or take numerous doses out of the container at once (or put multiple doses in another container). Therefore, the measure of adherence is not reliable with this technique.

Problems pharmacists face in providing MTM [17]

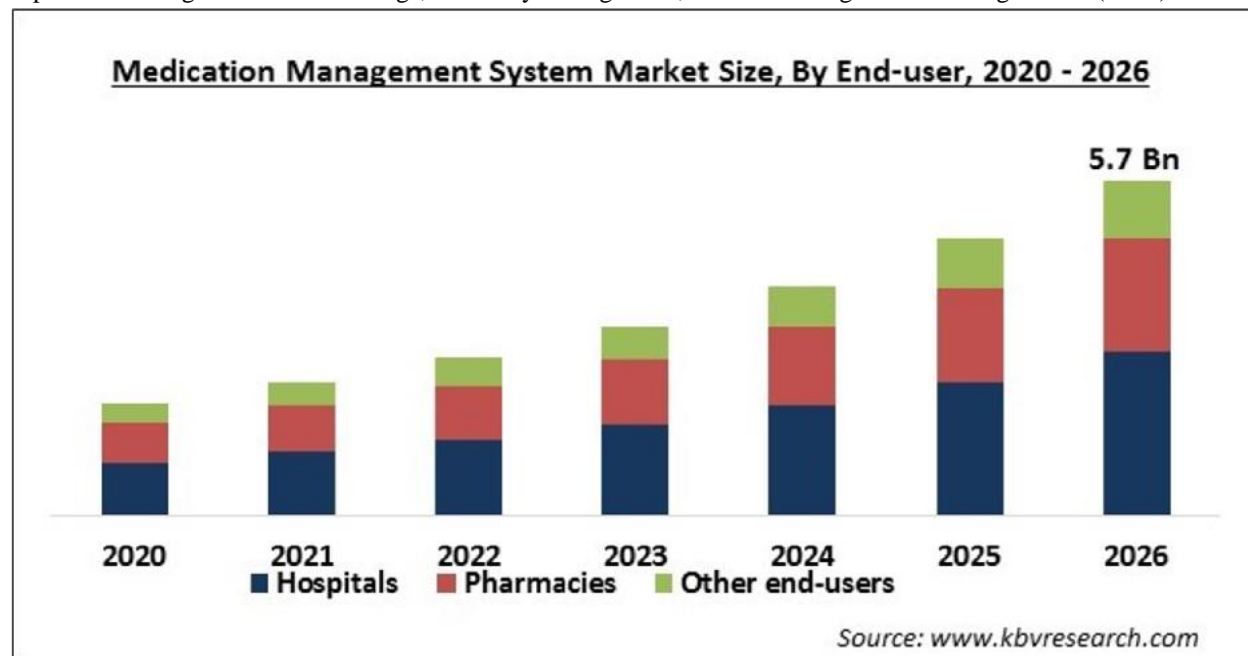
- 1) **Patient involvement:** Patients are confused about the community pharmacist's growing participation in healthcare, which is another obstacle to MTM delivery. Some typical patient-related challenges include not knowing much about MTM services, not having a doctor recommend them, and worrying about the cost. Many think of pharmacists as just professionals who give out pills rather than as part of the healthcare team that works with patients' doctors. So, the long-established function of the pharmacist as a dispenser and provider of short advice is adequate.
- 2) **Reimbursement:** There is currently no national program in the US that covers MTM treatments beyond Medicare Part D. When it comes to insurance companies, there are a lot of obstacles to MTM that pharmacists provide. Private payers have been slow to see the value and pay for these treatments, in contrast to Medicaid programs, which have begun to reap the advantages. Another major obstacle to MTM delivery is inadequate financial remuneration, even when payers cover the services. The reimbursed parties are often the pharmacies rather than the individual pharmacists.
- 3) **Healthcare team:** To find suitable patients to refer and for pharmacists to make sound recommendations, physicians must be familiar with and comfortable with MTM services [18]. The acceptance percentage of pharmacist recommendations by physicians is often low, hovering around 50% [19], even though there is evidence that pharmacists provide valuable advice to MTM patients. Community pharmacists and doctors don't frequently meet face to face so that doctors may form assumptions about pharmacists based on their experiences with other doctors. The primary picture that healthcare providers have of community pharmacists is at odds with what doctors see as merchants [20]. People also thought that pharmacists weren't available to them when needed, meaning they weren't accountable for their care when the pharmacy was closed or the pharmacist wasn't on duty.
- 4) **Pharmacy Workflow:** Despite the excitement around MTM and its advantages, community pharmacies often lack the necessary institutional protocols and personnel to implement it fully. Many drugstores have debated whether medication therapy management (MTM) is best handled as an additional service or integrated into their dispensing process. Many community pharmacists in the United States need assistance integrating MTM into their present workflow regardless of whether they get compensation. These difficulties include time constraints, a lack of qualified support staff, overwhelming work, the unwavering opposition of upper management, and limited physical space. While more hours worked by pharmacy technicians increase the chances of a successful MTM deployment, some pharmacists feel that technicians don't have enough training to be involved in MTM. Technician turnover is another factor that makes it difficult for pharmacy technicians to be involved in MTM.

Market size [21]

Global Medication Management System The market is projected to develop at a compound annual growth rate (CAGR) of 20.1% and reach \$5.7 billion by 2026. Medication management facilitates the computerized monitoring and authentication of medication administration, prescription, and delivery. There has been significant expansion in the worldwide drug management market in recent years. This is due to the increasing prevalence of chronic illnesses and the rapid expansion of the older population. The need for computerized physician order input systems has risen



due to the growing need for remote patient monitoring services. Medication management storage may improve aspects including distribution of drugs, inventory management, and controlling Adverse Drug Events (ADE)



There is a significant rise in the scarcity of healthcare professionals and pharmacists. Consequently, there has been a notable increase in the implementation of medication management so aware to enhance workflow efficiency

Conclusion

Finally, improving healthcare efficiency and patient outcomes is the primary goal of medication therapy management (MTM), an area in which pharmacists play a critical role. Ensuring patients obtain safe, effective, and appropriate pharmacological treatment is the multifarious responsibility of pharmacists, who also educate and advocate for their patients. Pharmacists are crucial in managing chronic illnesses, preventing adverse drug events, and improving patient well-being via thorough medication evaluations, cooperation with healthcare professionals, and patient education.

By considering each patient's medical needs, preferences, and prescription schedules, MTM enables pharmacists to provide individualized treatment. Helping patients better adhere to their prescription regimens and reduce the likelihood of adverse drug reactions is one of the primary roles of pharmacists. This patient-centered approach strengthens the bond between pharmacist and patient through increased trust, open dialogue, and joint decision-making, improving health outcomes

As the healthcare system changes, the role of pharmacists in medication therapy management (MTM) is also becoming more critical in team-based treatment and collaboration. Pharmacists work with other medical experts, including doctors and nurses, to provide comprehensive and coordinated treatment. Better choices and better patient outcomes are the results of this teamwork, which guarantees continuity of therapy while also maximizing the knowledge and skills of all members of the healthcare system.

The effectiveness of contemporary healthcare delivery relies heavily on the involvement of pharmacists in medication therapy management (MTM). Improved patient health and quality of life result from pharmacists' efforts to optimize pharmaceutical treatment via their knowledge, teamwork, and patient-centered care. What lies ahead for patient-centered care is a future where pharmacists are more fully acknowledged for their critical role in medication therapy management (MTM) and their continuous integration into healthcare teams.



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