

Clinical Pharmacy Practice Model	Description of Model	Key Elements	Steps
Pharmaceutical care'	<p>The pharmaceutical care model is now defined as a patient-centered way to deliver medication management services. The model stresses a pharmacist's responsibility for a patient's drug-related needs and being held accountable for the commitment. The purpose is to achieve positive patient outcomes. The pharmacist ensures that all of a patient's drug therapy is indicated, effective, and safe and that the patient is able and willing to adhere to instructions. It is a generalist practice, consistent with the concepts of primary care and the medical home.</p>	<p>The pharmaceutical care model has three key components:</p> <ol style="list-style-type: none"> 1) Identify a patient's actual and potential drug therapy problems (DTPs). 2) Resolve actual DTPs. 3) Prevent potential DTPs from becoming actual DTPs. <p>The pharmaceutical care process has three key steps:</p> <ol style="list-style-type: none"> 1) ASSESS 2) CARE PLAN 3) EVALUATION <p><u>In the standards of care for pharmaceutical care, the practitioner:</u></p> <ol style="list-style-type: none"> 1) Collects patient-specific information to use in decision-making regarding all drug therapies 2) Analyzes assessment data to determine that drug-related needs are being met; that all medications are indicated, effective, and safe; and that the patient is able and willing to take the medication as intended. 3) Analyzes assessment data to determine whether any DTPs are present 4) Identifies goals of therapy that are patient-centered 5) Develops a care plan including interventions to resolve DTPs, achieve goals of therapy, and prevent DTPs 6) Develops a schedule to follow up and evaluate the effectiveness of drug therapies and any adverse events experienced by the patient 7) Evaluates the patient's outcomes and determines progress toward achieving goals of therapy, identifies safety and adherence issues, and assesses whether new DTPs have developed 	<p>1) <u>ASSESSMENT of patient's drug-related needs</u></p> <p>Includes a pharmacotherapy workup and a full review of systems to identify DTPs. All DTPs are categorized and must fall under one of four categories, composed of seven types of DTPs:</p> <ol style="list-style-type: none"> a. <u>Indication</u> <ol style="list-style-type: none"> i. Unnecessary drug therapy ii. Needs additional drug therapy b. <u>Effectiveness</u> <ol style="list-style-type: none"> i. Ineffective drug ii. Dosage too low c. <u>Safety</u> <ol style="list-style-type: none"> i. Adverse drug reaction ii. Dosage too high d. <u>Adherence</u> <ol style="list-style-type: none"> i. Patient not able or willing to take medication <p>2) <u>CARE PLAN development to meet patient's needs</u></p> <p>Four categories of interventions are selected to establish goals of therapy:</p> <ol style="list-style-type: none"> a. Resolve DTPs. b. Achieve goals of therapy. c. Prevent future DTPs. d. Schedule follow-up. <p>Types of interventions that can occur:</p> <ol style="list-style-type: none"> a. Initiate new drug therapy. b. Change dosage regimen. c. Change the drug product. d. Discontinue drug therapy. e. Institute a monitoring plan. f. Patient-specific instructions g. Removal of barriers to obtain medication h. Drug administration device provided i. Refer patient. <p>3) <u>Follow-up EVALUATION</u></p> <p>Each condition is categorized into eight predetermined outcomes:</p> <ol style="list-style-type: none"> a. Resolved b. Stable c. Improved d. Partly improved e. Unimproved f. Worsened g. Failure h. Expired (patient died)

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Medication therapy management (MTM)²	MTM is defined as a distinct service or group of services that optimize therapeutic outcomes for individual patients. In this model, the patient is empowered to take an active role in managing his or her medications.	All MTM services should include: <ol style="list-style-type: none"> (1) Establishing a pharmacist-patient relationship in which the pharmacist provides individualized services specific to the patient (or caregiver) to whom services are provided (2) The interaction between the patient (or caregiver) and pharmacist preferably occurs through face-to-face communication. (3) Opportunities for pharmacists and other qualified health care providers to identify patients who should receive MTM services (4) Payment for MTM services consistent with contemporary provider payment rates (5) Processes to improve continuity of care, outcomes, and outcome measures 	The MTM service model has five core elements: <ol style="list-style-type: none"> 1) <u>Medication therapy review (MTR)</u> A systematic process of collecting patient-specific information <ol style="list-style-type: none"> a. Assessing medications to identify medication-related problems (MRPs) by reviewing indication, effectiveness, safety, and adherence b. Developing a prioritized list of MRPs c. Creating a plan to resolve MRPs <u>Two main types of MTR:</u> <ol style="list-style-type: none"> a. Comprehensive: annual and after transitions of care b. Targeted: addresses specific MRP 2) <u>Personal medication record (PMR)</u> <ol style="list-style-type: none"> a. A comprehensive record of all medications (prescription, over-the-counter, herbal, and other dietary supplements), which is intended for patients to use in medication self-management b. Can be created as part of discharge process in the institutional setting or as part of patient care in the ambulatory care setting c. Patients are responsible for documenting any changes to their therapeutic regimens to ensure a current and accurate record. 3) <u>Medication-related action plan (MAP)</u> <ol style="list-style-type: none"> a. Intended for patient use; contains a list of actions for self-management The pharmacist-created MAP includes items the patient can act on that are within the pharmacist's scope of practice or agreed on by other members of the health care team. 4) <u>Intervention and/or referral</u> Recommendations on selection of medications; options to address MRPs, recommended monitoring parameters, and follow-up care 5) <u>Documentation and follow-up</u> <ol style="list-style-type: none"> a. MTM services should be documented in a consistent manner, and follow-up MTM visits are scheduled on the basis of the individual patient's medication-related needs. b. Documentation for patients may include the PMR, MAP, and educational materials. c. Documentation to physicians may include a cover letter, the patient's PMR, the SOAP note, and the care plan.

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<p>Patient-centered primary care collaborative (PCPCC) MTM in the patient-centered medical home (PCMH)³</p>	<p>The goal of the PCPCC is to improve the quality of care and eventually the health of all patients, specifically through the PCMH model. It is believed that maximizing the appropriate use of medications through comprehensive medication management is critical for the PCMH to succeed.</p> <p>Face-to-face contact is not required in this model; telephone or a virtual clinic structure is acceptable.</p>	<p>The PCMH model emphasizes a team approach to patient care and emphasizes that medication management must be comprehensive and encompass all of a patient's medications and that pharmacists and other medication management practitioners should be coordinated with other team members in the PCMH.</p>	<p>The medication management model in the PCMH is made up of four steps.</p> <ol style="list-style-type: none"> 1) <u>Assessment of the patient's medication-related needs</u> <ol style="list-style-type: none"> a. Assessment of all medications b. Uncovering the patient's medication experience c. Electronic linking of medication to indication and goals of therapy 2) <u>Identification and categorization of the patient's medication-related problems (MRPs), based on the following four categories:</u> <ol style="list-style-type: none"> a. Appropriateness <ol style="list-style-type: none"> i. Is the medication appropriate? ii. Is there a condition that is not being treated or prevented in which a medication should be indicated? b. Effectiveness <ol style="list-style-type: none"> i. Is the most effective medication being used? ii. Is the dose appropriate to achieve the goals? c. Safety <ol style="list-style-type: none"> i. Does the patient have any adverse events? ii. Is the dose so high it could cause toxicity? d. Adherence <ol style="list-style-type: none"> i. Is the patient able and willing to take the medication as intended? 3) <u>Development of a care plan</u> <ol style="list-style-type: none"> a. Intervention to solve the MRPs b. Establish goals for each condition. c. Design personalized plans to optimize each patient's medication experience. d. Establish measurable outcome parameters. e. Determine follow-up time frames. 4) <u>Follow-up evaluation to determine actual patient outcomes</u> <ol style="list-style-type: none"> a. If goals are not met, a reassessment is done to determine whether any MRPs are interfering.

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<p>SHPA (Society of Hospital Pharmacists of Australia)⁴</p>	<p>The SHPA developed Standards of Practice for clinical pharmacy with the objective to "optimize patient outcomes by working to achieve the quality use of medicines (QUM)." Clinical pharmacy practice is defined as "the practice of pharmacy as part of a multidisciplinary health care team directed at achieving QUM."</p> <p>The document includes not only a model of practice, but also the other types of activities clinical pharmacists may be engaged in, including rounding, providing drug information to health professionals and patients, reporting and managing adverse drug reactions, and participating in research.</p>	<p>The standards define the procedures for clinical pharmacy services for individual patients in great detail. In these standards, the two overlapping components are (1) a MAP and (2) the discrete clinical activities that contribute to the plan.</p> <p>The MAP focuses on overall patient outcomes, and it states that to carry out the plan, a pharmacist will perform several specific clinical activities. The MAP contains six fundamental components:</p> <ol style="list-style-type: none"> a. Interpretation of patient-specific data b. Identification of clinical problems (focus on problems that require their expertise) c. Establishment of therapeutic goals d. Evaluation of therapeutic options e. Individualization of therapy f. Monitoring of patient outcomes 	<p><u>10 specific clinical activities that contribute to the components of a MAP:</u></p> <ol style="list-style-type: none"> 1) Accurate medication history 2) Assessment of current medication management 3) Clinical review 4) Decision to prescribe a medicine 5) Therapeutic drug monitoring 6) Participation in multidisciplinary ward rounds and meetings 7) Provision of medicine information to health professionals 8) Provision of medicine information to patients 9) Information for ongoing care 10) Adverse drug reaction management <p>For each of the above clinical activities, an appendix is provided. Each activity description then has an introduction section, goals for the activity, procedures for the activity (extensive), and a role for a pharmacy technician with the activity (if applicable).</p> <p>The standards also provide guidance on documenting clinical activities and the MAP.</p>

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<p>iMAP program (individualized medication assessment and planning) (Mary Roth, personal communication, May 2012)</p>	<p>The iMAP program is a patient-centered, comprehensive MTM program. The program consists of 10 essential steps in the provision of patient care. Although it is being studied in those 65 years and older, it is applicable to other age groups, especially patients with multiple comorbidities and using multiple medications.</p> <p>A full description of this model is not available at this time.</p>	<p>The iMAP program is outlined in 10 essential steps. Care along each step is individualized to meet the needs of the patient. Several steps of the process are further described, including conducting a comprehensive medication review, identifying MRPs, and documenting encounters.</p> <p>For example, when assessing and documenting MRPs, the clinical pharmacist is guided by the iMAP tool (REF #5). This tool categorizes MRPs into seven general categories. Several subcategories under each large category are provided to further classify the MRP. The general categories are:</p> <ol style="list-style-type: none"> 1. Drug therapy needed 2. Suboptimal dosing 3. Medication monitoring needed 4. Suboptimal drug 5. Adverse drug event present 6. Suboptimal duration, administration, or frequency 7. Nonadherence <p>Once an MRP is identified and documented, a recommendation or intervention is proposed to the primary care provider, consensus is reached, and the plan is implemented to optimize medication use. To track interventions made by the clinical pharmacist, a list of 20 possible recommendations is included as part of the iMAP tool to document the intervention used to resolve the MRP (e.g., add a drug, discontinue a drug, decrease a dose, increase a dose, switch to a more effective agent).</p>	<p><u>The 10 steps in this MTM model:</u></p> <ol style="list-style-type: none"> 1) Review and synthesize information from medical record. 2) Conduct comprehensive medication review with patient. 3) Identify MRPs. 4) Formulate assessment/propose plan to optimize medication use. 5) Communicate proposed plan to primary care provider. 6) Implement plan once consensus is reached. 7) Educate patient. 8) Document plan in medical record and provide written summary to patient. 9) Reconcile medications at all encounters, when possible, including transitions of care. 10) Provide ongoing face-to-face and telephone follow-up.