INNOVATIONS in pharmacy

Volume 4 | Number 2 Article 116

2013

# Awareness of and Readiness for Medication Therapy Management Among Community Pharmacists in New York City: Results from a Focus Group

Vibhuti Arya

Sharrel Pinto

Tasmiya Khan

# Awareness of and Readiness for Medication Therapy Management Among Community Pharmacists in New York City: Results from a Focus Group

*Vibhuti Arya, PharmD, Sharrel Pinto, BS Pharm, DMM, MS, PhD, Tasmiya Khan, PharmD*

**Affiliations:** Vibhuti Arya is an Assistant Clinical Professor at St. John's University College of Pharmacy and Health Sciences and Project Director at the NYC Department of Health and Mental Hygiene; Sharrel Pinto is an Associate Professor and Research Director for the Pharmaceutical Care and Outcomes Research (PCOR) Lab at the University of Toledo and the Project Consultant; Tasmiya Khan was the MTM Project Manager during the time this article was written.

**Acknowledgement:** We would like to thank the members of the New York City Pharmacist Society who participated in the focus group for their input and lively discussion; our Advisory Panel, Laura Buelt, PharmD, Gladys Dueñas, PharmD, Mike Escuder, RPh, Marie Smith, PharmD, and Sarah Westberg, PharmD, BCPS, for their feedback in finalizing our interview questions; Amy Findakly and Shane Clemans for helping with the interview transcriptions, and Elliot Churchill, Tina Chang, and Helen Dong for helping to review the draft manuscript. We would also like to thank the Peter and Carmen Lucia Buck Foundation for their generous support for this MTM initiative.

**Key words:** medication therapy management, pharmacist perceptions, barriers, challenges

**Abstract**

*For pharmacist-provided Medication Therapy Management (MTM) services to operate effectively and efficiently, pharmacists must understand the process of MTM delivery, assess the barriers and challenges in creating a sustainable MTM program, and realize the willingness and readiness of their colleagues to deliver such services. In order to assess feasibility of such services among high-risk neighborhoods in New York City (NYC), a focus group design was used to qualitatively assess pharmacists' perceptions of MTM. Findings showed that reimbursement and allocation of resources were the most discussed challenges/barriers to the provision of pharmacist-provided MTM services. Overall, pharmacists were willing, but not yet ready, to provide MTM services on a large scale. Lack of understanding of MTM structure/process, reimbursement challenges, and the need for collaboration between providers were key components to pharmacists' willingness to provide services. Additional training opportunities were deemed necessary for them to feel confident to conduct clinical services. Although pharmacists discussed several issues regarding MTM, they were still interested in participating and seeing how MTM would impact their community practice settings. Understanding these perceptions of pharmacists on MTM allowed us to better understand and assess ways for continuous quality improvement of services that will enhance patient care.*

## Introduction

In 2010, the U.S. health care system was transformed with the passage of the Patient Protection and Affordable Care Act (PPACA). The underlying force behind the health care reform legislation was improving quality of care while decreasing health care costs. With this new legislation, pharmacists may have an opportunity to be part of the effort to help improve patient outcomes and reduce costs by utilizing their expertise in medication management. In particular, emphasis was placed on health care delivery with team-based care acting as a driving force for quality improvement, cost containment, and outcomes assessment.[1] An explicit team-based model of care is the patient-centered medical home (PCMH). PCMH is a delivery system wherein patients obtain care from a variety of providers based on their individualized needs, with an emphasis on the primary care team focusing on care coordination and quality improvement.[2] Studies have demonstrated that pharmacists participating in team-based care in acute care or outpatient clinic settings have made positive contributions to patient care quality and safe medication use.[3] The PCMH movement provides an opportunity for pharmacists to affect the delivery of primary care through the utilization of medication therapy management (MTM).

Additionally, in light of recent changes within the New York State Medicaid Redesign Team[4] to reduce costs and improve care, the New York State Department of Health introduced the concept of Health Homes.[5] While not identical to PCMHs,

**Corresponding Author:** Vibhuti Arya, PharmD
8000 Utopia Parkway, St. Albert Hall, Room 114
Queens, NY 11439, Phone: 347-396-4320
Cell: 347-837-4734, Fax: 718-990-1986
Email: aryav@stjohns.edu

Health Homes also strive to accomplish the goals of improving care while reducing costs. In an environment where change in care delivery models is being examined, pharmacists have an increased opportunity to play a role in improving public health.

When providing MTM services, pharmacists often perform comprehensive therapy reviews of prescribed and self-care medications, resolve medication-related problems, optimize complex regimens, design adherence programs, and recommend cost-effective therapies.[6] MTM services encompass care beyond traditional medication counseling, and are designed to maximize the benefits of prescribed medication regimens, increase medication adherence, and reduce the risk of adverse drug events and drug interactions.[6-8] Additionally, MTM services are designed to improve collaboration among pharmacists, physicians, and other health care professionals, enhance communication between patients and their health care team, and optimize medication use for improved patient outcomes.[10] Research has shown that pharmacist-provided MTM services have improved patients' clinical, economic, and humanistic outcomes.[11-14] These services can occur in various locations, such as primary-care offices, outpatient clinics, patient homes, work-site health programs, senior centers, hospitals, and community pharmacies.[6]

In order for pharmacist-provided MTM services to operate effectively and efficiently, pharmacists must understand the process of MTM delivery, assess the barriers and challenges in creating a sustainable MTM program, and realize the willingness and readiness of their colleagues to deliver such services. Though MTM has been introduced in many states across the U.S., New York offers a unique environment that is not representative of other states (see Discussion). In order to assess feasibility of pharmacist-led MTM services among high-risk neighborhoods in New York City (NYC), a look at pharmacists' perceptions of MTM is warranted, a topic that is explored by very few qualitative studies in the existing literature. We are only aware of one study done specifically in NYC where participants of a continuing education program were surveyed regarding their extent of MTM provision and attitudes, interest, and challenges related to delivering MTM services;[15] In order to appropriately assess feasibility of scaling up MTM in NYC, we felt further knowledge was needed through a method that would allow for detailed questions to gather more in-depth information. As such, we used a semi-structured focus group that allowed us to assess the immediate awareness and readiness of MTM among pharmacists.

**Background on our project**

As experience from other states demonstrates, implementing, scaling-up and sustaining Medication Therapy Management (MTM) services to meaningfully impact public health will require supportive policies and alignment of stakeholder interests, including effective communication linkages between primary providers and community pharmacists.[3,9] The current policy environment remains favorable with MTM being a key area of interest as the State of New York (NYS) works to redesign Medicaid to improve both efficiency and quality.[10] Preparedness, planning and stakeholder involvement are the vital next steps to enable effective MTM to succeed.[11-13]

The Fund for Public Health in New York on behalf of the New York City Department of Health and Mental Hygiene (NYC DOHMH) received funding to develop a project that supports building the framework to introduce pharmacist-led Medication Therapy Management to high risk communities.

Collaborating with a large network of primary care providers and pharmacists, this project aims to identify and convene champions and early adopters, and further engage them in assessing and improving readiness for MTM provision in NYC. To explore the feasibility of providing such services to NYC residents and to inform our work currently under development, the Bureau of Primary Care Information Project (PCIP) at the NYC DOHMH hosted focus groups. Researchers met with the Physician Advisory Board (PAB; comprised of champion physicians within NYC) and a group of community pharmacist leaders in the NYC area to learn about awareness of MTM and readiness to deliver these services to NYC residents. Findings from the PAB focus group are beyond the scope of this report.

The findings from the focus groups provided key information to be considered in developing an MTM model in NYC and advised our efforts in working with NYS Managed Care organizations to create and implement an effective program to improve public health.

**Objective**

The goal of this exploratory study was to assess pharmacists' perceptions of MTM services using qualitative methods. Our five objectives to address this goal were to assess: (1) The awareness of MTM services among champion community pharmacists in NYC; (2) Scope of current MTM services in NYC; (3) Willingness of pharmacists to deliver MTM services in NYC; (4) Readiness of community pharmacists to deliver MTM services to NYC residents; and (5) Pharmacists' description of an ideal MTM model.

## Methods

### Study Design

A focus group design was used to qualitatively study the awareness and readiness of pharmacist-led medication therapy management (MTM) among pharmacists from the state of New York. Researchers from the NYC DOHMH conducted the focus group.

### Study Subjects

Participants from this study included community pharmacists who are active members of the New York City Pharmacists Society (NYCPS), a member organization of independent pharmacists that accounts for about 40% of independent pharmacists within the NYC area. These pharmacists were selected based on their interest in MTM and are considered leaders in the pharmacy profession in New York. Pharmacists were recruited by invitation over email and responded based on their availability on the given focus group dates. Pharmacists who confirmed their attendance were then sent information on the purpose of the meeting. This included the APhA *Promotional flyer for Pharmacists* on MTM and a copy of the letter of support from the Surgeon General in response to *Improving Patient and Health System Outcomes through advanced Pharmacy Practice. A Report to the U.S. Surgeon General, 2011.*The pharmacists were instructed to read through these materials prior to attending the focus group which was held in a conference room at the New York City Department of Health and Mental Hygiene headquarters in Long Island City, New York.

The study was approved by the New York City Department of Health and Mental Hygiene and the St. John's University Institutional Review Boards. The two lead qualitative study investigators (V.A. moderator and T.K. note taker) are pharmacists. The interviews were conducted by one of the study investigators (V.A.) who has had prior experience facilitating focus groups. Using a model used by other studies, it was decided that a pharmacist investigator should conduct these interviews.[16]A list of study questions and probing questions were identified prior to interviews. These questions were pre-tested with the members of the advisory panel, which was comprised of five individuals who were chosen based on their experience with MTM programs across the United States. Additionally, literature searches were conducted to assist in identifying key areas, including those that had not been previously studied. [15-17, 19, 32]

### Focus Group Script and Questions

A detailed list of the questions used by the moderator can be found in Table 1. At the start of the session, after introducing herself and thanking the participants for their time, the moderator explained the purpose of the study and informed participants that the research team would like to learn about their thoughts on challenges and barriers to implementing MTM services, pharmacist integration into primary care, and their previous experiences with MTM. Participants were made aware that the information collected would be used to aid our work on developing a model for MTM delivery among high-risk communities in NYC, advance public health knowledge, and improve the health of communities. They were then verbally asked for their consent to participate in the study.

Upon receiving consent from all participants, the moderator described the structure of a focus group. This was done to set the tone for the session and to dispel any misconceptions. Participants were informed about the duration of the session and the presence of a note taker. They were informed that their conversation was being recorded to make sure the research team would be able to capture exactly what was said. The moderator ensured that the participants understood that the research team would not use their name for any of the information that would be used from their conversation.

In order to create a comfortable environment for the group, participants were informed that they could withhold from answering any questions as they saw fit, and could leave the group at any point during the conversation. Participants were encouraged to talk with each other and not just the moderator, and to verbally acknowledge if they agreed or disagreed with any points made by fellow participants. They were told that there were no correct or wrong answers and were reminded to let each person complete his or her thoughts before speaking so as to offer each participant an equal opportunity to voice their opinions.

Before the session began, the participants were asked to introduce themselves using their first name, their pharmacy practice site and location in NYC, and how many years they had been in practice (Demographic information is provided in Table 2). Participants' responses were both noted and audio recorded. Researchers later assessed the notes, listened to the recorded conversations, and transcribed the participants' responses. Transcripts were read and themes from the conversations were chosen and summarized in the results section to follow.

## Results

There were 10 community pharmacists/owners at the focus group session. Table 2 presents the demographic characteristics of the participants.

**NYC Community Pharmacists' awareness of MTM services**
Participants were asked what the term MTM meant to them. All participants were familiar with the term, and some were familiar with pilot studies involving pharmacist-led MTM, particularly a former pilot done in New York State. Although all participants were familiar with the term MTM, pharmacists were unclear on the formal structure and process of MTM in relation to daily activities formed by the pharmacist.

**Assessment of current MTM services in NYC**
It was hypothesized that pharmacists with previous MTM experiences would have different perceptions when compared with those who had not had previously delivered MTM services. The group was asked details about MTM programs they may have participated in, challenges they have faced, barriers to providing MTM for those who did not have experience delivering MTM services (referred to hereafter as "non-deliverers"), and resources that would be needed to conduct MTM. It was noted that at least three pharmacists had participated in providing MTM services in the past. The remaining participants were not presently delivering MTM. The participants that had provided some MTM used existing documentation platforms, such as OutcomesMTM™, Mirixa®, and PharmMD, to document interventions, and at least one participant operated an MTM call center using Mirixa® as the documentation platform.

As a collective group, challenges mentioned included: reimbursement; lack of interest by patients; timely communication with physicians; resources required; integration of MTM into regular workflow; and costs. Participants felt they would like to do more, but must have adequate resources and make MTM quantifiable with clear expectations and objectives. Participants believed they need to have resources and clear objectives within their program in order to make their MTM services financially sustainable and receive the best patient outcomes possible. The non-deliverers discussed barriers such as costs, lack of timely communication with providers, lack of collaborative drug therapy management legislation outside of teaching hospitals in New York State, and the inability to retrieve labs and patient-specific data.

Even though a high percentage of participants were not actively delivering MTM, 8 of 10 said they currently have designated private space to provide MTM services and would have supporting staff as long as they were paid for it. Participants felt uneasy and unsure about hiring more employees solely to provide MTM. They were concerned about separating pharmacists' time and duties between conducting MTM and filling prescriptions. Participants thought that having one pharmacist solely dedicated to MTM and another pharmacist solely dedicated to dispensing prescriptions would cause some disconnect or lack of communication. One participant said, *"If I separate the job, if you're doing the MTM and another person is doing the filling then you're not going to be real effective at doing the filling….you're probably better doing both parts of the job because there's going to be disconnect."* (Pharmacist 5). Another concern placed emphasis on having sufficient patient clientele before MTM would be feasible. One of the pharmacy owners specifically expressed, *"If you don't have the patients you're not going to have MTM…so as owners [we] still need to think about filling prescriptions to bring patients in the door."* (Pharmacist 5).

Reimbursement was identified as an important issue with both deliverers and non-deliverers of MTM. This issue was raised earlier with deliverers and was discussed again with non-deliverers. Participants were concerned that if a pharmacist split his/her time between dispensing and MTM services, reimbursement would be a problem. Their primary concern was that the current reimbursements system is product-specific rather than service-specific. One participant declared, *"Well [even as of now], we only get reimbursed on a product, on a drug; so, pretty much, we're not pharmacists, we're people who put pills in a bottle."* (Pharmacist 5). Another said, *"Right…it becomes all about volume…the more prescriptions you fill; it's the only way to make it."* (Pharmacist 4).

Although a number of resource issues and barriers were presented, participants were in favor of being paid for their expertise/service. A strong underlying sentiment was that providing MTM services could potentially transform practice models and sustain their business, specifically in light of emerging mail-order services, and preserve existing relationships so patients continue to consult their pharmacist of choice. One pharmacist stated, *"The value of having a consultation with your local community pharmacist, rather than what's happening with so many plans right now, they're trying to steal business away and ship it out-of-state….I don't care what anybody says, a consultation over the phone with a pharmacist somewhere in another state [who] doesn't know you…it's not going to work."* (Pharmacist 6). Another participant agreed by saying, *"It [phone consultations with pharmacist other than the pharmacist of choice] doesn't work…it doesn't work….it doesn't work."* (Pharmacist 7).

**Willingness of NYC community pharmacists to deliver MTM services**

The group discussion revealed that the participants were willing to deliver MTM services as long as the following key elements were in place:

1. Familiarity with structure of MTM. Participating pharmacists thought as long as their MTM program had some type of structure, they would be willing to deliver MTM services. One pharmacist said, *"If it's properly structured, I think 90% of pharmacists would do it."* (Pharmacist 1). Another stated, *"I think that number is high but reachable…depends on reimbursement."* (Pharmacist 2).
2. Opportunities for reimbursement for services provided. Based on the group's discussion, opportunities for reimbursement were mentioned as an important element of their willingness to deliver services. One participant declared, "*MTM has to be properly structured, [with] no interference from PBMs, and something pharmacists can afford to provide based on some kind of reimbursement."* (Pharmacist 1).
3. Ability to foster collaborative efforts with providers. Participants believed the ability to communicate timely with physicians about medications and patients, and forming relationships for collaborative drug therapy management was necessary for delivery of MTM.
4. Training and access to documentation systems and patient information software. Participants expressed the importance of understanding how to use, and have access to, software systems and all drug information for patients. One pharmacist stated, "*Very definitely we have to have access to all of the drug information."* (Pharmacist 2).
5. Income generated by services for program expansion. Participants expressed the need to have steady income to compensate for the time needed to provide MTM services, before it would be feasible to scale up to a sustainable program. One of the participant stated, *"It will take time because we need to see money coming in before restructuring stores, making space, and hiring people."* (Pharmacist 3).

One pharmacist was concerned that offering MTM services would add more responsibility and liability while others did not express the same concern. The concerned participant stated, "*I think other pharmacists' concern about doing MTM will be there if more responsibility and liability… is considered."* (Pharmacist 4). Others disagreed and their thoughts were summarized by Pharmacist 2, *"I disagree. There's no more liability [with MTM services] than handing somebody aspirin and Coumadin in the same bottle and not saying anything…liability will be there just in a different context."* Participants felt that independent community pharmacists provided a better level of patient care and involvement when compared to chain pharmacies, and thus would have an advantage over chain pharmacies in offering MTM services. Pharmacist 1 added, *"I personally think eventually it will be 100%... that with time, competition, and the services being provided, all those who are not doing MTM will be forced to do it or be out-of-business."* Three other participants agreed with this comment.

Participants were also asked where they would like to deliver MTM services, and how they preferred to document these interactions with patients. Two participants felt MTM should be delivered at the pharmacy itself, while another offered that a mixed model may be better, based on patient preference. Pharmacist 1 declared, *"I think it should be part of your pharmacy, not away from it."* Another participant stated, *"I'd say whatever works best for the patient. You may be dealing with some clients who may not, cannot, or will not, come to the pharmacy for a number of reasons."* (Pharmacist 5).

Participant responses to preferences on documentation methods included various components that were deemed critical:

1. Read and Write Ability: Having an electronic system that allows pharmacists to access and update information;
2. Access to Patient Data: A system that provides access to pertinent patient data, including medical records, lab results, and medication lists, such as history and current use of prescriptions, over-the-counter medications, supplements and recreational/street drugs, if any; and
3. Interoperability: A system that is interoperable with the electronic health records used by physicians.

**Readiness of NYC community pharmacists to deliver MTM services**

The statement, *"The majority of pharmacists are not ready to do MTM on a large scale,"* (Pharmacist 3) adequately represents the sentiments felt and expressed by the group. All participants agreed that additional training is required. Topics for training included the structure and process of MTM, clinical treatment guidelines or algorithms for major chronic disease states, and documentation. Participants felt training should be ongoing and consistent rather than a one-time offering. As it relates to protocols/algorithms, one pharmacist summarized by stating, in reference to the

recently passed NY pharmacist collaborative practice legislation in 2011, *"Someone has to stop the noise and say okay, it may not be perfect, but we're going to agree that this is what we are going to do with these patients…get the patients to cooperate, see how it works, and just find a place where we can start from…draw some parameters and come up with an algorithm."* (Pharmacist 5).

Participants felt they needed more familiarity with existing documentation systems to help with choosing software/platforms to help document pharmacist services. Participants also felt that having experience offering clinical services in the past often builds confidence and helps pharmacists in either expanding current services, or offering new services. The moderator therefore asked participants about the software they use at their pharmacies, and whether they offer immunizations at their pharmacies. Different types of pharmacy software were mentioned, including OPUS ISM, QS/1, Micro Merchant Systems, Best Computer Systems, and Visual Superscript. Three of the eight participants who spoke said they were certified immunizers in New York State. One of the three has been consistent in providing immunizations, while another participant only recently began immunizing at their pharmacy. The third individual declared to be a certified immunizer, but currently chooses not to provide this service.

**Pharmacists' description of an ideal MTM model**

Participants were asked how their ideal MTM model would operate. Though none of the participants provided exact details of their ideal MTM model, they described elements of what they felt was critical for an ideal program. One important element that was commonly expressed among the participants was having access to patients' medical information. One participant stated, *"[I] would like to have more information than just knowing what drugs the patient was taking."* (Pharmacist 4). Another common element expressed was ability to communicate with other health care providers in a timely manner. Pharmacist 8 stated, *"I want a situation where I can directly reach my patients and the physicians with no interactions from PBMs or insurance companies from hindering me."* Another participant agreed by expressing the *"need to have easy access to the doctor to make a recommendation [so that the doctor is] able to get back to you right away."* (Pharmacist 4). Pharmacists seemed to support the face-to-face one-on-one consultation model. One participant stressed the importance of allocating dedicated time for the consultation. *"The ideal situation is the patient comes in and you take the time not just for a quick consultation or history, but at least 10-20 minutes to talk with the patient."* (Pharmacist 6).

A final element that was common amongst the participants was the concept of having adequate reimbursement for providing MTM services; at least six participants were vocal in specifically expressing reimbursement as a key element for providing MTM services. As discussed previously, participants continued to express that reimbursement was needed to obtain resources and equipment for staff. Equipment was stated to include, but not be limited to, an internet-based platform to access patient information, including medication history and any pertinent data, where such information could be accessed, entered, and transmitted easily.

In discussing an appropriate reimbursement model, participants had several different suggestions. According to pharmacist 4, *"Ideal MTM would be differential reimbursement based on pharmacists' acceptable levels, not imposed by somebody else, but acceptable to us."* Some expressed that reimbursement should be scalable to incorporate the various levels of interventions. *"Pharmacists should receive a certain fee for contacting a patient, certain fee for talking with a patient, a certain fee for making therapeutic changes, different levels of intervention, etc."* (Pharmacist 2). According to pharmacist 5, *"it should not be unlike what a provider gets for an initial visit, a consultation…like the… codes they use for different levels of intervention."* Another participant stated, *"acceptable level would be based on current costs of the pharmacist…I think $2.50 a minute is fair."* (Pharmacist 1). Six out of the eight vocal participants were in favor of a tiered system with specific fees for different components of MTM; one participant disagreed, and another participant was neutral on the topic. Six participants were neutral to the idea of a time-based model of reimbursement. Every participant preferred the complexity-based model that would pay for pharmacist service based on complexity of the patient, similar to the model used by the American Medical Association[18]; however, participants also expressed the need for flexibility to adjust the model as needed based upon its success or lack thereof. One participant said, *"Whatever I would pick, I would like to have the opportunity to change in the future depending upon what's working or not working at the time."* (Pharmacist 1).

At the end of the focus group session, participants were asked if they had any final questions. Patient engagement and sustainability were the main topics that were brought up by participants to ensure success with any MTM service. When asked about interest in participating in a small pilot study in the future, all ten participants stated strong interest to do so.

Table 3 summarizes the results from the thematic analysis.

**Discussion**

Overall, participants felt that pharmacists are generally aware of the term MTM. Participants in our focus group were still unclear about the formal structure of MTM compared to daily pharmacist activities. Lack of training, knowledge, and skills specific to MTM delivery have been previously cited as barriers for providing MTM services, and this was also confirmed through our focus group.[19] Research has shown that the pharmacy profession, through its many professional associations and organizations, has been active in the development of MTM models[20], consensus definitions[21], and core element/structural framework.[10,21] Although the professional associations and organizations have invested a lot of time and effort in coordinating MTM educational opportunities for pharmacists, there is still a need for additional, continued education on the topic, particularly regarding consistency and standardization of MTM delivery. Interactive methods have been shown to be more effective than didactic when it comes to educating health care professionals.[22-23] Examples of interactive methods including video-clip observations, videotaped vignettes, role plays or simulated teaching activities, and discussion groups following workshops.[22,24-26] Other types of educational methods include lecture-based teaching (i.e. meetings, conferences, continuing education programs, and on-line resource modules), on-line readings, mailed materials, websites, publications, etc.[23,26-28] These responses from community pharmacists compared to MTM studies in other parts of the U.S. confirm that regional variations in MTM provision and training do exist.

As far as the need for additional training goes, literature supports this finding that additional training may be needed for conducting MTM services.[19] Current certification programs and MTM training sessions are geared toward the theoretical understanding of the term MTM but offer little assistance when it comes to explaining the 'How-tos.' The pharmacists in this study felt that they needed to have a better understanding on the structure and process surrounding MTM. Professional organizations and universities should focus on helping current and future pharmacists understand the practical aspects of MTM by training them on the structure and process associated with MTM delivery. . Professional organizations could help their members by offering such sessions during annual meetings.

In general, pharmacists have felt most comfortable with the services they perceived as highly valued by patients, and least comfortable with those services perceived as having lesser value, such as development of a medication action plan or educating about disease prevention services. Higher-level skills are generally required to perform the least comfortable services, which is probably due to the pharmacists' relative unfamiliarity with those types of services.[18] By having access to additional training opportunities and refresher courses, pharmacists may be better equipped to provide comprehensive MTM-related services. Additionally, it was noticed in the focus group that five of the eight participants that spoke were in practice for eighteen years or more. This would lead us to believe that the majority were older generation pharmacists who may or may not have received extensive education and training in patient-centered care and MTM during their years in pharmacy school. As more clinically trained pharmacists start entering the work force and gain more work experience, we may see a change in the provision dynamic, particularly as new curricula have increasingly emphasized the concept of patient-centered care.

Another perception that is valuable to understand is how pharmacists feel about the challenges/barriers of providing MTM services. Once pharmacists are aware or have a better understanding about the structure, the next step would be designing and implementing or providing the service. Reimbursement, having appropriate resources, communication between physicians and pharmacists, patient interests, and costs were all concerns from MTM deliverers and non-deliverers. These challenges are commonly cited in the literature when it comes to providing MTM and cognitive services.[20, 29-32]

Reimbursement has been a contentious issue for many years, and much of the discussion from our focus group was centered on this issue. Ideas for reimbursement included: receiving varied fees based on different levels of service similar to what physicians currently use; reimbursement based on current costs of a pharmacist (a set fee per minute of MTM); and a tiered system with specific fees for different components of MTM. Opinions regarding time-based models versus complexity-based models were varied among the participants. The majority of the participants felt having a tiered, complexity-based model for reimbursement would be best. . Many institutions have provided ambulatory care pharmacy services in combination with cognitive services for years, with or without viable methods for reimbursement. Pharmacists who offer cognitive services within ambulatory care settings have long justified being reimbursed for clinical services based on improved clinical outcomes, patient and provider satisfaction, and indirect revenue through cost-avoidance strategies.[32] Historically, pharmacists have pursued reimbursement for clinical services through first-party payment (direct payment by patient), incident-to billing, and the use of facility fees.[32] It is only recently that pharmacists have been recognized in the form of current procedural

terminology (CPT) codes and have been able to submit claims for providing MTM services.[33,34] Various reimbursement models and billing practices have recently been assessed.[35-38] Literature supports the pharmacists' concern that figuring out feasible ways to reimburse for the provision of MTM services is necessary and important for the profession.[39] Research is needed in this area on feasible business models and reimbursement strategies for pharmacist-provided MTM services. Similar to other studies, concerns about reimbursement persist, including concerns that reimbursement levels will not cover the costs of provision of MTM services.[33,39] Through additional research, newer, innovative strategies for improving the reimbursement system for MTM services can be created, implemented, and evaluated.

A contrast between MTM deliverers and non-deliverers was noted on the issue of resources. MTM non-deliverers were not comfortable with hiring employees solely dedicated to MTM. Allocation of resources, such as pharmacy staff, space, and time, has been a challenge and barrier to providing MTM services.[19] These findings from our focus group are understandable because pharmacists who have not delivered MTM services have not experienced the benefit from MTM and may therefore struggle with the idea of investing resources. On the other hand, one of the MTM providers made the following statement: *"…when we started our MTM program we were using our own people to do the MTM stuff. Once you start getting paid and the program expanded we couldn't do it anymore…we brought people on, some were part-time, some worked for three months, one month, etc…"* This shows that as pharmacists deliver MTM services and programs grow, additional resources are needed to handle the responsibilities. As was described by one of the participants, however, once reimbursement is acquired for these services, pharmacies can start using that money toward additional resources, thereby eradicating some of their resource barriers.

Participants expressed that they, as well ask their colleagues, would be willing to deliver MTM services given some key components such as knowledge about the MTM program structure, reimbursement, and fostering collaborative efforts between physicians and pharmacists. Structure and reimbursement have already been discussed earlier in this paper. Another willingness element that participants mentioned was fostering collaborative efforts between physicians and pharmacists. Collaboration among health care providers is important when providing the highest quality of care for patients,[40-44] and has drawn much attention among providers in an effort to improve patient safety and achieve better therapeutic outcomes.[46] There is increasing recognition of the value of having shared responsibility among primary care providers and pharmacists to ensure appropriate, safe, and cost-effective medication use.[6] In regards to documentation efforts, research has shown that continuous efforts are being made by focusing on documentation systems and the use of health information technology in the provision of MTM services.[47,48] With progress towards a team-based system of care and more advanced technologies, it may not be long before this barrier is broken.

Regarding readiness to deliver MTM services, participants from our focus group did not think they or their colleagues were ready to implement MTM services on a large scale. There was unanimous agreement that more training was important and required for pharmacists to deliver MTM effectively. Training topics included structure/process of MTM, structuring guidelines or algorithms for patients with various disease states, and training on documentation methods. It was noted during the session that very few of the pharmacists offered immunizations at their pharmacies. Possible reasons may be lack of enough time or appropriate staff to handle additional clinical responsibilities; lack of confidence in their training, knowledge, or skills; or feeling unprepared to provide clinical services including immunizations due to lack of training . It has been discussed in previous studies that legal liability is also a concern and barrier to the provision of immunization services.[29] Since liability has been a concern with other services, it would make logical sense, that some pharmacists would have a similar concern with MTM. At least one pharmacist in the group felt that liability could be an issue with delivering MTM services.

Although preferred setting for MTM delivery varied from community pharmacy to a more mixed setting approach, most pharmacists preferred the community pharmacy as the main site for MTM practice. When discussing documentation methods, the consensus was to have an electronic system where medical and pharmacy information was integrated so all health care providers could access the same, all-inclusive patient health information

Overall, pharmacists' description of their ideal MTM models focused around four key areas: access to medical information for their patients, efficient communications with health care providers, time with patients, and reimbursement for services.

**Conclusion**

The results of our study favor the need for education and structure around a standard and consistent way of delivering

MTM services. Reimbursement and allocation of resources were the most discussed challenges/barriers to the provision of pharmacist-provided MTM services. Pharmacists stated they were willing, but not ready to provide MTM services on a large scale. Lack of understanding of the structure, reimbursement challenges, and the need for collaboration between providers were key components to pharmacists' willingness to provide services. Additional training opportunities were deemed necessary for them to feel confident to conduct clinical services. Although pharmacists discussed several issues regarding MTM, they were still interested in participating and seeing how MTM would impact their community practice settings. Understanding these perceptions of pharmacists on MTM allowed us to better understand and assess ways for continuous quality improvement of services that will enhance patient care.

**Public Health Impact**

As health care continues to evolve, MTM looks to be at the forefront of how pharmacists can be a central piece of the health care puzzle and play a major role on improving the lives of millions of patients. With continued focus on pay-for-performance and quality improvement, emerging care delivery systems can benefit from pharmacist interventions. The recent report to the Surgeon General, outlines the evidence base demonstrating positive impact of pharmacist-delivered care in health care system.[49] Looking towards the future of public health, with strong emphasis towards reducing the burden of chronic disease, pharmacists' interventions can greatly contribute to reducing health care costs and improving the quality of care every patient deserves.

**References**


1. Lipton HL. Pharmacists and health reform: go for it! *Pharmacotherapy*. 2010; 30(10): 967-72.
2. Cutler TW. The pharmacy profession and health care reform: opportunities and challenges during the next decade. *J Am Pharm Assoc*. 2011; 51(4): 477-81.
3. Kaboli PJ, Hoth AB, McClimon BJ, et al. Clinical pharmacists and inpatient medical care: a systematic review. *Arch Intern Med*. 2006; 166(9): 955-64.
4. New York State Department of Health, Medicaid Redesign Team (MRT), Workforce Flexibility and Scope of Practice Work Group; FINAL RECOMMENDATIONS obtained from the World Wide Web September 14, 2012. http://www.health.ny.gov/health_care/medicaid/redesign/docs/workforce_flexibility_scope_of_practice_wg_recommend.pdf
5. New York State Department of Health, Medicaid Health Homes; obtained from the World Wide Web October 10, 2012. http://www.health.ny.gov/health_care/medicaid/program/medicaid_health_homes/
6. Smith M, Bates DW, Bodenheimer T, et al. Why pharmacists belong in the medical home. *Health Affairs*. 2010; 29(5): 906-13.
7. Rovers J, Currie J, Hagel H, et al. *Re-engineering the pharmacy layout: a practical guide to pharmaceutical care*. American Pharmacists Association. 2nd ed. Washington DC; 2003.
8. Bryant LJM, Coster G, Gamble GD, et al. General practitioners' and pharmacists' perceptions of the role of community pharmacists in delivering clinical services. *Res Social Adm Pharm*. 2009; 5: 347-62.
9. Medication therapy management and collaborative drug therapy management. *J Manag Care Pharm*. 2010; 16(1): 67-9.
10. Medication Therapy Management in Pharmacy Practice: Core elements of an MTM service model (version 2.0). American Pharmacists Association and National Association of Chain Drug Stores Foundation. *J Am Pharm Assoc*. (2003) 2008; 48(3): 341-53.
11. Isetts BJ, Schondelmeyer SW, Artz MB, et al. Clinical and economic outcomes of medication therapy management services: the Minnesota experience. *J Am Pharm Assoc*. 2008;48(2):203-11.
12. Fera T, Bluml BM, Ellis WM. Diabetes Ten City Challenge: final economic and clinical results. *J Am Pharm Assoc*. 2009;49(3): 383-91.
13. Bunting BA, Smith BH, Sutherland SE. The Asheville Project: clinical and economic outcomes of a community-based long-term medication therapy management program for hypertension and dyslipidemia. *J Am Pharm Assoc*. 2008;48(1): 23-31.
14. Ramalho de Oliveira D, Brummel AR, Miller DB. Medication therapy management: 10 years of experience in a large integrated health care system. *J Manag Care Pharm*. 2010;16(3):185-95.
15. Shah B, Chawla S. A needs assessment for development and provision of medication therapy management services in New York City. *J Pharm Pract*. 2011 Jun;24(3):339-44. Epub 2011 Mar 18.
16. Bislew HD, Sorensen TD. Use of focus groups as a tool to enhance a pharmaceutical care practice. *J Am Pharm Assoc* (2003). 2003 May-Jun;43(3):424-33; quiz 433-4.
17. Moczygemba LR, Barner JC, Roberson K. Texas pharmacists' opinions about and plans for provision of medication therapy management services. *J Am Pharm Assoc*. 2008; 48 (1):38-45.

18. Isetts BJ. Evaluating Effectiveness of the Minnesota Medicaid Medication Therapy Management Care Program. State Contract Number B00749, December 14, 2007. Posted January 22, 2008 to the MN Dept. of Human Services Web site.
19. Blake KB, Madhavan SS, Scott V, et al. Medication therapy management services in West Virginia: pharmacists' perceptions of educational and training needs. *Res Social Adm Pharm*. 2009; 5: 182-8.
20. Part M. Ready or not, here comes medication therapy management! *J Am Pharm Assoc*. 2005; 45(6): 646-52.
21. Bluml BM. Definition of medication therapy management: development of profession wide concensus. *J Am Pharm Assoc*. 2005; 45(5): 566-72.
22. Davis D, Thomson O'Brien MA, Freemantle N, et al. Impact of formal continuing medical education: do conferences, workshops, rounds, and other traditional continuing education activities change physician behavior or health care outcomes? *J Amer Med Assoc*.1999; 282(9): 867-74.
23. Forsetlund L, Bjorndal A, Rashidian A, et al. Continuing education meetings and workshops: effects on professional practice and healthcare outcomes. *Cochrane Database Syst Rev*. 2009; 2: 1-97.
24. Humair J-P, Cornuz J. A new curriculum using active learning methods and standardized patients to train residents in smoking cessation. *J Gen Intern Med*. 2003; 18(12): 1023-7.
25. Lacasse M, Ratnapalan S. Teaching-skills training programs for family medicine residents: systematic review of formats, content, and effects of existing programs. *Can Fam Physician*. 2009; 55(9): 902-3.e1-5.
26. Wiecha JM, Vanderschmidt, H, Schilling K. HEAL: an instructional design model applied to an online cleakship in family medicine. *Academic Medicine*. 2002; 77(9): 925-6.
27. Muramoto ML, Lando H. Faculty development in tobacco cessation: training health professionals and promoting tobacco control in developing countries. *Drug Alcohol Rev*. 2009; 28(5): 498-506.
28. Zwar NA, Richmond RL, Davidson D, et al. Postgraduate education for doctors in smoking cessation. *Drug Alcohol Rev*. 2009; 28(5): 466-73.
29. Kamal KM, Madhavan SS, Maine LL. Pharmacy and immunization services: pharmacists' participation and impact. *J Am Pharm Assoc*. 2003; 43(4): 470-82.
30. Barnes JM, Riedlinger JE, McCloskey WW, et al. Barriers to compliance with OBRA' 90 regulations in community pharmacies. *Ann Pharmacother*. 1996; 30(10): 1101-5.
31. Venkataraman K, Madhavan S, Bone P. Barriers and facilitators to pharmaceutical care in rural community practice. *J Soc Admin Pharm*. 1997; 14(4): 208-19.
32. Lounsbery JL, Green CG, Bennett MS, et al. Evaluation of pharmacists' barriers to the implementation of medication therapy management services. *J Am Pharm Assoc*. 2009; 49(1): 51-8.
33. Epplen K. Reimbursement for medication therapy management services. *Am J Health-Syst Pharm*. 2008; 65: 906-8.
34. Thompson CA. Pharmacists' CPT codes become permanent: next step is to set valuation for each code. *Am J Health-Syst Pharm*. 2007; 64(23): 2410-2.
35. Ried DL. Opportunities multiply as they are seized. *J Am Pharm Assoc*. 2012; 52(2): 150-2.
36. Beatty SJ, McCormick KM, Beale DJ, et al. Current trends in outpatient pharmacy services and billing. *J Am Pharm Assoc*. 2012; 52: 154-60.
37. Braxton Lloyd K, Evans RL. Reimbursement model for pharmacist-directed medication therapy management. *J Am Pharm Assoc*. 2012; 52: 161-9.
38. Scott MA, Hitch WJ, Gilmore Wilson C, et al. Billing for pharmacists' cognitive services in physicians' offices: multiple methods of reimbursement. *J Am Pharm Assoc.* 2012; 52: 175-80.
39. Law AV, Okamoto MP, Brock K. Ready, willing, and able to provide MTM services?: a survey of community pharmacists in the USA. *Res Social Adm Pharm*. 2009; 5: 376-81.
40. Kozminski M, Busby R, McGivney MS, et al. Pharmacist integration into the medical home: qualitative analysis. *J Am Pharm Assoc.* 2011; 51(2): 173-83.
41. Chawla S. Nontraditional or noncentralized models of diabetes care: medication therapy management services. *J Fam Pract*. 2011 Nov;60(11 Suppl):S12-8.
42. Lauffenburger JC, Vu MB, Burkhart JI, Weinberger M, et al. Design of a medication therapy management program for Medicare beneficiaries: qualitative findings from patients and physicians. *Am J Geriatr Pharmacother*. 2012 Apr;10(2):129-38. doi: 10.1016/j.amjopharm.2012.01.002. Epub 2012 Jan 27.
43. McGrath SH, Snyder ME, Dueñas GG et al. Physician perceptions of pharmacist-provided medication therapy management: qualitative analysis. *J Am Pharm Assoc* (2003). 2010 Jan-Feb;50(1):67-71.

44. Alkhateeb FM, Clauson KA, McCafferty R et al. Physician attitudes toward pharmacist provision of medication therapy management services. *Pharm World Sci*. 2009 Aug;31(4):487-93. Epub 2009 May 27.
45. McDonough RP, Doucette WR. Drug therapy management: an empirical report of drug therapy problems, pharmacists' interventions, and results of pharmacists' actions. *J Am Pharm Assoc* (2003). 2003 Jul-Aug;43(4):511-8.
46. Carter BL, Ardery G, Dawson JD, et al. Physician and pharmacist collaboration to improve blood pressure control. *Arch Intern Med*. 2009; 169(21): 1996-2002.
47. McMahan R. Operationalizing MTM through the use of health information technology. *J Manag Care Pharm*. 2008; 14(2)(suppl S-a): S18-21.
48. Figge HL. Interoperable health information exchange between medication therapy management services and the medical home. *Am J Health-Syst Pharm*. 2010; 67: 190-1.
49. Giberson S, Yoder S, Lee MP. *Improving Patient and Health System Outcomes through Advanced Pharmacy Practice*. *A Report to the U.S. Surgeon General*. Office of the Chief Pharmacist. U.S. Public Health Service. Dec 2011.

**Table 1: Focus Group Question Guide for MTM Awareness among pharmacists in NYC**

| |
|---|
| **Awareness of NYC Community Pharmacists about MTM services:**<br>1. How familiar were you with Pharmacist-led Medication Therapy Management (MTM) prior to receiving the materials that were sent to you?* |
| **Assessing current MTM services in NYC:**<br>2. Can you describe what types of MTM services patients are receiving, by whom and where are these services being provided?<br>3. What are some of the challenges you face in providing these services? Would you like to be able to do more?<br>4. For those of you not delivering MTM Services, what has kept you from providing these services? |
| **Willingness of pharmacists to deliver MTM services in NYC:**<br>5. How willing do you think community pharmacists in New York City will be to deliver MTM services as part of their pharmacy operations?<br>6. What is the preferred setting where you would like to offer MTM (e.g. clinic or a doctor's office vs. pharmacy)? How would you provide these services – exclusively at one place or a combination?<br>7. How would you like to actually document, or record, your interaction with the patient? |
| **Readiness of NYC community pharmacists to deliver MTM services to NYC residents:**<br>8. How ready do you feel as a pharmacist or in general pharmacists are to provide MTM? Do you think more training or information is needed?<br>9. What kind of training do you think pharmacists can get that would level the playing field whether it be process, disease state, documentation?<br>10. Do you think there needs to be some kind of ongoing component to the training?<br>11. What kind of documentation software does your pharmacy use?<br>12. Do you offer immunizations at your current pharmacies? |
| **Pharmacists' description of ideal MTM model:**<br>13. In an ideal scenario, not looking at anything existing, what would you want MTM to look like?<br>14. What would you, and do you think other pharmacists, would favor in terms of two models, one being time based and the other one based on complexity of care? |
| **Wrap-Up:**<br>15. Would you or any pharmacists you know be interested in participating in our pilot to run a process evaluation? |

*Refers to the *American Pharmacists Association Promotional Flyer for Pharmacists* and a letter of support from the Surgeon General in response to "Improving Patient and Health System Outcomes through advanced Pharmacy Practice. A Report to the U.S. Surgeon General, 2011."

**Table 2. Demographic characteristics of NYC community pharmacists participating in a focus group to assess awareness and readiness for Medication Therapy Management (N=10)**

| Characteristic | Number (%) |
|---|---|
| Gender | |
| Male | 9 (90) |
| Female | 1 (10) |
| | |
| Practice location (NYC borough) | |
| Queens | 7 (70) |
| Bronx | 1 (10) |
| Manhattan | 1 (10) |
| Manhattan & Queens | 1 (10) |
| | |
| Years of experience | |
| 0-10 | 3 (30) |
| 11-20 | 4 (40) |
| 21-30 | 2 (20) |
| >30 | 1 (10) |
| *Approximate mean for years of experience was 20.5 (SD 8.9)* | |
| *All participants hold a B.S. degree in pharmacy* | |

Abbreviation used: NYC, New York City

Eight of the ten participating pharmacists were highly vocal and participated throughout the one hour discussion period.

**Table 3: Awareness of and Readiness for Medication Therapy Management among Community Pharmacists in New York City: Summary of Focus Group Findings**

| |
|---|
| **Awareness of NYC Community Pharmacists about MTM* services:**<br>• All participants were familiar with the term<br>• For some participants, familiarity extended to pilots studies, especially those conducted in the state of New York<br>• Pharmacists were unclear on the formal structure and process of MTM in relation to daily pharmacist activities |
| **Assessing current MTM services in NYC:**<br>• It was noted that at least 3 pharmacists had participated in providing MTM services in the past using documentation platforms such as Outcomes and Mirixa<br>• MTM Deliverers: Challenges include reimbursement, lack of interest by patients, timely communication with physicians, resource issues, and costs.<br>• MTM Non-Deliverers: Barriers include costs, timely communication with providers, lack of fostering collaborative drug therapy management relationships, and ability to retrieve labs/data |
| **Willingness of NYC community pharmacists to deliver MTM services:**<br>• Pharmacists would be more willing to deliver MTM provided the following key elements were met.<br>▪ Familiarity with structure of MTM<br>▪ Opportunities for reimbursement<br>▪ Ease and ability to foster collaborative efforts with providers<br>▪ Training and access to documentation systems/software<br>▪ Income generated from current small scale services could assist in program expansion |
| **Readiness of NYC community pharmacists to deliver MTM services:**<br>• They were ready to deliver MTM but not on a large scale<br>• Biggest drawback was the need for additional training in various areas: structure, clinical treatment guidelines or algorithms for different disease states, and documentation. |
| **Pharmacists' description of ideal MTM model:**<br>• Pharmacists description of an ideal MTM model Focused around four key areas:<br>▪ Access to patients' medical information<br>▪ Ability to communicate with health care providers in a timely manner<br>▪ Having time with patients<br>▪ Receiving adequate reimbursement for services |
| **Wrap-Up:**<br>• All participants were very interested in participating in future MTM programs |

*Abbreviation used: MTM, medication therapy management