Medication Therapy Management in Pharmacy Practice

Core Elements of an MTM Service Model

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Medication Therapy Management in Pharmacy Practice: Core Elements of an MTM Service Model

Version 2.0
A joint initiative of
the American Pharmacists Association and
the National Association of Chain Drug Stores Foundation

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Preface

Eleven national pharmacy organizations achieved consensus on a definition of medication therapy management (MTM) in July 2004 (Appendix A). Building on the consensus definition, the American Pharmacists Association and the National Association of Chain Drug Stores Foundation developed a model framework for implementing effective MTM services in a community pharmacy setting by publishing *Medication Therapy Management in Community Pharmacy Practice: Core Elements of an MTM Service Version 1.0*. The original version 1.0 document described the foundational or core elements of MTM services that could be provided by pharmacists across the spectrum of community pharmacy.[1]

Medication Therapy Management in Pharmacy Practice: Core Elements of an MTM Service Model Version 2.0 is an evolutionary document that focuses on the provision of MTM services in settings where patients* or their caregivers can be actively involved in managing their medications. This service model was developed with the input of an advisory panel of pharmacy leaders representing diverse pharmacy practice settings (listed in Addendum). While adoption of this model is voluntary, it is important to note that this model is crafted to maximize both effectiveness and efficiency of MTM service delivery across pharmacy practice settings in an effort to improve continuity of care and patient outcomes.

**In this document, the term patient refers to the* patient, *the caregiver, or other persons involved in the care of the* patient.

Introduction

Medication Therapy Management in Pharmacy Practice: Core Elements of an MTM Service Model Version 2.0 is designed to improve collaboration among pharmacists, physicians, and other healthcare professionals; enhance communication between patients and their healthcare team; and optimize medication use for improved patient outcomes. The medication therapy management (MTM) services described in this model empower patients to take an active role in managing their medications. The services are dependent upon pharmacists working collaboratively with physicians and other healthcare professionals to optimize medication use in accordance with evidence-based guidelines.[2,3]

MTM services,* as described in this model, are distinct from medication dispensing and focus on a patient-centered, rather than an individual product-centered, process of care.[4] MTM services encompass the assessment and evaluation of the patient's complete medication therapy regimen, rather than focusing on an individual medication product. This model framework describes core elements of MTM service delivery in pharmacy practice and does not represent a specific minimum or maximum level of all services that could be delivered by pharmacists.[5]

Medication-related problems are a significant public health issue within the healthcare system. Incidence estimates suggest that more than 1.5 million preventable medication-related adverse events occur each year in the United States, accounting for an excess of $177 billion in terms of medication-related morbidity and mortality.[6,7] The Institute of Medicine advocates that healthcare should be safe, effective, patient-centered, timely, efficient, and effective to meet patients' needs and that patients should be active participants in the healthcare process to prevent medication-related problems.[3,7]

MTM services, as described in this service model, may help address the urgent public health need for the prevention of medication-related morbidity and mortality.[3] MTM services may contribute to medication error prevention, result in improved reliability of healthcare delivery, and enable patients to take an active role in medication and healthcare self-management.[7] The MTM services outlined in this model are aligned with the Centers for Medicare & Medicaid Services' expectations, as stated in the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, that MTM services will enhance patients' understanding of appropriate drug use, increase adherence to medication therapy, and improve detection of adverse drug events.[8]

MTM programs are demonstrating positive clinical, economic, and humanistic outcomes across diverse patient populations in various patient care settings.[9–15] MTM services are currently being delivered in both the public and private sectors. In the public sector, some state Medicaid and Medicare Part D plans have focused on a comprehensive medication therapy review as the foundation of their MTM programs. Pharmacists participating in these programs often provide patients with an initial comprehensive assessment and ongoing follow-up assessments to identify and resolve medication-related problems.[11, 16–20] In the private sector, MTM programs are beginning to emerge nationwide, offering MTM services to traditional insured groups, managed-care populations, self-insured employers, and self-paying individual patients.[9,10,12]

Any patient who uses prescription and nonprescription medications, herbal products, or other dietary supplements could potentially benefit from the MTM core elements outlined in this model. As part of the effort to effectively address the urgent public health issue of medication-related morbidity and mortality, MTM services should be considered for any patient with actual or potential medication-related problems, regardless of the number of medications they use, their specific disease states, or their health plan coverage. Although MTM program structure and the needs of individual patients may vary, the use of a consistent and recognizable framework for core MTM services, as described in this model, will enhance their efficient delivery and effective quality measurement. As new opportunities arise, pharmacists in all practice settings must share a common vision for patient-centered MTM services that improve medication therapy outcomes and provide value within our nation's healthcare system.

**MTM services are built upon the philosophy and process of pharmaceutical care that was first implemented in pharmacy practice in the early 1990s. As pharmacy education, training, and practice continue to evolve to a primarily clinical "patient-centered" focus, pharmacists are gaining recognition from other healthcare professionals and the public as "medication therapy experts." Recognizing the pharmacist's role as the medication therapy expert, the pharmacy profession has developed a consensus definition for medication therapy management and is increasingly using this term to describe the services provided by pharmacists to patients.*

Framework for Pharmacist-Provided MTM Services

This framework for MTM service delivery in pharmacy practice is designed to facilitate collaboration among the pharmacist, patient, physician, and other healthcare professionals to promote safe and effective medication use and achieve optimal patient outcomes. MTM services in all patient care settings should include structures supporting the establishment and maintenance of the patient–pharmacist relationship.

Providing MTM Services in Various Patient Care Settings

Patients with a potential need for MTM services can be identified by the pharmacist, the physician or other healthcare professionals, the health plan, or the patients themselves when medication-related problems are suspected. Appendix B provides considerations for identification of patients who may benefit from MTM services. Patients may be especially vulnerable to medication-related problems during transitions of care* such as when their healthcare setting changes, when they change physicians, or when their payer status changes. These transitions of care often result in medication therapy changes that may be due to changes in the patient's needs or resources, the patient's health status or condition, or formulary requirements. It is important that systems be established so that pharmacist-provided MTM services can focus on reconciling the patient's medications and ensuring the provision of appropriate medication management during transitions of care.

For ambulatory patients, MTM services typically are offered by appointment but may be provided on a walk-in basis. MTM services should be delivered in a private or semi-private area, as required by the Health Insurance Portability and Accountability Act, by a pharmacist whose time can be devoted to the patient during this service.[21] In other patient care settings (e.g., acute care, long-term care, home care, managed care), the environment in which MTM services are delivered may differ because of variability in structure and facilities design. Even so, to the extent MTM core elements are implemented, a consistent approach to their delivery should be maintained.

The Delivery of MTM Services by the Pharmacist

Within the MTM core elements service model, the patient receives an annual comprehensive medication therapy review and additional medication therapy reviews according to the patient's needs. The patient may require ongoing monitoring by the pharmacist to address new or recurring medication-related problems.

The total number of reviews required to successfully manage a patient's therapy will vary from patient to patient and will be ultimately determined by the complexity of the individual patient's medication-related problems. The extent of health plan benefits or other limitations imposed by the patient's payer may affect coverage for MTM services; however, this would not preclude additional services provided by the pharmacist for which the patient pays on a fee-for-service basis.

To perform the most comprehensive assessment of a patient, personal interaction with direct contact between a healthcare professional and a patient is optimal. A face-to-face interaction optimizes the pharmacist's ability to observe signs of and visual cues to the patient's health problems (e.g., adverse reactions to medications, lethargy, alopecia, extrapyramidal symptoms, jaundice, disorientation) and can enhance the patient–pharmacist relationship.[22] The pharmacist's observations may result in early detection of medication-related problems and thus have the potential to reduce inappropriate medication use, emergency department visits, and hospitalizations. It is recognized, however, that alternative methods of patient contact and interaction such as telephonic may be necessary for those patients for whom a face-to-face interaction is not possible or not desired (e.g., homebound patients) or in pharmacy practice settings in which the pharmacist serves in a consultative role on the healthcare team. Irrespective of whether the MTM service is provided by the pharmacist to the patient face-to-face or by alternative means, the service is intended to support the establishment and maintenance of the patient–pharmacist relationship.

**Examples of transitions of care may include but are not limited to changes in healthcare setting (e.g., hospital admission, hospital to home, hospital to long-term care facility, home to long-term care facility), changes in healthcare professionals and/or level of care (e.g., treatment by a specialist), or changes in payer status (e.g., change or loss of health plan benefits/insurance).*

Core Elements of an MTM Service Model in Pharmacy Practice

The MTM service model in pharmacy practice includes the following five core elements:

- Medication therapy review (MTR)
- Personal medication record (PMR)
- Medication-related action plan (MAP)
- Intervention and/or referral
- Documentation and follow-up

These five core elements form a framework for the delivery of MTM services in pharmacy practice. Every core element is integral to the provision of MTM; however, the sequence and delivery of the core elements may be modified to meet an individual patient's needs.

Medication Therapy Review: *The medication therapy review (MTR) is a systematic process of collecting patient-specific information, assessing medication therapies to identify medication-related problems, developing a prioritized list of medication-related problems, and creating a plan to resolve them.*

An MTR is conducted between the patient and the pharmacist. Pharmacist-provided MTR and consultation in various settings has resulted in reductions in physician visits, emergency department visits, hospital days, and overall healthcare costs.[9,10,12,14,20,23–25] In addition, pharmacists have been shown to obtain accurate and efficient medication-related information from patients.[10,26,27] The MTR is designed to improve patients' knowledge of their medications, address problems or concerns that patients may have, and empower patients to self-manage their medications and their health condition(s).

The MTR can be comprehensive or targeted to an actual or potential medication-related problem. Regardless of whether the MTR is comprehensive or targeted, patients may be identified as requiring this service in a variety of ways. Commonly, patients may be referred to a pharmacist by their health plan, another pharmacist, physician, or other healthcare professionals. Patients may also request an MTR independent of any referral. Additional opportunities for providing an MTR include when a patient is experiencing a transition of care, when actual or potential medication-related problems are identified, or if the patient is suspected to be at higher risk for medication-related problems.

In a comprehensive MTR, ideally the patient presents all current medications to the pharmacist, including all prescription and nonprescription medications, herbal products, and other dietary supplements. The pharmacist then assesses the patient's medications for the presence of any medication-related problems, including adherence, and works with the patient, the physician, or other healthcare professionals to determine appropriate options for resolving identified problems. In addition, the pharmacist supplies the patient with education and information to improve the patient's self-management of his or her medications.

Targeted MTRs are used to address an actual or potential medication-related problem. Ideally, targeted MTRs are performed for patients who have received a comprehensive MTR. Whether for a new problem or subsequent monitoring, the pharmacist assesses the specific therapy problem in the context of the patient's complete medical and medication history. Following assessment, the pharmacist intervenes and provides education and information to the patient, the physician or other healthcare professionals, or both, as appropriate. The MTR is tailored to the individual needs of the patient at each encounter.

Depending on its scope, the MTR may include the following:

- Interviewing the patient to gather data including demographic information, general health and activity status, medical history, medication history, immunization history, and patients' thoughts or feelings about their conditions and medication use[28]
- Assessing, on the basis of all relevant clinical information available to the pharmacist, the patient's physical and overall health status, including current and previous diseases or conditions
- Assessing the patient's values, preferences, quality of life, and goals of therapy
- Assessing cultural issues, education level, language barriers, literacy level, and other characteristics of the patient's communication abilities that could affect outcomes
- Evaluating the patient to detect symptoms that could be attributed to adverse events caused by any of his or her current medications
- Interpreting, monitoring, and assessing patient's laboratory results

- Assessing, identifying, and prioritizing medication-related problems related to
    - » The clinical appropriateness of each medication being taken by the patient, including benefit versus risk
    - » The appropriateness of the dose and dosing regimen of each medication, including consideration of indications, contraindications, potential adverse effects, and potential problems with concomitant medications
    - » Therapeutic duplication or other unnecessary medications
    - » Adherence to the therapy
    - » Untreated diseases or conditions
    - » Medication cost considerations
    - » Healthcare/medication access considerations
- Developing a plan for resolving each medication-related problem identified
- Providing education and training on the appropriate use of medications and monitoring devices and the importance of medication adherence and understanding treatment goals
- Coaching patients to be empowered to manage their medications
- Monitoring and evaluating the patient's response to therapy, including safety and effectiveness
- Communicating appropriate information to the physician or other healthcare professionals, including consultation on the selection of medications, suggestions to address identified medication problems, updates on the patient's progress, and recommended follow-up care[29]

In this service model, a patient would receive an annual comprehensive MTR and additional targeted MTRs to address new or ongoing medication-related problem(s). Significant events such as important changes in the patient's medication therapy, changes in the patient's needs or resources, changes in the patient's health status or condition, a hospital admission or discharge, an emergency department visit, or an admission or discharge from a long-term care or assisted-living facility could necessitate additional comprehensive MTRs.

Personal Medication Record: *The personal medication record (PMR) is a comprehensive record of the patient's medications (prescription and nonprescription medications, herbal products, and other dietary supplements).*

Within the MTM core elements service model, the patient receives a comprehensive record of his or her medications (prescription and nonprescription medications, herbal products, and other dietary supplements) that has been completed either by the patient with the assistance of the pharmacist or by the pharmacist, or the patient's existing PMR is updated. Ideally, the patient's PMR would be generated electronically, but it also may be produced manually. Whether the pharmacist provides the PMR manually or electronically, the information should be written at a literacy level that is appropriate for and easily understood by the patient. In institutional settings, the PMR may be created at discharge from the medication administration record or patient chart for use by the patient in the outpatient setting. The PMR contains information to assist the patient in his or her overall medication therapy self-management. A sample PMR is included in Appendix C.

The PMR, which is intended for use by the patient, may include the following information:[30]

- Patient name
- Patient birth date
- Patient phone number
- Emergency contact information (Name, relationship, phone number)
- Primary care physician (Name and phone number)
- Pharmacy/pharmacist (Name and phone number)
- Allergies (e.g., What allergies do I have? What happened when I had the allergy or reaction?)
- Other medication-related problems (e.g., What medication caused the problem? What was the problem I had?)
- Potential questions for patients to ask about their medications (e.g., When you are prescribed a new drug, ask your doctor or pharmacist...)
- Date last updated
- Date last reviewed by the pharmacist, physician, or other healthcare professional
- Patient's signature
- Healthcare provider's signature
- For each medication, inclusion of the following:
  - » Medication (e.g., drug name and dose)
  - » Indication (e.g., Take for…)
  - » Instructions for use (e.g., When do I take it?)
  - » Start date
  - » Stop date
  - » Ordering prescriber/contact information (e.g., doctor)
  - » Special instructions

The PMR is intended for patients to use in medication self-management. The maintenance of the PMR is a collaborative effort among the patient, pharmacist, physician, and other healthcare professionals. Patients should be encouraged to maintain and update this perpetual document. Patients should be educated to carry the PMR with them at all times and share it at all healthcare visits and at all admissions to or discharges from institutional settings to help ensure that all healthcare professionals are aware of their current medication regimen.

Each time the patient receives a new medication; has a current medication discontinued; has an instruction change; begins using a new prescription or nonprescription medication, herbal product, or other dietary supplement; or has any other changes to the medication regimen, the patient should update the PMR to help ensure a current and accurate record. Ideally, the pharmacist, physician, and other healthcare professionals can actively assist the patient with the PMR revision process.

Pharmacists may use the PMR to communicate and collaborate with physicians and other healthcare professionals to achieve optimal patient outcomes. Widespread use of the PMR will support uniformity of information provided to all healthcare professionals and enhance the continuity of care provided to patients while facilitating flexibility to account for pharmacy- or institution-specific variations.

Medication-Related Action Plan:

The medication-related action plan (MAP) is a patient-centric document containing a list of actions for the patient to use in tracking progress for self-management.

A care plan is the health professional's course of action for helping a patient achieve specific health goals.[31] The care plan is an important component of the documentation core element outlined in this service model. In addition to the care plan, which is developed by the pharmacist and used in the collaborative care of the patient, the patient receives an individualized MAP for use in medication self-management. Completion of the MAP is a collaborative effort between the patient and the pharmacist. The patient MAP includes only items that the patient can act on that are within the pharmacist's scope of practice or that have been agreed to by relevant members of the healthcare team. The MAP should not include outstanding action items that still require physician or other healthcare professional review or approval. The patient can use the MAP as a simple guide to track his or her progress. The Institute of Medicine has advocated the need for a patient-centered model of healthcare.[7] The patient MAP, coupled with education, is an essential element for incorporating the patient-centered approach into the MTM service model. The MAP reinforces a sense of patient empowerment and encourages the patient's active participation in his or her medication-adherence behavior and overall MTM. A sample MAP is included in Appendix D.

The MAP, which is intended for use by the patient, may include the following information:

- Patient name
- Primary care physician (Doctor's name and phone number)
- Pharmacy/pharmacist (Pharmacy name/pharmacist name and phone number)
- Date of MAP creation (Date prepared)
- Action steps for the patient: "What I need to do..."
- Notes for the patient: "What I did and when I did it..."
- Appointment information for follow-up with pharmacist, if applicable

Specific items that require intervention and that have been approved by other members of the healthcare team and any new items within the pharmacist's scope of practice should be included on a MAP distributed to the patient on a follow-up visit. In institutional settings the MAP could be established at the time the patient is discharged for use by the patient in medication self-management.

Intervention and/or Referral: *The pharmacist provides consultative services and intervenes to address medication-related problems; when necessary, the pharmacist refers the patient to a physician or other healthcare professional.*

During the course of an MTM encounter, medication-related problems may be identified that require the pharmacist to intervene on the patient's behalf. Interventions may include collaborating with physicians or other healthcare professionals to resolve existing or potential medication-related problems or working with the patient directly. The communication of appropriate information to the physician or other healthcare professional, including consultation on the selection of medications, suggestions to address medication problems, and recommended follow-up care, is integral to the intervention component of the MTM service model.[29]

The positive impact of pharmacist interventions on outcomes related to medication-related problems has been demonstrated in numerous studies.[32–37] Appropriate resolution of medication-related problems involves collaboration and communication between the patient, the pharmacist, and the patient's physician or other healthcare professionals.

Some patients' medical conditions or medication therapy may be highly specialized or complex and the patient's needs may extend beyond the core elements of MTM service delivery. In such cases, pharmacists may provide additional services according to their expertise or refer the patient to a physician, another pharmacist, or other healthcare professional.

Examples of circumstances that may require referral include the following:

- A patient may exhibit potential problems discovered during the MTR that may necessitate referral for evaluation and diagnosis
- A patient may require disease management education to help him or her manage chronic diseases such as diabetes
- A patient may require monitoring for high-risk medications (e.g., warfarin, phenytoin, methotrexate)

The intent of intervention and/or referral is to optimize medication use, enhance continuity of care, and encourage patients to avail themselves of healthcare services to prevent future adverse outcomes.

Documentation and Follow-up: *MTM services are documented in a consistent manner, and a follow-up MTM visit is scheduled based on the patient's medication-related needs, or the patient is transitioned from one care setting to another.*

Documentation is an essential element of the MTM service model. The pharmacist documents services and intervention(s) performed in a manner appropriate for evaluating patient progress and sufficient for billing purposes.

Proper documentation of MTM services may serve several purposes including, but not limited, to the following:

- Facilitating communication between the pharmacist and the patient's other healthcare professionals regarding recommendations intended to resolve or monitor actual or potential medication-related problems
- Improving patient care and outcomes
- Enhancing the continuity of patient care among providers and care settings
- Ensuring compliance with laws and regulations for the maintenance of patient records
- Protecting against professional liability
- Capturing services provided for justification of billing or reimbursement (e.g., payer audits)
- Demonstrating the value of pharmacist-provided MTM services
- Demonstrating clinical, economic, and humanistic outcomes

MTM documentation includes creating and maintaining an ongoing patient-specific record that contains, in chronological order, a record of all provided care in an established standard healthcare professional format (e.g., the SOAP [subjective observations, objective observations, assessment, and plan] note[38]).

Ideally, documentation will be completed electronically or alternatively on paper. The inclusion of resources such as a PMR, a MAP, and other practice-specific forms will assist the pharmacist in maintaining consistent professional documentation. The use of consistent documentation will help facilitate collaboration among members of the healthcare team while accommodating practitioner, facility, organizational, or regional variations.

Documentation elements for the patient record may include, but are not limited to, the following:[22,29,38–40]

Documentation category	Examples
Patient demographics	Basic information: address, phone, e-mail, gender, age, ethnicity, education status, patient's special needs, health plan benefit/insurance coverage
Subjective observations	Pertinent patient-reported information: previous medical history, family history, social history, chief complaints, allergies, previous adverse drug reactions
Objective observations	Known allergies, diseases, conditions, laboratory results, vital signs, diagnostic signs, physical exam results, review of systems
Assessment	Problem list, assessment of medication-related problems
Plan	A care plan is the healthcare professional's course of action for helping a patient achieve specific health goals
Education	Goal setting and instruction provided to the patient with verification of understanding
Collaboration	Communication with other healthcare professionals: recommendations, referrals, and correspondence with other professionals (cover letter, SOAP note)
PMR	A record of all medications, including prescription and nonprescription medications, herbal products, and other dietary supplements
MAP	Patient-centric document containing a list of actions to use in tracking progress for self-management
Follow-up	Transition plan or scheduling of next follow-up visit
Billing	Amount of time spent on patient care, level of complexity, amount charged

External Communication of MTM Documentation

Following documentation of the MTM encounter, appropriate external communication should be provided or sent to key audiences, including patients, physicians, and payers. Providing the patient with applicable documentation that he or she can easily understand is vital to facilitating active involvement in the care process. Documentation provided to the patient at the MTM encounter may include the PMR, MAP, and additional education materials. Documentation to physicians and other healthcare professionals may include a cover letter, the patient's PMR, the SOAP note, and care plan. Communicating with payers and providing appropriate billing information may also be necessary and could include the name of the pharmacist or pharmacy and appropriate identifier, services provided, time spent on patient care, and appropriate billing codes.

Follow-up

When a patient's care setting changes (e.g., hospital admission, hospital to home, hospital to long-term care facility, home to long-term care facility), the pharmacist transitions the patient to another pharmacist in the patient's new care setting to facilitate continued MTM services. In these situations, the initial pharmacist providing MTM services participates cooperatively with the patient's new pharmacist provider to facilitate the coordinated transition of the patient, including the transfer of relevant medication and other health-related information.

If the patient will be remaining in the same care setting, the pharmacist should arrange for consistent follow-up MTM services in accordance with the patient's unique medication-related needs. All follow-up evaluations and interactions with the patient and his or her other healthcare professional(s) should be included in MTM documentation.

Conclusion

The MTM core elements, as presented in this document, are intended to be applicable to patients in all care settings where the patients or their caregivers can be actively involved with managing their medication therapy, taking full advantage of the pharmacist's role as the "medication therapy expert."A flow chart of the core elements of an MTM service model contained in this document can be found in Appendix E. As the core elements service model continues to evolve to meet diverse patient needs, pharmacists are encouraged to make the most of the framework provided to improve patient outcomes and medication use.

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Appendix A. Definition of Medication Therapy Management (MTM)❖

Medication Therapy Management is a distinct service or group of services that optimize therapeutic outcomes for individual patients. Medication Therapy Management services are independent of, but can occur in conjunction with, the provision of a medication product.

Medication Therapy Management encompasses a broad range of professional activities and responsibilities within the licensed pharmacist's, or other qualified healthcare provider's, scope of practice. These services include but are not limited to the following, according to the individual needs of the patient:

a. Performing or obtaining necessary assessments of the patient's health status
b. Formulating a medication treatment plan
c. Selecting, initiating, modifying, or administering medication therapy
d. Monitoring and evaluating the patient's response to therapy, including safety and effectiveness
e. Performing a comprehensive medication review to identify, resolve, and prevent medication-related problems, including adverse drug events
f. Documenting the care delivered and communicating essential information to the patient's other primary care providers
g. Providing verbal education and training designed to enhance patient understanding and appropriate use of his/her medications
h. Providing information, support services, and resources designed to enhance patient adherence with his/her therapeutic regimens
i. Coordinating and integrating medication therapy management services within the broader healthcare management services being provided to the patient

A program that provides coverage for Medication Therapy Management services shall include:

a. Patient-specific and individualized services or sets of services provided directly by a pharmacist to the patient.* These services are distinct from formulary development and use, generalized patient education and information activities, and other population-focused quality-assurance measures for medication use
b. Face-to-face interaction between the patient* and the pharmacist as the preferred method of delivery. When patient-specific barriers to face-to-face communication exist, patients shall have equal access to appropriate alternative delivery methods. Medication Therapy Management programs shall include structures supporting the establishment and maintenance of the patient*–pharmacist relationship
c. Opportunities for pharmacists and other qualified healthcare providers to identify patients who should receive medication therapy management services
d. Payment for medication therapy management services consistent with contemporary provider payment rates that are based on the time, clinical intensity, and resources required to provide services (e.g., Medicare Part A and/or Part B for CPT and RBRVS)
e. Processes to improve continuity of care, outcomes, and outcome measures

Approved July 27, 2004, by the Academy of Managed Care Pharmacy, the American Association of Colleges of Pharmacy, the American College of Apothecaries, the American College of Clinical Pharmacy, the American Society of Consultant Pharmacists, the American Pharmacists Association, the American Society of Health-System Pharmacists, the National Association of Boards of Pharmacy,** the National Association of Chain Drug Stores, the National Community Pharmacists Association, and the National Council of State Pharmacy Association Executives.

* *In some situations, medication therapy management services may be provided to the caregiver or other persons involved in the care of the patient.*

** *Organization policy does not allow NABP to take a position on payment issues.*

❖ *Bluml BM. Definition of medication therapy management: development of profession wide consensus. J Am Pharm Assoc. 2005;45:566–72.*

Appendix B. Considerations for Identification of Patients Who May Benefit From MTM Services

Any patients using prescription and nonprescription medications, herbal products, and other dietary supplements could potentially benefit from the medication therapy management (MTM) services described in the core elements outlined in this service model, especially if medication-related problems or issues are discovered or suspected. Patients may be evaluated for MTM services regardless of the number of medications they use, their specific disease state(s), or their health plan coverage.

Opportunities for the identification of patients targeted for MTM services may result from many sources including, but not limited to, pharmacist identification, physician referral, patient self-referral, and health plan or other payer referral. Pharmacists may wish to notify physicians or other healthcare professionals in their community or physicians within their facility, if applicable, of their MTM services, so that physicians may refer patients for MTM services.

To provide assistance in prioritizing who may benefit most from MTM services, pharmacists, health plans, physicians, other healthcare professionals, and health systems may consider using one or more of the following factors to target patients who are likely to benefit most from MTM services:

- Patient has experienced a transition of care, and his or her regimen has changed
- Patient is receiving care from more than one prescriber
- Patient is taking five or more chronic medications (including prescription and nonprescription medications, herbal products, and other dietary supplements)
- Patient has at least one chronic disease or chronic health condition (e.g., heart failure, diabetes, hypertension, hyperlipidemia, asthma, osteoporosis, depression, osteoarthritis, chronic obstructive pulmonary disease)
- Patient has laboratory values outside the normal range that could be caused by or may be improved with medication therapy
- Patient has demonstrated nonadherence (including underuse and overuse) to a medication regimen
- Patient has limited health literacy or cultural differences, requiring special communication strategies to optimize care
- Patient wants or needs to reduce out-of-pocket medication costs
- Patient has experienced a loss or significant change in health plan benefit or insurance coverage
- Patient has recently experienced an adverse event (medication or non-medication-related) while receiving care
- Patient is taking high-risk medication(s), including narrow therapeutic index drugs (e.g., warfarin, phenytoin, methotrexate)
- Patient self-identifies and presents with perceived need for MTM services

Appendix C. Sample Personal Medication Record

Patients, professionals, payers, and health information technology system vendors are encouraged to develop a format that meets individual needs, collecting elements such as those in the sample personal medication record (PMR).

(Note: Sample PMR is two pages or one page front and back)

MY MEDICATION RECORD

side 1

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		1/15/08		Johnson (000-0000)	Take with food

This sample Personal Medical Record (PMR) is provided only for general informational purposes and does not constitute professional health care advice or treatment. The patient (or other user) should not, under any circumstances, solely rely on, or act on the basis of, the PMR or the information therein. If he or she does so, then he or she does so at his or her own risk. While intended to serve as a communication aid between patient (or other user) and health care provider, the PMR is not a substitute for obtaining professional healthcare advice or treatment. This PMR may not be appropriate for all patients (or other users). The National Association of Chain Drug Stores Foundation and the American Pharmacists Association assume no responsibility for the accuracy, currentness, or completeness of any information provided or recorded herein.

MY MEDICATION RECORD

side 2

Name: _____ **Birth date:** _____ **Phone:**_____

Always carry your medication record with you and show it to all your doctors, pharmacists and other healthcare providers.

Emergency Contact Information	
Name	
Relationship	
Phone Number	
Primary Care Physician	
Name	
Phone Number	
Pharmacy/Pharmacist	
Name	
Phone Number	
Allergies	
What allergies do I have? (Medicines, food, other)	What happened when I had the allergy or reaction?
Other Medicine Problems	
Name of medicine that caused problem	What was the problem I had with the medicine?
When you are prescribed a new drug, ask your doctor or pharmacist:	
• What am I taking?	
• What is it for?	
• When do I take it?	
• Are there any side effects?	
• Are there any special instructions?	
• What if I miss a dose?	
Notes:	
Patient's Signature	**Healthcare Provider's Signature**
	Date last updated
	Date last reviewed by healthcare provider

Appendix D. Sample Medication-Related Action Plan (for the Patient)

Patients, healthcare professionals, payers, and health information technology system vendors are encouraged to develop a format that meets individual and customer needs, collecting elements such as those included on the sample medication-related action plan (MAP) below.

MY MEDICATION-RELATED ACTION PLAN

Patient:	
Doctor (Phone):	
Pharmacy/Pharmacist (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.

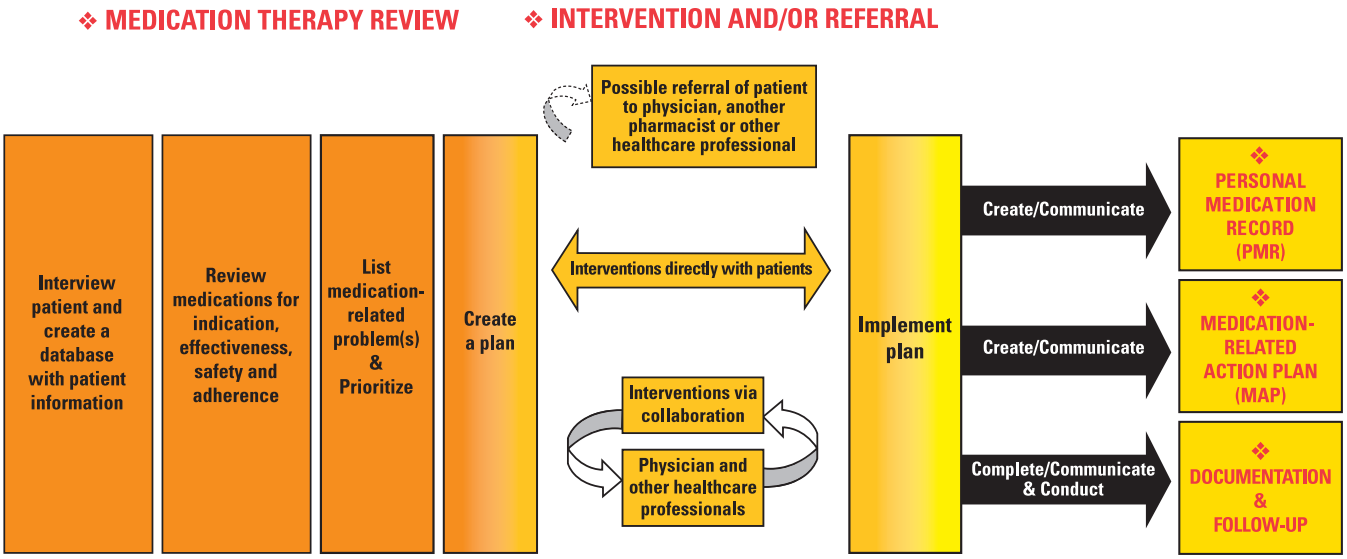
Action Steps ➡ What I need to do…	Notes ➡ What I did and when I did it…
☐	
☐	
☐	
☐	

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

Appendix E. Flow Chart of a Medication Therapy Management Service Model

The Medication Therapy Management Core Elements Service Model

The diagram below depicts how the MTM Core Elements (❖) interface with the patient care process to create an MTM Service Model.



Addendum

Medication Therapy Management in Pharmacy Practice: Core Elements of an MTM Service Model Version 2.0 was developed with the input of an advisory panel of pharmacy leaders representing diverse pharmacy practice settings. The pharmacy practice setting areas represented by members of the advisory panel included ambulatory care, community, government technical support services, hospital, long-term care, managed care health systems, managed care organization plan administration, and outpatient clinics.

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Medication Therapy Management in Pharmacy Practice: Core Elements of an MTM Service Model Version 2.0 advisory panel members provided expert advice. The content of this document does not necessarily represent all of their opinions or those of their affiliated organizations.

NOTES

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Medication Therapy Management in Pharmacy Practice

Core Elements of an MTM Service Model

Version 2.0

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