



# Development and Implementation of Curricula Strategies in Medication Therapy Management by Colleges and Schools of Pharmacy

Summary Report of Submissions

December 2011

**BASED ON A JOINT CALL FOR SUBMISSIONS OF SUCCESSFUL PRACTICES BY THE AMERICAN  
PHARMACISTS ASSOCIATION AND THE AMERICAN ASSOCIATION OF COLLEGES OF PHARMACY**



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## Summary Report of Submissions

### Executive Summary

This report summarizes the submissions from 18 colleges and schools of pharmacy on successful practices to incorporate medication therapy management (MTM) into the curriculum; these responses resulted from a call for successful practices issued jointly by the American Pharmacists Association and the American Association of Colleges of Pharmacy. Each entry is listed with the name of the college or school of pharmacy, a summary of its successful practice, barriers to implementation, and key concepts. The complete submissions can be accessed online at [www.pharmacist.com/MTM/Curricula](http://www.pharmacist.com/MTM/Curricula).

The findings of this report suggest that student pharmacists will gain an overall greater appreciation and understanding of MTM if it is introduced early in the curriculum. Additionally, active learning strategies in conjunction with the didactic curriculum are beneficial to providing experiences that simulate MTM sessions.

Many different levels of MTM are practiced across a multitude of settings, making it difficult to standardize an introductory pharmacy practice experience (IPPE) or an advanced pharmacy practice experience (APPE) rotation for all student pharmacists. Some successful practices to circumvent this issue include offering training programs to preceptors at a discounted rate and integrating IPPEs with the didactic coursework by allowing student pharmacists to learn actively immediately after introducing

new concepts to them.

Many successful models employed standardized patients to help student pharmacists practice providing comprehensive medication reviews and simulate patient interviews. Fourth-professional-year student pharmacists, volunteer alumni, preceptors, and residents can play the role of a patient to simulate patient care experiences. MTM services can

also be performed at nursing homes and senior centers, providing an additional venue and community service opportunity. Furthermore, a number of colleges and schools of pharmacy administer objective structured clinical examinations at various points of the curriculum. This practice enables faculty members to measure a student's competency before experiential rotations, identifying those who may require remedial coursework. Student pharmacists also will develop an understanding of the high-level services they are expected to provide on rotations and as practitioners.

Another successful practice was to introduce student pharmacists to documentation and billing platforms during their didactic curriculum. Many

### Key Information Concepts From Submissions

1. Medication therapy management (MTM) is a concept that should be introduced and defined early in the curriculum, although student pharmacists may not have the drug knowledge to truly apply it.
2. The concept must be developed gradually and applied throughout the curriculum, beginning with observation and transitioning to a more active role.
3. Introductory pharmacy practice experience MTM encounters should be aligned with didactic coursework to ensure that an opportunity for application of MTM services exists for all student pharmacists. Simulated patient encounters also are encouraged.
4. The business aspects of MTM should be covered in detail, providing student pharmacists with the introductory knowledge and know-how to incorporate and deliver MTM services in a practice.
5. Certificate programs can be used to develop coursework and incentivize participation in MTM.
6. Changes in the curriculum to incorporate MTM should be implemented over time and with student, faculty, and preceptor input, because this is an effective way for student pharmacists to be equipped as providers of MTM services.

student pharmacists are unable to see the practicality behind providing MTM services, since they do not see them being offered regularly. Additionally, although student pharmacists often have the knowledge to provide these services, they are usually not prepared to document and bill for them. Teaching student pharmacists how to enter and submit mock MTM claims allows for a greater understanding of the importance of MTM services.

The responses to this call for submissions have revealed insightful key information concepts that will be useful in the development of recommendations for consideration about the placement of MTM in the curriculum. Early introduction and continuous reinforcement of MTM to student pharmacists helps them recognize its importance to the future of pharmacy. Schools and colleges of pharmacy must develop good relationships with their preceptors to offer their student pharmacists high-quality training. Student pharmacists must become familiar with the patient care process, documentation, billing, and other practical aspects of MTM. Existing certificate programs can help develop the curriculum to meet these needs.

## Introduction

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This report summarizes the submissions from a call for successful practices issued jointly by the American Pharmacists Association and the American Association of Colleges of Pharmacy. The purpose of this report is to provide key information concepts to assist in the development of recommendations for curricula strategies to introduce medication therapy management (MTM) in colleges and schools of pharmacy. A total of 18 submissions from different institutions are included in this report. The complete submissions can be accessed online at [www.pharmacist.com/MTM/Curricula](http://www.pharmacist.com/MTM/Curricula).

Participating colleges and schools of pharmacy were asked to include a general description of how MTM is incorporated into the curriculum, a description of the successful practice, outcomes of the practice, barriers to implementation, and advice or lessons learned from introducing the practice. Each submission has been edited to provide a summary, identified barriers, and key concepts. Overall key information concepts are summarized at the end of this document.



## Successful Practice Submission Summaries, Barriers, and Key Concepts

### Drake University College of Pharmacy and Health Sciences

#### SUMMARY

- Second-professional-year student pharmacists are first introduced to MTM with an introductory lecture and a lab and are required to complete an on-line tutorial on the Outcomes Pharmaceutical Health Care billing platform before practicing to bill claims on a modified academic platform in lab.
- Faculty experience in MTM is important (i.e., residency training, service delivery).
- Third-professional-year student pharmacists work in groups with a guided documentation form to evaluate a patient case and complete a comprehensive medication review, submit mock MTM claims, and provide a mock consultation.
- IPPEs are designed to include MTM activities that teach student pharmacists how to identify potential patients and use Outcomes Pharmaceutical Health Care software.

#### BARRIERS

- Space, resources, and the number of IPPE sites are constrained.
- The best time to introduce MTM in the curriculum can be a challenge.
- Understanding the importance of MTM took most student pharmacists until their third professional year.

#### KEY CONCEPTS

- Collaboration among students, faculty, preceptors, and MTM vendors is imperative to make this possible.
- Student pharmacists must understand that they are integral to MTM service implementation.
- The preceptor must be educated on the roles and limitations of IPPE/APPE student pharmacists in MTM service implementation.

### Lipscomb University, Tennessee College of Pharmacy

#### SUMMARY

- Third-professional-year student pharmacists are required to take a semester long course in which they learn about MTM and learn to use multiple MTM documentation platforms.
- Student pharmacists take turns counseling a mock patient played by the professor and documenting their encounters with the Mirixa and Outcomes Pharmaceutical Health Care systems.
- Each student pharmacist follows a patient (usually a relative) for the length of the course and completes activities and assignments related to providing MTM services.

#### BARRIERS

- Setting up the Mirixa and Outcomes Pharmaceutical Health Care platforms each year with a new group of students can be time consuming for faculty.
- Student pharmacists may not be familiar with all diseases and guidelines at this point in their coursework.

#### KEY CONCEPTS

- Student pharmacists become familiar with MTM platforms, including Mirixa, and Outcomes Pharmaceutical Health Care, while evaluating mock patients.
- At the end of the course, student pharmacists better understood the value of MTM services after discussing their challenges and successes with the patient they followed.
- The course must be sequenced appropriately in the curriculum.

### Massachusetts College of Pharmacy and Health Sciences

#### SUMMARY

- Walgreens Pharmacy operates several pharmacist-run clinics that are offered as a community rotation site for fourth-professional-year student pharmacists.
- Student pharmacists are assigned

four patient profiles per week and must prepare written and referenced documents that evaluate each patient's drug therapy.

- The profiles are graded by the preceptor and used by either the student pharmacist or the preceptor while conducting the comprehensive medication review.

#### BARRIERS

- Student pharmacists may not understand the importance of providing MTM services.
- Pharmacists may not be accustomed to direct patient care.
- Discussions between the preceptor and student pharmacist will slow the workflow.

#### KEY CONCEPTS

- Student pharmacists should receive MTM training in the curriculum so they develop an appreciation for and understanding of its importance.
- Preceptors should be adequately trained to perform MTM services so that student pharmacists see pharmacists as health care providers instead of primarily as dispensers.
- The program should be instituted in a location where patients are familiar with their pharmacist, because they are more likely to participate.

### Mercer University College of Pharmacy and Health Sciences, Atlanta

#### SUMMARY

- After completing a virtual MTM activity, first- and second-professional-year student pharmacists are guided through progressive MTM encounters by their preceptors while on their IPPEs.
- Second- and third-professional-year student pharmacists participate in faculty-led MTM encounters with patients. Each MTM encounter consists of two visits: the first visit is the patient interview, and the second is the comprehensive medication review; both make use of electronic MTM data

collection.

- An elective modeled after APhA's certificate training program on *Delivering Medication Therapy Management Services in the Community* is also offered; student pharmacists are eligible after graduation for the certificate by completing additional MTM encounters during APPEs.

#### **BARRIERS**

- MTM tends to focus on complex patients, but student pharmacists must be provided with patients who are appropriate to their level of knowledge.
- Adequate supervision for student pharmacists relies heavily on faculty; many faculty members are required in order to maintain the quality of the experience in light of faculty workload.
- Availability of patients, space, and personnel may be a challenge.
- Managing full scope of MTM activities across the curriculum is a challenge.

#### **KEY CONCEPTS**

- Student pharmacists learn how to evaluate patients and provide MTM services early in the curriculum.
- Electronic data collection allows student pharmacists to participate in documentation of encounters.
- Building and maintaining relations with a cadre of practice sites is important.
- The elective prepares student pharmacists to earn a certificate in MTM immediately upon graduation.
- Lack of consistent use of MTM terminology can cause confusion.

### **North Dakota State University College of Pharmacy, Nursing, and Allied Sciences**

#### **SUMMARY**

- Third-professional-year student pharmacists spend a 3-week block of the curriculum in a pharmaceutical care lab, where they learn the fundamentals of MTM, including the MTM Core

Elements, and how it differs from other provisions of pharmacy services such as disease state management.

- Student pharmacists are exposed to documentation software and billing strategies.
- Student pharmacists participate in simulated MTM encounters with their peers. Students then work in pairs to provide MTM services to university faculty or staff volunteers where point-of-care testing, a comprehensive medication review, and a medication action plan are provided to each patient. Student pharmacist recommendations are documented and submitted to the volunteer's primary care provider for consideration.
- Student pharmacists are evaluated on interview technique; verbal and nonverbal communications; ability to evaluate medical history, identify medication-related problems, develop a prioritized problem list, and create a medication-related action plan; ability to interpret labs and test results; and documentation of patient care activities.

#### **BARRIERS**

- Using a static pool of campus volunteers makes it challenging to recruit participants.
- Adherence to HIPAA in e-mail and campus mail communications must be ensured.

#### **KEY CONCEPTS**

- Student pharmacists are able to define MTM and identify differences and similarities of other similar pharmacist-provided cognitive services.
- Student pharmacists gain exposure to documentation and billing strategies.
- Point-of-care services are included as a part of the MTM services student pharmacists learn to provide.

### **The Ohio State University College of Pharmacy**

#### **SUMMARY**

- First-professional-year student pharmacists are introduced to MTM,

role playing patient and physician interviews to practice gathering background information in the drug information course.

- Second-professional-year student pharmacists receive lectures on patient interviewing, physical assessment, lab tests, and drug-related problems and then use these skills to complete comprehensive medication reviews with a standardized patient in clinical skills lab, documenting a personal medication record and medication action plan. Student pharmacists are required to take two objective structured clinical examinations (OSCEs) to test these skills.
- Third-professional-year student pharmacists learn about compensation, billing, and business elements of an MTM service while still taking two OSCEs and receiving the didactic portion of APhA's *Delivering Medication Therapy Management Services in the Community* certificate program.
- As a part of the IPPE and APPE requirement, student pharmacists are trained on both Mirixa and Outcomes Pharmaceutical Health Care MTM platforms and are required to use both documentation systems on rotations.
- Fourth-professional-year student pharmacists are offered an additional elective in the Partner for Promotion program, a 10-month longitudinal program pairing student pharmacists with community pharmacy sites to receive mentoring for developing advanced patient care services.
- Fourth-professional-year student pharmacists also have opportunities to complete cases in order to receive the MTM certificate upon graduation.

#### **BARRIERS**

- Strategies for teaching MTM to student pharmacists can be inconsistent.
- Costs and resources for standardized patients are a burden.
- Training of preceptors differs with regard to MTM.
- Variability of access to patients at experiential sites can be a problem.

#### KEY CONCEPTS

- Creation of a task force of faculty, student pharmacist, and practitioners helped in coordinating the curriculum to consistently include and develop the concept of MTM services.
- Outreach to the alumni network and other resources helped in identifying standardized patients and alleviating resource issues.
- The MTM certificate program was offered at a discount to preceptors to streamline rotation experiences.
- Preparing student pharmacists to receive the MTM certificate at graduation provides additional incentive.

### South Carolina College of Pharmacy

#### SUMMARY

- Third-professional-year student pharmacists have the option of taking two elective courses that apply basic principles of small business administration to MTM service development.
- Student pharmacists learn about business plan development, the logistics of offering MTM services, conducting and documenting sessions, and identifying MTM opportunities, culminating in a business plan write-up and presentation.
- Student pharmacists learn how to defend the need for pharmacist-provided MTM services by evaluating published literature on the topic and through an MTM provider panel discussion.

#### BARRIERS

- Multiple campuses require distance education.
- Not all student pharmacists will be able to take these electives.

#### KEY CONCEPTS

- A faculty member with an MBA and experience in developing business plans for pharmacy services is included in developing the course.
- Area providers in the state are contacted early to participate in the panel.

- Offering the course with a faculty member always present makes the course interactive.
- Use of distance education technology allows the course to be offered at both campuses.

### Southern Illinois University, Edwardsville

#### SUMMARY

- Third-professional-year student pharmacists are required to take two 1-week courses on MTM in a 3-week span, during which they have no other curricular obligations.
- During week 1, student pharmacists focus on the MTM Core Elements Service Model and choose a patient for MTM on their own, conduct an interview, and create and submit a written action plan after discussing the patient in a small group.
- During the second week, which is case-based, student pharmacists focus on the business aspects of MTM services, learning about the implementation of a clinical and business plan, workflow in the pharmacy, and identification of opportunities for and barriers to MTM services in different settings.
- Student pharmacists evaluate the medication profile of a mock patient, interviewing the person and composing recommendations for the patient's therapy in the form of a letter to the physician.

#### BARRIERS

- Student pharmacists often see MTM as limited to the community setting and not relevant to other career paths.
- Because student pharmacists have no other curricular obligations, the course is sometimes seen as taking away from vacation time.

#### KEY CONCEPTS

- Student pharmacists gain an understanding of MTM services in locations other than the community pharmacy.
- Student pharmacists may be more

receptive if coursework were offered concurrently with other classes instead of during perceived vacation time.

### Texas Southern University College of Pharmacy

#### SUMMARY

- Students are introduced to the basic theory of MTM in the first professional year and are required to SOAP increasingly complex cases involving MTM throughout the remainder of the professional years.
- Third-professional-year student pharmacists are required to take a pharmacy management course in which they are provided an overview of MTM and then they work in teams to design and present a business plan for providing an MTM service at an existing community pharmacy.
- Covered topics in the course include billing, reimbursement, and financial aspects.
- Student pharmacists are graded based on presentation, written business plan, and peer evaluation.

#### BARRIERS

- Presentations can take away from needed lecture time.
- Presentations and evaluations of business plans are time consuming.

#### KEY CONCEPTS

- Student pharmacists apply the management theory they have learned in the coursework almost immediately, allowing for greater understanding.
- Page limits for business plans and time limits for presentations are necessary.

### University of Florida College of Pharmacy MTM Call Center

#### SUMMARY

- Third-professional-year student pharmacists are exposed to MTM principles and engage in a 3-hour

interactive pharmacotherapy patient-centered MTM case presentation.

- Third- and fourth-professional-year student pharmacists complete a 2-month APPE rotation at the MTM call center providing services over the phone.
- Student pharmacists undergo 1 week of training through simulation of appointment calls, comprehensive medication reviews, and crisis management.
- Following training, student pharmacists perform three comprehensive medication reviews daily, generating medication action plans and prescriber facsimiles; calls are listened to in real time and software is used to monitor students' computer screens, allowing for autonomy while providing oversight of student pharmacists.

#### **BARRIERS**

- At times, the number of phone calls is unpredictable.
- The project requires a number of resources, including information technology services and a supportive insurance partner.

#### **KEY CONCEPTS**

- Student pharmacists have helped this site meet its contractual obligations and serve an increasing patient population.
- The business agreement is a contract for services, indicating that the site does not have to bill additional third parties or individual patients.
- Student expectations must be high to encourage their involvement.

### **University of Iowa College of Pharmacy**

#### **SUMMARY**

- MTM is incorporated into a multitude of courses throughout the curriculum.
- Third-professional-year student pharmacists conduct an MTM follow-up OSCE visit at a simulated community pharmacy with actors who are trained to play standardized patients. Students review a chart for

15 minutes before the visit and then are given 10 minutes to conduct the targeted review.

- Student pharmacists complete a chart review, interview the patient, identify medication-related problems, and compose a written SOAP note within 50 minutes.
- Feedback is provided for each student pharmacist on his or her SOAP notes and communication skills; small group discussions are led by faculty members to highlight major therapeutic issues.

#### **BARRIERS**

- Physical space and personnel are limited.
- Actors to play standardized patients require financial resources.

#### **KEY CONCEPTS**

- Student pharmacists practice in a simulated environment, allowing them to demonstrate a variety of skills used in the MTM process.
- The school is able to identify student pharmacists who need additional monitoring during APPEs.
- Visits must be sequenced appropriately in the curriculum.
- Important to collaborate with the IPPE Coordinator.

### **University of Minnesota College of Pharmacy**

#### **SUMMARY**

- First-professional-year student pharmacists are prepared to provide complete and comprehensive MTM services through structured active interviews with patients.
- Student pharmacists conduct a drug therapy assessment, document the encounter, and present the case in class in their first semester, learning to complete a written care plan by the end of the course.
- Second-professional-year student pharmacists practice and gain feedback on communication, patient assessment, and drug information

skills through use of standardized patients, learning technologies, and other evaluations in a pharmaceutical care skills lab for four semesters.

- OSCEs measure student proficiency.
- From the first professional semester, student pharmacists spend 10 hours during the semester working with interprofessional students across medicine, nursing, and other allied health professions to solve problems and work up standardized patients.
- Another 10 hours per semester are spent with assigned pharmacist mentors, observing MTM.

#### **BARRIERS**

- Awareness of new professional roles and responsibilities must be raised among faculty.
- Time and resources are needed to collect data to show the value of these initiatives.

#### **KEY CONCEPTS**

- Student pharmacists are prepared for new roles and responsibilities from day 1 until commencement.
- The patient care process is taught through repetition, practice, and reflection.
- Interprofessional relationships and collaborative practice are encouraged early in the curriculum.
- The pharmaceutical care courses must align well with other didactic coursework.

### **University of Montana Skaggs School of Pharmacy**

#### **SUMMARY**

- Third-professional-year student pharmacists are introduced to MTM through two lecture courses, one practice lab, and one elective course prior to rotations.
- The coursework covers patient identification, application of MTM Core Elements, structured active interviews, documentation, communication with providers, follow-up, and reimbursement strategies.



- The lab component allows student pharmacists to participate in a mock ambulatory care practice with real patients in the community (in 2010 Missoula Aging Services), providing comprehensive medication reviews, identifying drug-related problems, making appropriate recommendations in the SOAP note format, and developing appropriate documentation for provider and patient communication.
- Fourth-professional-year student pharmacists must identify two patients and perform the Core Elements of an MTM encounter on each community APPE.
- The MTM APPE elective is interdisciplinary and gains referrals from a nearby wellness center, offering medication therapy reviews by student pharmacists at each intake appointment.

#### **BARRIERS**

- Student pharmacists lack knowledge about the process of providing MTM and the areas of practice where MTM can be incorporated.
- Resources are lacking, including time and a designated counseling area.
- Difficulty can be encountered identifying areas in which to implement MTM services.

#### **KEY CONCEPTS**

- Practicing MTM in a didactic setting through role play and case discussions and with real patients in the community is effective at increasing awareness and developing clinical skills.
- Some barriers are not easily overcome and must be worked around (e.g., lack of a counseling room).
- Exposing student pharmacists to documentation and billing software prior to rotations is helpful.

### University of New Mexico College of Pharmacy

#### **SUMMARY**

- MTM education is included in all

4 years.

- First- and second-professional-year student pharmacists complete simulated patient care activities with a standardized patient.
- Second- and third-professional-year student pharmacists learn more about disease management, interviewing standardized patients to create SOAP notes, and completing MTM paperwork.
- Student pharmacists work with both standardized patients and currently hospitalized patients; two OSCEs must be completed.
- Third-professional-year student pharmacists receive formal training on MTM compensation.
- Student pharmacists maintain an e-portfolio with all of their work.

#### **BARRIERS**

- Finding time for faculty to collaborate and give student pharmacists one-to-one feedback is challenging.
- Financial resources to hire standardized patients and run OSCEs are scarce.
- Organization is needed to ensure that courses continue to build a student's MTM knowledge.

#### **KEY CONCEPTS**

- Student pharmacists are provided with a continuously developing experience in MTM.
- Mixed didactic and active learning in MTM develop problem-solving skills.
- Disease management is a focus of this program because New Mexico has a pharmacist clinician licensure that includes prescriptive authority.
- Maintaining a portfolio enables the school to monitor a student's progress.

### University of Pittsburgh School of Pharmacy

#### **SUMMARY**

- First-professional-year students are introduced to pharmaceutical care and MTM by first experiencing being a patient through receiving a mock diagnosis and prescription. Students

then complete three standardized patient encounters with fellow students and a facilitator.

- First-professional-year students then participate in a community service program at a local senior center, where they collect subjective and objective information and then are guided to create an assessment and action plan by fourth-professional-year students and faculty mentors.
- Second-professional-year students then continue to meet with standardized patients through OTC consultations. These students also provide patient care under the guidance of a preceptor in the community while learning to build a patient care practice in the Experiential Learning practice site.
- Third-professional-year students complete a cross-course "capstone" case at the end of each semester, which includes a standardized patient encounter and consultation with a physician volunteer, to complete their training.

#### **BARRIERS**

- Current practice (variability between sites) must be compared and contrasted with future practice.
- Standardized patient activities must be coordinated during a busy semester.

#### **KEY CONCEPTS**

- Student pharmacists should be introduced to patient care early in the curriculum.
- Using staff support as well as preceptors, residents, and fourth-professional-year student pharmacists helps to enhance the activity and ease faculty burden.
- Changes can occur within individual courses over time if major curricular changes are not possible.

### University of Southern Nevada College of Pharmacy

#### **SUMMARY**

- First-professional-year student

pharmacists receive an introduction to MTM through discussions, guest speakers, and an assignment.

- Student pharmacists research and present about pharmaceutical care from different countries during this coursework.
- IPPE assignments include writing a report on MTM services offered at the site, pharmacists' attitudes toward MTM, and perceived barriers to providing services.

#### **BARRIERS**

- Time is required for presentations and evaluations.
- Finding willing pharmacists available to speak about their practice can be difficult.

#### **KEY CONCEPTS**

- In this model, student pharmacists take only one course at a time and focus on MTM without the burden of other assignments.
- Many student pharmacists became enthusiastic through learning about practices in other countries about providing MTM services.

### **University of Tennessee Health Science Center College of Pharmacy**

#### **SUMMARY**

- Through multiple courses in the curriculum, students gain foundational skills such as patient interviewing/communication, physical exam, documentation, drug information, and continuous quality improvement.
- A required MTM course in the second professional year exposes student pharmacists to patient cases, service management/business concepts, and MTM best practices across the state. Recitations in this course provide opportunities to apply clinical skills using the team-based learning methodology.
- The curriculum includes 11 months of APPE rotations where students strengthen clinical skills learned in the classroom. In addition to Advanced

Community and Ambulatory Care APPEs, MTM APPE rotations are available.

#### **BARRIERS**

- Communication among course directors is essential to reduce repetition in the many courses in which foundational skills for MTM are taught.
- MTM course development was a significant time investment initially.

#### **KEY CONCEPTS**

- Foundational skills should be integrated in the curriculum using effective active learning methods that minimize increases in faculty workload.
- Clinical skills should be reinforced with a progression of development throughout the curriculum.
- While coursework is important, allowing student pharmacists to practice their skills on rotation is vital to learning.

### **West Virginia University School of Pharmacy**

#### **SUMMARY**

- Third-professional-year student pharmacists, under supervision of a faculty member or resident, provide comprehensive medication reviews at a local primary care clinic.
- Student pharmacists receive de-identified patient's profile 1 week before the clinic visit and create a 30-minute formal presentation, which is given to the preceptor before the patient encounter.
- The student pharmacists then actively participate in the patient encounter, debriefing with their preceptor and collecting information to write up a formal SOAP note afterward.

#### **BARRIERS**

- Patients may not show up to their scheduled appointments.
- Student pharmacists may not understand the importance of providing MTM services.

#### **KEY CONCEPTS**

- The school should develop a good

relationship with a clinic that provides MTM services.

- The program should be instituted in a location where patients are familiar with their pharmacist, because they are more likely to participate.

## **Key Information Concepts Summary From Submissions**

The results of this survey have provided key information concepts to assist in the development of recommendations regarding MTM in the curriculum. First and foremost, MTM is a concept that should be introduced and defined early in the curriculum, although student pharmacists may not have the drug knowledge to truly apply it. The concept must be developed gradually and applied throughout the curriculum, beginning with observation and transitioning to a more active role. IPPE MTM encounters should be aligned with didactic coursework to ensure that an opportunity for application of MTM services exists for all student pharmacists. Simulated patient encounters also are encouraged. In addition to giving student pharmacists more opportunities to practice MTM, this plan will help faculty members identify student pharmacists who may require additional coursework or training to succeed on rotations. The business aspects of MTM should be covered in detail, providing student pharmacists with the knowledge and know-how to incorporate and deliver MTM services in a practice. The use of certificate programs can help develop coursework and incentivize participation in MTM. These changes should be implemented over time and with student, faculty, and preceptor input, because this is an effective way for student pharmacists to be equipped as providers of MTM services.

This report summarizes key information contained in submissions received in a Call for Successful Practices in MTM Curricula issued jointly by the American Pharmacists Association (APhA) and the American Association of Colleges of Pharmacy (AACP). APhA and AACP assume no responsibility or liability for any errors, omissions, inconsistencies, or inaccuracies of the information contained in this report. For additional information and detail, please refer to the complete submission received from each institution posted at [www.pharmacist.com/MTM/Curricula](http://www.pharmacist.com/MTM/Curricula).

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