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FEATURE ARTICLE
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A proposed practice model for pharmacist led MTM services in ambulatory care setting

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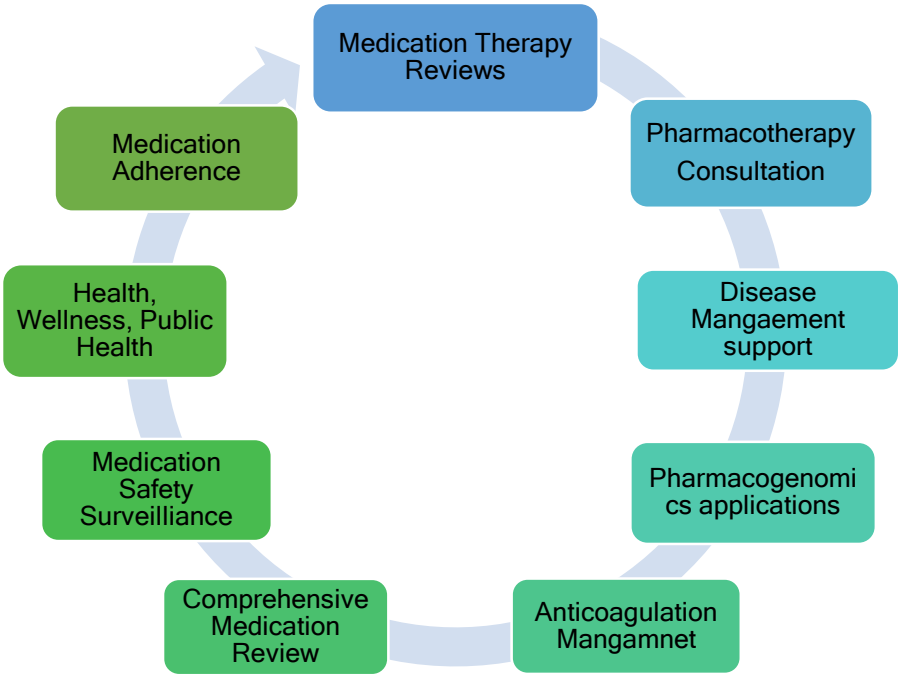
Abstract
Pharmacists now have the chance to expand their direct patient care services in the community due to the inclusion of Medication Therapy Management (MTM) services in the range of ambulatory care and private running clinics. To establish a successful and long-lasting practice model for pharmacists, it is crucial to define the function of MTM within the context of pharmacist-provided patient care activities, including patient counselling, disease management, and all currently offered pharmacy services. There are descriptions provided for each of these services, along with comparisons and contrasts of the various services. The article's goal is to explore the pharmacist's role in MTM services and assess the expected outcomes of those services. MTM is promoted as a comprehensive paradigm that combines the principles of pharmaceutical care, patient counselling techniques, and disease management in a setting that encourages direct interaction between patients, pharmacists, and other medical professionals.

Keywords: MTM (Medication therapy management), Pharmaceutical care, Patient counseling, disease management.

Introduction

Hepler and Strand created the pharmacological care philosophy in the 1990s, and it serves as the foundation for MTM. The pharmacist's acceptance of complete responsibility for the patient's medication-related requirements forms the basis of pharmaceutical care. The pharmaceutical care process entails completing a follow-up review, developing a patient-centered care plan, identifying drug therapy difficulties, and doing a thorough assessment of a patient's medications and medical history [1-3].



MTM SERVICE AREAS

Several key concepts from the PCC are reflected in this definition [5]

- ❖ MTM is a distinct service or group of services that can occur in conjunction with, or independent of, the provision of a drug product.
- ❖ MTM encompasses a broad range of professional activities and responsibilities.
- ❖ MTM programs should include a core set of considerations to provide value to key stakeholders in the health care delivery system.

Defining MTM services was a major undertaking and an enormous achievement. By definition, MTM services are [5-6]

- ❖ Applicable within diverse pharmacy practice segments;
- ❖ Feasible for a majority of practitioners to implement; and
- ❖ Inclusive of elements supported by a profession-wide consortium of 11 national professional pharmacy organizations.

Table 1: Comparison of Traditional Patient Counseling and MTM Services [7-8].

Aspects of Service	**Patient Counseling**	**MTM Services**
Focus	Drug product	Patient drug therapy regimen
Practitioner-patient communication	One way	Two way
Documentation	"Offer to counsel" documentation required	Documentation in patient care record required
Practitioner follow-up	Not required	Required
Measure of success	Volume (No. of prescriptions sold)	Improved patient outcomes

CORE ELEMENTS OF AN MTM SERVICE

Below core elements of an MTM service

- Medication Therapy Review (MTR)
- Personal Medication Record (PMR)

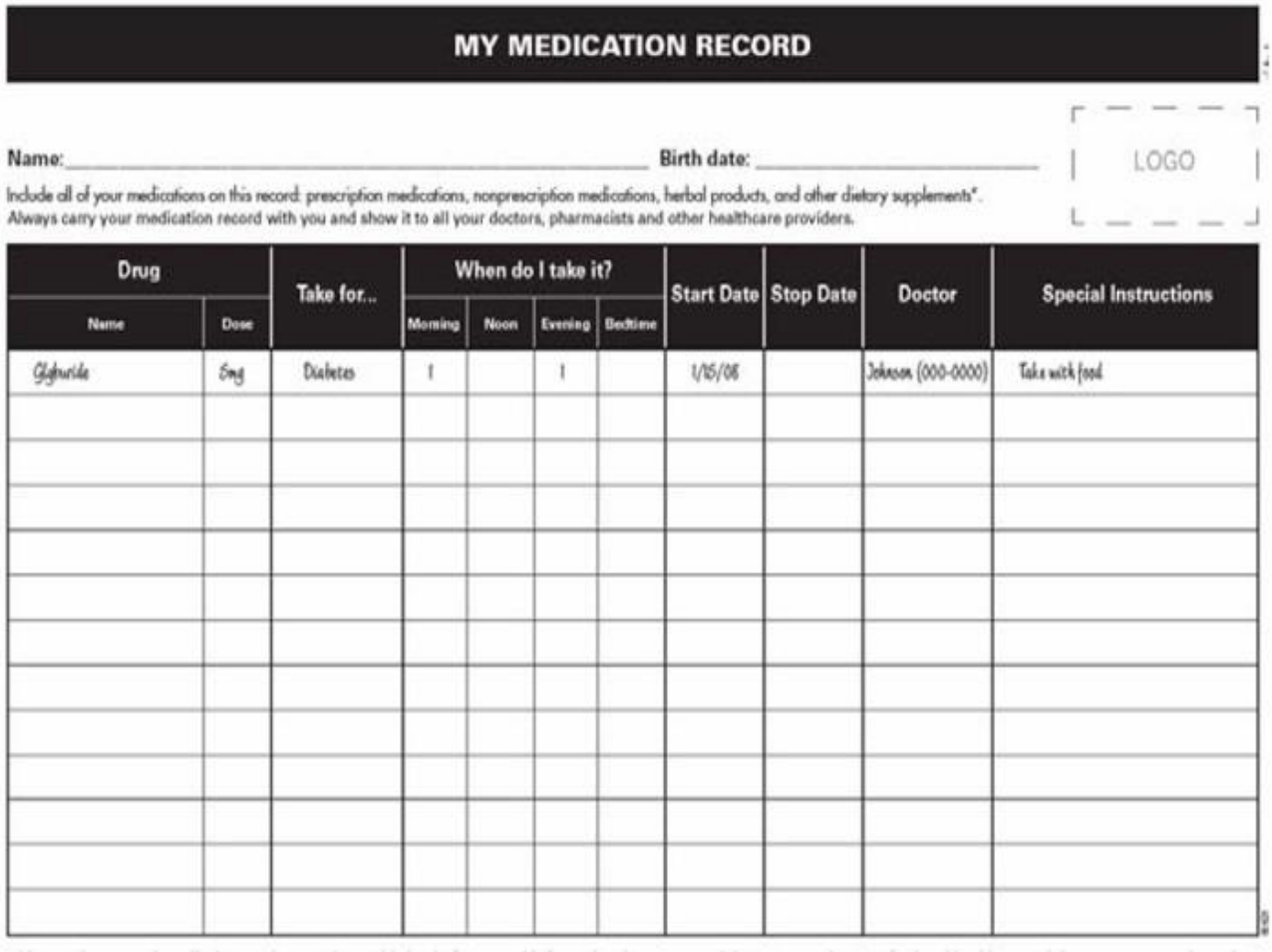
- Medication-Related Action Plan (MAP)
- Intervention and/or referral
- Documentation and follow-up

ELEMENT 1. MEDICATION THERAPY REVIEW (MTR)

The patient (and any caregiver) and the pharmacist both participate in this review. It is intended to be thorough. The patient discusses all of their current prescription and over-the-counter treatments throughout the interview. Dietary supplements and herbals are included. These are also used to identify any injectable not mentioned in the initial survey. The pharmacist examines each product to spot any dose issues, then collaborates with the patient and physician to find solutions. The pharmacist examines previous issues and identifies new ones that need attention at following MTR meetings[10].

ELEMENT 2. PERSONEL MEDICATION RECORD (PMR)

After the MTR, the patient receives a detailed list of all the medications discussed, including all prescription, injectable, over-the-counter, herbal, and nutritional supplements. The record is a straightforward patient-centered instrument that acts as a crucial informational roadmap. As required, older PMRs are updated. Patients are urged to tell other healthcare professionals of the information. To encourage continuity of care, some pharmacists send a copy of the PMR to the patient's primary care physician[11].



MY MEDICATION RECORD

Name:_____ Birth date: _____ LOGO

Include all of your medications on this record: prescription medications, nonprescription medications, herbal products, and other dietary supplements*.
Always carry your medication record with you and show it to all your doctors, pharmacists and other healthcare providers.

Drug		Take for...	When do I take it?				Start Date	Stop Date	Doctor	Special Instructions
Name	Dose		Morning	Noon	Evening	Bedtime				
Glyburide	5mg	Diabetes	1		1		1/05/08		Johnson (000-0000)	Take with food

ELEMENT 3. MEDICATION –RELATED ACTION PLAN (MAP)

Each patient receives a MAP at the conclusion of the session. The MAP is a patient-centered document that serves as a thorough yet straightforward manual to assist the patient in keeping track of all pertinent data. It contains the steps they want to take to address dosage-related problems, the steps they have actually taken, and any other steps that need to be taken, such as discussing a prescription

concern with their secondary physicians. The patient and pharmacist work together to complete the Medication Action Plan [12].

MY MEDICATION – RELATED ACTION PLAN

Patient:	
Physician (Phone):	
Pharmacy (Phone):	
Date Prepared:	

The list below has important action Steps to help you get the most from your medications. Follow the checklist to help you work with your pharmacist and doctor to manage your medications AND make notes of your actions next to each item on your list.

Action Steps ➡ What I need to do….	Notes ➡ What I did and when I did it….
☐	
☐	
☐	
☐	

My Next Appointment with My Pharmacist is on: …… (date) at …… ☐AM ☐PM

ELEMENT 4. INTERVENTION AND /OR REFRAL

During the MTR, the pharmacist offers advice and intervenes to solve medication-related issues. The actions of the pharmacist or other healthcare professionals may be considered interventions. For every intervention, patient goals should be set. In order to achieve the best results, the intervention should be customised to the patient's needs. Not all issues can be resolved in a single session and are consequently noted for further investigation. Finally, it could be required to send patients to other medical professionals, such as a trained doctor or pharmacist[13].

ELEMENT 5. DOCUEMTAION AND FOLLOWUP

Services provided should be documented in a consistent way that is sufficient for:

a. Evaluating patient progress,
b. Informing other health care providers about care provided to the patient,
c. Billing purposes, and
d. Billing or question follow-up.

The patient is then scheduled for a follow-up visit if necessary.

The standard health care professional format for documentation of provided care is the SOAP note (**S**ubjective observations, **O**bjective observations, **A**ssessment, and **P**lan). In addition to the patient's PMR and/or MAP, pharmacists are permitted to include additional information in their documentation, such as all educational counselling given to the patient, correspondence with the patient's other healthcare professionals, plans for follow-up, and billing data. In order to assess if the patient's goals were achieved and, if not, what additional interventions might be made to advance toward those goals, follow-up is a crucial part of MTM services.

CRITERIA FOR MTM SERVICES BY PHARMACIST

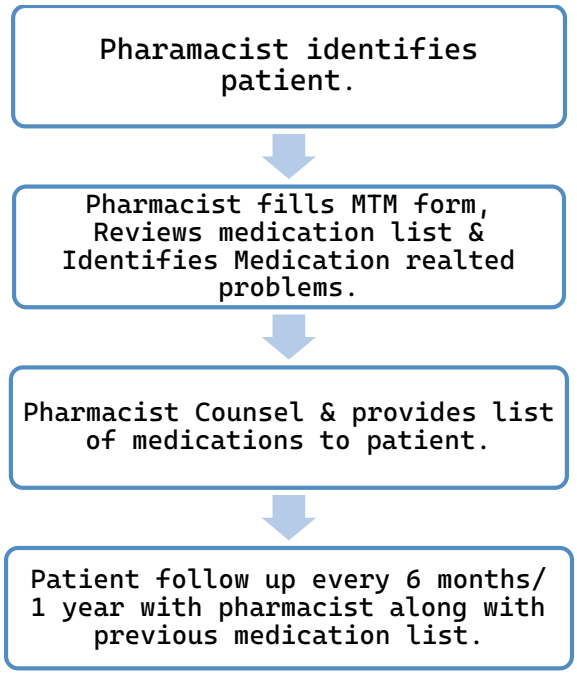
Health care professional using the following admission criteria[14]:

- Have multiple medications, diseases, or health care providers and subsequent diminished coordination of care,
- Have difficulty in self-management of medications,

• Have difficulty adhering to long-term medication regimens,
• Have a significant lack of understanding or knowledge of long-term drug therapy, and
• Agree to have their prescriptions filled at the UIC pharmacy.

STEPSWISE APPROACH FOR IMPLEMENTING MTM SERVICES

Firstly, pharmacist identifies the patients which fulfills the requirements of MTM services. After finding eligible patients pharmacist fills MTM forms and reviews medications profiles in system and compares with medications using currently. Secondly pharmacist identifies and resolves medication related problems. Pharmacist counsels the patients if any changes of medication regimen and provides revised, comprehensive list of medications to patient. Lastly pharmacist documents the initial encounter with patient and patient follow up with pharmacist in every 6 to 1 year with revised medication list.



MTM workflow chart

I- Pharmacist identifies patients for MTM services on basis of
1-Taking >5 medications
2-Elderly patients
3- Multiple Chronic diseases like DM, HTN, Dyslipidymia, HF, etc.
II- Pharmacist prepares the initial patient information form, reviews medication regimen and health condition, fills SOAP form, Resolves medication related problems ,compiles final list of medications including OTC, herbal meds.
III- Pharmacist dispenses, counsel, and issues printed personal medication record to patient and requests patient to review their medications every 6 months.

These are the proposed MTM forms filled during MTM interaction with patients

MTM FORMS

A- Initial patient form

Date:_____ Patient Full Name:_____ MR:_____
Age:_____ Sex:_____ Pregnant Y__ N____ BMI:_____
Breastfeeding, age of baby: _____ Current Medical conditions: _____
Past History of: _____ Date diagnosed or occurred: _____
Newly Diagnosed: _____ Date: _____

Allergies/Previous Adverse events: _____ Family Medical History_____
Social History: - Lifestyle _____ Smoking: _____
OTC/Herbal medications: _____
Anticoagulation/Dialysis treatment/oncology/any other treatment: _____
Patients Medication Experience: -
1- Attitude towards taking medication: _____
2- Expectation from medication: -_____
3- Understanding of medications: _____
4- Compliance:_____
5- Concerns noted: _____

B-SOAP form
Subjective: - How current medical conditions managed
How do you feel and any complaints, Medication Adherence issues
Any problems with medications and their side effects
Objective: - Labs/Medications
A1C:___ TC: _____ LDL: _____ TRG:_____ Serum Creatinine_____
Creatinine clearance _____BP: _____ Serum Drug Levels:_____
Fasting Sugar: _____ ANY New Medications in list_____
Assessment: Current issues on Diseases management and medications effects
DM, HTN, Dyslipidemia (Observe elevated Lab results like above normal range)
Plan: Goal/Desired outcome/Recommendation/intervention
Example: - Change in medication regimen, dose, medication counseling, explain guidelines of dietary, wellness

B- CURRENT MEDICATION LIST REVIWED (DATE)
MR- Patient name- Age-

Drug name use for When do I take it start date stop date special instruction

DOCUMENTATIONS OF INITIAL VISIT AND SOAP FORM.
FOLLOW UP PATIENT EVERY 1-3 MONTHS DEPEND ON THE REQUIREMENT OF THE PATIENT.

IMPACT OF PHARMACIST BASED MTM SERVICES
A-Patient counseling:
Patient counselling is defined as a conversation between the patient and the care provider in which the patient receives information about their health, the medications they have been prescribed, the results of their drug regimen, etc. The primary goal of the pharmacist's participation in patient counselling is to make sure that patients use their medications correctly and safely. The pharmacist also reinforces the recommendations made by the doctor and other healthcare professionals[15].
Patient pleasure, opinions on the overall quality of the pharmacy's services, and patient trust all depend on thse pharmacist's ability to communicate. Patients at risk for medication-related issues, adverse events, and hospitalizations are those with chronic diseases, polypharmacy, complex regimens, and frequent doctor visits. Effective patient counselling provided by pharmacists has been shown to reduce hospitalisation, adverse events, non-adherence to medication, and medication-related issues[16].

B-Disease Management:
The creation of health maintenance organisations played a significant role in the development and widespread adoption of disease management programmes in the 1990s. Around the same time, pharmacists started putting tactics into effect to put the pharmaceutical care philosophy into practise.

Disease management is "a system of coordinated health care interventions and communications for populations with conditions in which patient self-care effort are crucial," according to the Disease Management Association of America. To make sure that population recommendations are followed, disease management strategies have been devised. These programmes can be delivered by a wide range of health care specialists, including doctors, nurses, dietitians, and pharmacists[17]. They are interprofessional in nature. Ailment management focuses on a particular disease and gives patients the resources and information they need to take some control over their own care. One patient may be managed by several healthcare experts in order to meet his or her healthcare objectives. Programs for managing diseases cater to a range of patient pharmacological and condition-specific demands. Pharmacists have created programmes for things like anticoagulation, diabetes, hypertension, dyslipidemia, and asthma. [9] The patient's capacity to accomplish disease-related goals has significantly improved because to these initiatives. Payer contracts are typically used to pay for disease management services, however these payment methods are not specific to any one profession. Because the time is frequently split with other healthcare professionals, pharmacists frequently struggle to get enough pay for handling a patient's drug-related needs. Table 1 provides a comparison between patient counselling and the characteristics of disease management. By addressing the patient's drug and non-drug therapy as well as lifestyle changes related to a particular ailment, disease management extends far beyond patient counselling. However, disease management is not by definition concerned with the patient's complete medication schedule[18–19].

C-Economic outcomes

When analyzing the financial impact of MTM and other services offered by pharmacists, differentiation between the two becomes crucial. The cost of dispensing services is paid for separately by each drug product, and the related standard dispensing price is the same whether or not a pharmacist offers counselling. Patient counselling is a required but non-reimbursable dispensing service. The pharmacist or pharmacy engages into a contract with a payer group (such as an employer or health maintenance organization) and agrees on the compensation rates with the payer group in order to receive reimbursement for disease management services. Current Along with the Medicare Prescription Medication Benefit, Procedural Terminology (CPT) codes have been developed as a standard of payment for MTM services. Category III time-based codes, which are in the "test and trial" stage, make up the present CPT codes. Giving these codes category I status will increase payer groups' awareness of them and their propensity to utilize them when paying for services.

CONCLUSION:

Medication Therapy Management Services provided by pharmacists have a proven track record of lowering medical expenses while enhancing health outcomes. To improve medication access, medication adherence, continuity of care, medication therapy, and patient education, pharmacist based MTM services offer patient centered care to patients.

Pharmacist-based MTM service provides patients with chronic illness conditions that benefit from improved clinical, humanistic, and financial results. As the result MTM services, pharmacist can identify medication related problems, enhance optimal medication use and ensure medication appropriateness and effectiveness specifically for geriatric patients with co-morbid conditions, polypharmacy. This proposed model can be implemented in ambulatory care setting, private run pharmacies. However full MTM services are not established in health care setting due to lace of reimbursement of professional MTM services to patients. It requires optimization of workflow and revenue model of pharmacist led MTM services. Further studies required to explore the scalability and sustainability to incorporate proposed MTM service model to ensure broader implementation in ambulatory care setting.

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