Positioning and integrating medication therapy management

Jon C. Schommer, William R. Doucette, Kathleen A. Johnson, and Lourdes G. Planas

Abstract

Objectives: To summarize findings from medication therapy management (MTM) "environmental scans" conducted from 2007 through 2010, interpret findings from the environmental scans using insights gained from the Future of MTM Roundtable convened in October 2010, and propose ideas for future positioning and integrating of MTM programs in the U.S. health care system.

Methods: Data for the environmental scans were collected from purposive samples of MTM pharmacist providers and MTM payers throughout the United States using self-administered online surveys in 2007, 2008, 2009, and 2010.

Results: Based on the findings, it appears that MTM is becoming more developed and that some aspects of MTM have become established within the organizations that are providing and paying for these programs. However, the findings also revealed that a need exists to better integrate MTM between organizations and patients serviced (business-to-consumer relationships), between partnering organizations (business-to-business relationships), and between collaborating practitioners (peer-to-peer relationships).

Conclusion: The findings suggest that a "channel of distribution" is emerging in which organizational relationships and cost efficiencies will be important considerations in the near term. We propose that applying (1) customer portfolio management and (2) transaction cost economics would help improve positioning and integrating MTM into the U.S. health care system.

Keywords: Medication therapy management, cost analysis, pharmacy services, surveys, return on investment.

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Medication therapy management (MTM) was defined by a consortium of pharmacy organizations as "a distinct group of services that optimize therapeutic outcomes for individual patients. MTM services are independent of, but can occur in conjunction with, the provision of a medication product. MTM encompasses a broad range of professional activities and responsibilities within the licensed pharmacist's or other qualified health care provider's scope of practice. MTM services encompass those services being provided either via face-to-face contact or telephonically by a pharmacist or other qualified health professional, but do not include mailings to patients."[1–6] The pharmacy profession adopted MTM terminology, developed core elements for MTM provision, and assumed leadership for its availability to all patients.[1–12]

To track MTM development, introduction, and expansion activities by both providers and payers,[13,14] the American Pharmacists Association (APhA) conducted annual "environmental scans" of pharmacist-provided MTM programs during 2007–10.[15–22]

With four annual environmental scans now completed (2007, 2008, 2009, and 2010), the goal of the current study was to combine the findings in a way that could be used to help understand the emergent life cycle of the MTM concept. In addition, findings from the Future of MTM Roundtable were available to the authors to help interpret findings and generate new ideas.[23]

At a Glance

Synopsis: Based on findings from medication therapy management (MTM) "environmental scans" conducted from 2007 through 2010 and the Future of MTM Roundtable held in October 2010, the authors believe that the MTM concept is becoming more developed and that some aspects of MTM have become established within the organizations that are providing and paying for these programs. Analysis also revealed that a need exists to better integrate MTM between organizations and patients serviced (business-to-consumer [B2C] relationships), between partnering organizations (business-to-business [B2B] relationships), and between collaborating practitioners (peer-to-peer relationships).

Analysis: *The findings reported here suggest that a "channel of distribution" is emerging for MTM program provision through which information, services, and payment are created and exchanged. The authors assert that MTM program provision is moving to integrated, orchestrated, and harmonization stages in its development and that organizations will experience success and failure as channel members compete for market power, efficiencies, and chances to be opportunistic in order to be profitable in both the short and long term. Strategic planning is needed regarding both B2C and B2B relationships, agreements, and exchanges in order to further develop and position the MTM product offering in health care systems.*

Objectives

The current work seeks to (1) summarize findings from environmental scans conducted from 2007 through 2010,[15–22] (2) interpret the findings from the environmental scans using insights gained from the Future of MTM Roundtable convened in October 2010,[23] and (3) propose ideas for future positioning and integrating of MTM programs in the U.S. health care system.

Findings from environmental scans: 2007–10

Data for the environmental scans were collected from purposive samples of MTM pharmacist providers and MTM payers throughout the United States using self-administered online surveys in 2007, 2008, 2009, and 2010. Descriptions of research methods and complete results have been disseminated in previously published reports and articles.[15–22] In the next sections of this article, highlights from those scans are summarized.

MTM provider perspectives

In this section, perspectives about value and implementation strategies are summarized from the MTM provider perspective.

MTM provider perspectives of value. Table 1 presents findings related to the value associated with pharmacist-provided MTM services from the MTM provider perspective. These findings reveal providers' reasons for providing MTM, as well as the importance of MTM in bringing value to the provider organization.

Reasons for providers to offer MTM are associated with professionalism and patient care. The most important factors for deciding to provide MTM services remained similar during 2007–10, with more than 50% of provider respondents reporting the following factors as very important: (1) responsibility as a health care provider, (2) patient health needs, (3) recognized need to improve health care quality, (4) contribution to health care team, and (5) professional satisfaction. Each of these factors is related to professionalism/patient care, whereas other factors we studied were related to business/economics.

MTM's significance in terms of value to providers is related to professionalism and patient care. In terms of the importance of providing value to the organization, MTM providers in 2007–10 most commonly rated the following as very important: (1) increased professional satisfaction, (2) increased patient satisfaction, and (3) increased quality of care/outcomes via performance measures. Again, these factors are related to professionalism and patient care compared with business and economic aspects of practice.

Of note, the ways in which providers have framed the value of MTM services and how they view the importance of those services have been associated with professionalism and patient care outcomes to a greater extent than business/economic outcomes. During 2007–10, these provider perspectives remained relatively constant. We propose that MTM providers

Table 1. Pharmacist provider perspective: Value associated with MTM services

Importance in practice/organization decision to provide MTM services[a]	**2010 survey**[b]	**2009 survey**[b]	**2008 survey**[b]	**2007 survey**[c]
n	477	444	300	381
Responsibility as a health care provider	64, 4.5	68, 4.6	68, 4.5	77
Patient health needs	64, 4.5	67, 4.5	66, 4.5	80
Recognized a need to improve health care quality	61, 4.5	65, 4.5	60, 4.4	76
Contribution to health care team	58, 4.4	65, 4.5	62, 4.4	68
Professional satisfaction	51, 4.3	55, 4.4	55, 4.3	67
Reducing health care system costs	43, 4.1	49, 4.2	39, 4.1	49
Primary business mission	32, 3.7	30, 3.8	29, 3.7	37
Reducing health insurer costs	32, 3.7	32, 3.8	28, 3.7	32
Need for other revenue sources	19, 3.3	19, 3.3	17, 3.3	27
Competitive pressure	9, 2.8	8, 2.9	8, 2.9	15
Decreased prescription volume	8, 2.7	8, 2.7	8, 2.8	10
Significance in providing value to organization as a result of MTM services[d]	**2010 survey**[e]	**2009 survey**[e]	**2008 survey**[e]	**2007 survey**[f]
n	454	399	277	353
Increased professional satisfaction	60, 4.5	60, 4.4	63, 4.4	41
Increased patient satisfaction	51, 4.3	51, 4.2	62, 4.4	41
Increased quality of care/outcomes via performance measures	51, 4.3	50, 4.2	62, 4.4	37
Revenue generated from MTM services	19, 3.3	19, 3.3	24, 3.5	14
Increase in patient traffic	17, 3.2	15, 3.2	21, 3.4	11
Increase in prescription volume/sales	14, 3.1	9, 3.0	17, 3.2	10

Abbreviation used: MTM, medication therapy management.
[a]Data are percent of participants reporting the item as very important, followed by the mean score for each item rated on a five-point Likert-type scale (1, very unimportant, to 5, very important).
[b]For 2008–10, items were rated on a five-point Likert-type scale (1, very unimportant, to 5, very important).
[c]For 2007, items were rated on a four-point Likert-type scale (1, very important, to 4, not at all important). No means were calculated.
[d]Data are percent of participants reporting the item as very significant, followed by the mean score for each item rated on a five-point Likert-type scale (1, very insignificant, to 5, very significant).
[e]For 2008–10, items were rated on a five-point Likert-type scale (1, very insignificant, to 5, very significant).
[f]For 2007, this question was worded as follows: "Please rate the following criteria in reference to their significance in providing value to your organization as a result of MTM services." No means were calculated.
More in-depth findings can be obtained by accessing reference 21 and by contacting the corresponding author.

have been developing capacity for providing MTM services and view MTM as part of their responsibility and a way to help meet patient care needs. However, widely accepted business models for these services have not been established.

MTM provider implementation strategies. Table 2 summarizes pharmacist provider responses regarding various MTM implementation strategies, such as up-front investments, compensation, and identification of potential MTM candidates, as well as barriers.

MTM implementation by providers has focused on developing professional competence and capacity. The most commonly reported up-front investment costs reported by MTM providers in 2008–10 were training of staff, changing staffing patterns, and increasing the number of pharmacists. The results also showed that pharmacist compensation for providing MTM most typically is "part of the standard pharmacist salary." It appears that during 2008–10, MTM providers were paid their typical wage while adjusting training, staffing, and hiring patterns to move into MTM services provision.

In 2008–10, the most critical barriers reported by providers were lack of insurance companies paying for these services, billing is difficult, payment for MTM services is too low, pharmacists have inadequate time, staffing levels are insufficient, and dispensing activities are too heavy. "Lack of insurance companies paying for these services" was a new item added to the 2010 survey and was most frequently cited as a very important barrier.

We propose that MTM providers have been focused on developing professional competence and capacity for offering this service. That is, investing in staff training, adjusting staffing patterns, and adding pharmacist labor capacity for MTM. However, tension appears to exist between developing high-quality professional capacity and the ability to achieve an adequate financial return on this investment.

Providers' marketing for MTM has relied on other organizations. In both 2008 and 2009, the top three ways that providers identified potential candidates for MTM services were (1) patients having specific diseases (e.g. asthma, diabetes), (2) patients with a specific health plan, and (3) patients taking a specific number of medications. In 2009, 20% of respondents reported "other" as a way to identify patients. Written comments about these other methods provided insight about the diverse ways providers are identifying patients for MTM services. Often, these methods were either coordinated or dic-

Table 2. Pharmacist provider perspective: Implementation of MTM services

Strategies to begin offering MTM services in practice/organization[a]	**2010 survey**	**2009 survey**	**2008 survey**	**2007 survey**[b]
n	477	444	282	—
Training of staff	63	57	62	—
Change in staffing patterns	43	36	39	—
Increasing no. of pharmacists	33	29	32	—
Installing technology/automation	25	21	24	—
Purchasing equipment/supplies	17	16	22	—
Increasing no. of technicians	15	9	16	—
Remodeling facilities	16	16	10	—
None	10	10	17	—
Other[c]	6	9	6	—
Don't know	7	9	5	—
Practice/organization compensation to pharmacists for providing MTM services[a]	**2010 survey**	**2009 survey**	**2008 survey**	**2007 survey**[b]
n	477	444	276	—
Part of standard pharmacist salary (job responsibility)	63	55	69	—
Merit raises based on performance evaluation	7	4	7	—
Additional bonus/incentives	5	5	7	—
Additional paid time on hourly or overtime basis/pay differential	3	6	7	—
Use independent consultant(s)	3	3	3	—
Not applicable	14	14	14	—
Don't know	6	6	6	—
Other[d]	6	6	6	
Significance of challenges when providing MTM services[e]	**2010 survey**[f]	**2009 survey**[f]	**2008 survey**[f]	**2007 survey**[g]
n	466	432	286	—
Lack of insurance companies paying for these services	37, 3.8	—	—	—
Billing is difficult	25, 3.6	23, 3.5	22, 3.6	—
Payment for MTM services is too low	24, 3.4	16, 3.2	16, 3.2	—
Pharmacists have inadequate time	23, 3.5	19, 3.4	21, 3.4	—
Staffing levels insufficient	20, 3.4	19, 3.3	16, 3.3	—
Dispensing activities are too heavy	19, 3.3	11, 3.3	16, 3.4	—
Documentation for services is difficult	12, 3.3	11, 3.2	14, 3.4	—
Trouble communicating/marketing to patients	11, 3.1	—	—	—
Patients are not interested or decline to participate	10, 3.1	12, 3.1	9, 3.0	—
Lack of collaborative relationships with prescribers and physicians	10, 2.9	—	—	—
Inadequate space is available	10, 2.7	6, 2.6	10, 2.7	—
Too few MTM patients to justify the cost to maintain the service	8, 2.7	8, 2.8	—	—
Too few MTM patients to justify the start-up cost	8, 2.6	7, 2.7	—	—
Too few MTM patients to justify the cost	—	—	9, 2.8	—
Technology barriers	7, 2.9	6, 2.8	8, 2.7	—
Unable to collect patient information needed to provide services	7, 2.7	4, 2.5	7, 2.7	—
Too difficult to determine patient eligibility	7, 2.7	6, 2.7	6, 2.7	—
Inadequate training/experience	6, 2.6	5, 2.5	4, 2.5	—
Local physician resistance expressed	6, 2.8	5, 2.7	5, 2.8	—
Management does not support provision of MTM services	4, 2.1	4, 2.1	3, 2.0	—
Eligible patients do not really need it	4, 2.5	3, 2.5	2, 2.4	—
Identification of patients as potential candidates for MTM services[a]	**2009 survey**	**2008 survey**	**2007 survey**[b]	
n	432	285	—	
Patients having specific diseases (e.g., asthma, diabetes)	49	48	—	
Patients with a specific health plan	41	46	—	

Table 2 continued

Patients taking specific no. of medications	40	42	—
Patients having specific no. of diseases	36	40	—
Patients with a history of nonadherence	36	33	—
Patients taking specific medications (e.g., warfarin, digoxin)	33	34	—
Patients with documented or suspected medication-related problem	26	30	—
Patients with documented or suspected adverse drug reaction	20	25	—
Patients having a specific drug spend	16	18	—
Patients with emergency department or hospitalization discharges	13	12	—
Other (specify)[h]	20	18	—
Don't identify patients as potential candidates for MTM services	10	10	—
Don't know	6	4	—
Not applicable	3	2	—
Identifying patients as potential candidates for MTM services[a,i]	**2010 survey**		
n	466		
Patients are referred by an MTM vendor	53		
Patients are referred by a health plan or PBM	41		
Patients are referred by a prescriber or physician	37		
Patients request MTM services (self-referral)	35		
Patients are referred by other source (specify)[h]	19		
Other (specify)[h]	12		

Abbreviations used: MTM, medication therapy management; PBM, pharmacy benefits manager.
[a]Participants could select all options that apply; data are percent responding "yes."
[b]For the 2007 survey, data were not collected in a manner that was comparable with the 2008–10 data.
[c]Other included factors such as (1) administrative assistants for clinical pharmacists, (2) buy-in from providers, (3) more referrals, (4) registry development, (5) software modifications, (6) started own business.
[d]Other included factors such as academic affiliate, no compensation, clinical contracts, fee per patient, profit sharing.
[e]Data are percent of participants reporting the item as very significant, followed by the mean score for each item rated on a five-point Likert-type scale (1, very insignificant, to 5, very significant).
[f]For 2008–10, items were rated on a five-point Likert-type scale (1, very insignificant, to 5, very significant).
[g]Data were not collected for this question in 2007.
[h]Types of responses were diverse. Often times, very specific names were given. Complete lists of responses are available upon request to the corresponding author.
[i]For 2010, response categories for the question were changed.
More in-depth findings can be obtained by accessing reference 21 and by contacting the corresponding author.

tated by a third party. The comments also revealed that providers often are working under multiple contracts or plans, with each having unique eligibility and identification patterns and challenges. In light of these findings, the question was changed for the 2010 survey. Findings from the 2010 survey showed that the most typical ways for patients to enter into MTM services/programs was by various means of referral: MTM vendor, health plan for pharmacy benefits manager, prescriber or physician, or self-referral.

Relying on external identification of patients needing MTM services appeared to have advantages. For example, an organization external to a pharmacy may have more computer hardware and programming capacity to identify and target patients for MTM services. In addition, by having an outside source identify patients in need of MTM services, MTM provider organizations would not need to adjust their workflows to accommodate that process. Rather, they would need only to be able to act on the targeting information they receive from an external source.

MTM payer perspectives

In this section, perspectives about value and implementation strategies are summarized from the MTM payer perspective.

MTM payer perspectives of value. Table 3 summarizes findings related to the value associated with pharmacist-provided MTM services from the MTM payer perspective. These findings reveal payers' reasons for paying for MTM and the importance of MTM in bringing value to the payer organization.

Reasons for paying for MTM are associated with reducing costs and improving performance. For each year in which these data were collected (2008–10), payers reported that "reduced total health care costs" and "increased quality of care/outcomes via performance measures" were among the most important items. We propose that these factors reflect payers' need to achieve a return (via cost reduction and/or improved performance) on their investment (payment) for MTM.

MTM's importance for providing value to payers is related to costs and improving performance. In terms of providing value to payers through outcomes that they measure, payer respondents in 2010 most commonly measured overall medication costs (67%) and number of medication-related problems resolved (67%). These findings are in contrast to the most commonly measured outcomes reported in the 2009 survey: drug interactions identified/resolved (67%) and member satisfaction (67%). We propose that MTM payers may deliberately focus and monitor their MTM programs from one year to the next. For ex-

Table 3. Payer perspective: Value associated with pharmacist-provided MTM services

Significance of the potential value to organization from offering MTM services[a]	**2010 survey**[b]	**2009 survey**[b]	**2008 survey**[b]	**2007 survey**[c]
n	30	39	31	—
Reduced total health care costs	54, 4.3	46, 3.9	58, 4.5	—
Increased quality of care/outcomes via performance measures	52, 4.4	49, 4.1	48, 4.4	—
Reduced cost of medical care	46, 4.2	34, 3.8	52, 4.4	—
Increased patient satisfaction	46, 4.2	46, 4.2	42, 4.2	—
Increased professional satisfaction	43, 4.1	44, 4.1	45, 4.2	—
Reduced cost of prescription benefits	35, 3.8	21, 3.6	32, 3.8	—
Outcomes that could be affected by MTM that organization measures[d]	**2010 survey**	**2009 survey**	**2008 survey**	**2007 survey**
n	30	42	28	22
Overall medication costs	67	62	82	73
No. of medication-related problems resolved	67	43	54	64
Improved adherence	53	48	75	91
Medication over/underutilization	53	45	64	82
No. of high-risk medications	53	45	50	45
Overall health care costs	53	36	54	68
Member satisfaction	50	67	54	45
Quality measure scores (HEDIS)	47	33	50	45
Therapeutic duplications resolved	47	50	68	73
Use of generics	43	60	75	NA
Drug interactions identified/resolved	37	67	71	91
Use of formulary medications	37	43	58	NA
Nontreated conditions identified and appropriately treated	30	24	39	45
Treatment changes made to bring therapy in line with guidelines	30	36	64	64
Improved medication understanding	20	40	50	NA
Costs associated with adverse drug events	20	26	39	14

Abbreviations used: HEDIS, Healthcare Effectiveness Data and Information Set; MTM, medication therapy management; NA, not applicable.
[a]Data are percent of participants reporting the item as very significant, followed by the mean score for each item rated on a five-point Likert-type scale (1, very insignificant, to 5, very significant).
[b]For 2008–10, items were rated on a five-point Likert-type scale (1, very insignificant, to 5, very significant).
[c]These data were not collected in the 2007 survey.
[d]More in-depth findings can be obtained by accessing reference 21 and by contacting the corresponding author.

ample, in 2007, when MTM was first being developed, the focus may have been on drug interactions and patient adherence in order to be consistent with how MTM was defined and to show that Medicare Part D requirements for providing MTM were being fulfilled. In 2010, however, MTM payers may have developed a focus for MTM that would be more consistent with their organizational strategies. A focus on factors such as costs, over/underutilization, and high-risk medications could be indicative of focusing on controlling the cost of relatively expensive medication products during 2010—arguably the biggest challenge for many payers during that year. Our interpretation of these findings should be tempered by the low sample sizes and variation in respondent characteristics among the 3 years. Nonetheless, we suggest that MTM programs need to be responsive from year to year to keep pace with changes in MTM payer priorities, economic environments, and health system/societal priorities.

MTM payer implementation strategies. Table 4 summarizes implementation of pharmacist-provided MTM services by MTM payers, including balancing MTM supply and demand and costs of transacting.

MTM implementation by payers has focused on MTM supply/demand. In 2008–10, the four most critical challenges reported by MTM payers were patients are not interested or decline to participate, skeptical that these types of services would produce tangible outcomes, providers do not have the training/experience, and insufficient MTM providers in the market area to meet needs.

Regarding determination of eligibility for MTM services, MTM payers were most likely to report (1) members taking a specific number of medications, (2) members having a specific number of diseases, (3) members having a specific drug spend, and (4) members having specific diseases. Of note, these criteria are consistent with Medicare Part D guidelines. In 2008–10, at least 60% of respondents reported these factors. In 2010, 70% of payer respondents reported that a health plan identifies members in their organization for eligibility under their MTM program followed by pharmacist (40%) and physician (20%). A similar pattern was seen in 2009.

We propose that MTM payers were focused on meeting Medicare Part D guidelines and on matching supply and de-

Table 4. Payer perspective: Implementation of pharmacist-provided MTM services

Significance of challenges faced when deciding whether to offer MTM services to members[a]	**2010 survey**[b]	**2009 survey**[b]	**2008 survey**[b]	**2007 survey**[c]
n	30	47	31	—
Patients are not interested or decline to participate	47, 3.2	55, 3.5	61, 3.2	—
Providers do not have the training/experience	33, 2.7	36, 3.0	29, 2.7	—
Skeptical that these types of services would produce tangible outcomes	30, 2.8	43, 3.0	32, 2.7	—
Insufficient MTM providers in the market area to meet needs	30, 2.6	32, 2.7	25, 2.6	—
Eligible patients do not really need it	21, 2.2	19, 2.3	9, 1.9	—
Local physician resistance expressed	20, 2.7	26, 2.7	22, 2.2	—
Too few MTM patients to justify the cost	13, 2.4	23, 2.5	19, 2.2	—
Too difficult to determine patient eligibility	10, 1.8	11, 2.0	9, 1.9	—
Populations in organization eligible for MTM services[d]	**2010 survey**	**2009 survey**	**2008 survey**	**2007 survey**[b]
n	30	46	30	—
Members with Medicare Advantage pans	77	70	70	—
Members with Medicare stand-alone prescription drug plans	47	33	33	—
Members covered under HMO/managed care plans	30	26	33	—
Members of a specific employer benefit group	23	24	20	—
Members with commercial insurance	20	15	27	—
Members with Medicare supplemental plans	20	28	23	—
Beneficiaries in a state Medicaid program	17	28	27	—
Members covered under PPO plans	17	22	27	—
Members with self-insured health/prescription plan coverage	17	15	23	—
Members as part of medical home	13	—	—	—
Members covered under traditional health indemnity plans	13	7	13	—
Members with health savings accounts	3	9	13	—
Members as part of accountable care organizations	0	—	—	—
Determination of member eligibility for MTM services[d]	**2010 survey**	**2009 survey**	**2008 survey**	**2007 survey**[b]
n	30	46	30	—
Members taking specific no. of medications	83	67	73	—
Members having specific no. of diseases	70	78	73	—
Members having a specific drug spend	70	67	73	—
Members having specific diseases	60	74	63	—
Members taking specific medications	30	26	10	—
Members with a specific health plan	20	20	23	—
All members are eligible	20	15	20	—
Members with a documented/suspected medication-related problem	17	9	3	—
Members with a documented or suspected adverse drug reaction	13	7	3	—
Members with a history of nonadherence	10	7	7	—
Members with a history of emergency department or hospital discharges	7	7	7	—
Who identifies member eligibility for MTM program	**2010 survey**	**2009 survey**	**2008 survey**	**2007 survey**[b]
n	30	46	29	—
Health plan	70	50	55	—
Pharmacist	40	43	31	—
Physician	20	17	7	—
PBM	7	9	14	—
Health information technology/claims analysis	7	7	17	—
Case managers	7	4	0	—
MTM vendor	7	2	3	—
Any member of health team or patients	3	0	3	—
Service delivery methods to provide MTM services[d]	**2010 survey**	**2009 survey**	**2008 survey**	**2007 survey**[b]
n	30	46	29	—

Table 4 continued

By phone	83	74	76	—
Face to face	57	46	45	—
MTM program members who receive MTM services based on a tiered approach determined by specific program guidelines (%)	**2010 survey**	**2009 survey**	**2008 survey**	**2007 survey[b]**
n	30	46	29	—
Yes	20	18	31	—
No	77	80	66	—
Don't know	3	2	3	—
MTM-eligible members who participate in MTM services (%)	**2010 survey**	**2009 survey**	**2008 survey**	**2007 survey[b]**
n	30	45	28	—
100%	3	4	11	—
>90% to <100%	3	2	14	—
75–90%	7	2	7	—
50–74%	13	9	7	—
25–49%	13	7	4	—
<25%	48	42	25	—
Don't know	3	24	25	—
Not applicable	10	9	7	—
Maximum no. of MTM encounters in a plan year for which members are eligible (%)	**2010 survey**	**2009 survey**	**2008 survey[b]**	**2007 survey[b]**
n	30	45	—	—
None	0	4	—	—
1	20	0	—	—
2	7	4	—	—
3	7	4	—	—
4	23	27	—	—
6	7	0	—	—
8	3	2	—	—
9	0	2	—	—
12	3	2	—	—
No. listed that is >12	0	2	—	—
No limit	30	51	—	—
Types of providers used for MTM service delivery[d]	**2010 survey**	**2009 survey**	**2008 survey**	**2007 survey**
n	30	45	29	21
Pharmacists in-house	57	60	64	35
Contracted pharmacists	43	40	43	68
Contracted MTM provider organization	17	27	25	24
Nurses in-house	7	20	29	10
Contracted physicians	0	4	0	0
Contracted nurses	0	2	4	5
Disease management vendor	3	2	4	10
Other (specify)[e]	13	9	4	5
Don't know	0	0	0	7
Does your organization use the MTM CPT codes for MTM claims processing?	**2010 survey**	**2009 survey**	**2008 survey**	**2007 survey**
n	30	45	28	21
Yes	23	29	36	48
No	73	62	54	33
Don't know	3	9	11	19

Table 4 continued

Abbreviations used: CPT, Current Procedural Terminology; HMO, health maintenance organization; MTM, medication therapy management; PBM, pharmacy benefits manager; PPO, preferred provider organization.
[a]Data are percent of participants reporting the item as somewhat or very significant, followed by the mean score for each item rated on a five-point Likert-type scale (1, very insignificant, to 5, very significant).
[b]For 2008–10, items were rated on a five-point Likert-type scale (1, very insignificant, to 5, very significant).
[c]Data are not reported for some variables in some years due to the data being collected in a manner that was not comparable with more recently collected data.
[d]Participants could select all options that apply; data are percent responding "yes."
[e]Other included certified pharmacists, health educators, PBM, and student pharmacists.
More in-depth findings can be obtained by accessing reference 21 and by contacting the corresponding author.

mand for MTM in their organization's patient population. Also, it appears that payers were trying to match MTM capacity that was available to them at a cost they could afford with patient care needs and patient demand for such services.

Payers also have focused on the costs of transacting. Payers also exhibited a focus on gaining efficiency for MTM services through minimizing the costs of transacting. We define "costs of transacting" as costs incurred while making an economic exchange (i.e., cost of participating in a market). We propose that in addition to paying providers for MTM services, payers also paid attention to the costs associated with these transactions (e.g., billing, auditing, monitoring, data management, negotiations, contracts). Costs of transacting may be affected by communication methods, service delivery methods, and payment methods.

For example, the results revealed that in 2008–10, telephone was used approximately 1.5 times more often than face-to-face delivery of MTM. The use of "tiered approaches" for MTM services, in which all or some members receive a phone intervention, then a subset receives a face-to-face intervention, remained relatively low in 2008–10. Regarding the proportion of MTM-eligible members who actually participated in MTM services, the most common response by payers was "less than 25%."

Regarding the maximum number of MTM encounters per year as reported by MTM payers, the most common responses in 2009 and 2010 were "no limit" and "4." In 2008–10, MTM payers more commonly reported using in-house pharmacists than contracted pharmacists for MTM service delivery. This is in contrast to the 2007 findings, in which payers more commonly used contracted pharmacists. Finally, the use of MTM CPT (Current Procedural Terminology) codes decreased in use by MTM payers for MTM claims processing from 48% in 2007 to 23% in 2010.

Taken together, we propose that these findings, which are related to service delivery, eligibility, outsourcing, and billing mechanisms, all point to payers' focus on building efficiencies for MTM services and minimizing costs.

Concluding remarks about MTM environmental scans

Based on the findings to the 2010 survey and comparisons made with 2007–09 data, we suggest that providers of MTM have been relatively stable during this 4-year period regarding:

- Offering MTM primarily out of professionalism and patient care motivations.
- Focusing on building MTM competence and capacity as they developed these services.
- Relying on other organizations for marketing MTM and identifying patients.

In contrast, the findings showed that payers for MTM have:

- Paid for MTM with a need to achieve a return via cost reduction and/or improved performance.
- Adjusted cost and performance goals annually to reflect organizational strategies.
- Implemented MTM programs with a focus on meeting Medicare Part D guidelines, supply/demand, and transaction cost factors.

Interpretation of insights from Future of MTM Roundtable

To help further interpret findings from the 2007 through 2010 MTM environmental scans described above, we turned to findings from the Future of MTM Roundtable discussion that was held on October 19, 2010, at the University of Minnesota, Minneapolis. Roundtable participants included six key opinion leaders from outside of Minnesota, six key opinion leaders from Minnesota, and six guests. These 18 participants were selected based on their area of expertise, geographic representation, and availability for participation in the roundtable. The discussion involved four overall topic areas: (1) biggest challenges that MTM providers face as they provide these programs, (2) biggest successes so far in the development and delivery of MTM programs, (3) new ideas or future directions that will be most salient for MTM provision, and (4) functions (capabilities) that will be necessary for meeting future needs related to MTM provision.

Thematic analysis of the sessions was performed using steps outlined by Krueger and Casey[24] and Morgan.[25] Audio tapes were transcribed by a professional transcription service into a Microsoft Word file, and the resulting text was analyzed in a descriptive and interpretive manner. In addition, detailed field notes were used for validation of identified themes.[26] The transcripts and field notes were read several times, and main themes were extracted. To aid in interpretation of findings, keywords were identified and frequency counts for individual words were computed.

Theme extraction was based on convergence and external divergence; that is, identified themes were internally consistent but distinct from one and another.[26] Participant statements referring to a particular theme were grouped and further explored and compared with initial key ideas.[27] To assess the quality and credibility of the themes,[28] study findings were distributed to both study participants and external reviewers for comment.

Thematic analysis of the MTM roundtable transcripts and

field notes identified four themes.[23] These were (1) practice, (2) promotion, (3) logistics, and (4) business. The results showed that most comments were related to practice (85 comments), followed by promotion (46), logistics (34), and business (18). In addition, 66 comments were about challenges, 51 about future directions, 46 about functions, and 20 about successes.

Table 5 shows the distribution of comments within each of these categories. The majority of practice-related comments were about future directions. Most comments regarding promotion and business were about challenges, while most comments related to logistics were about functions.

More detailed descriptions for each theme are presented below.

Theme 1: Practice

Discourse regarding practice focused on better defining the service offering (MTM) that is being developed and offered in order to meet the need for optimizing medication therapy. Roundtable participants viewed MTM as a poorly developed concept in terms of a product that fits within currently dominant practice models for the majority of practicing pharmacists. In addition, participants identified a poor fit between MTM and current pharmacy practice acts. The discussion showed that a need exists for further concept development, positioning, and testing of MTM. For example, MTM services could be positioned to improve medication safety, reduce patient costs, help patients feel better, or even help patients stay out of the hospital. More work is needed to determine the relative effectiveness of such approaches.

Theme 2: Promotion

Discussion regarding promotion focused on the need to change pharmacists' image and to increase awareness for MTM programs among patients, payers, and other health care providers. It appears that some MTM programs are still in the introduction stage of their product life cycles, during which (1) advertising and publicity can be cost effective in producing high awareness and (2) sales incentives (e.g., discounts) can be useful in promoting early trial. In some sectors, MTM programs may have entered the growth stage in which advertising and publicity continue to be potent, but sales incentives can be reduced because consumers already have tried the product and became familiar with it.

Theme 3: Logistics

Discourse regarding logistics focused on better defining the channel of distribution for MTM programs. Logistics relates to the delivery of the service, payment, and information exchange. Within such channels of distribution, both provider and payer organizations will engage in various levels of cooperation, communication, conflict, and competition to meet organizational goals. Comments focused on creating integrated logistics models in which (1) information would be accessible and shared, (2) referrals would be made, and (3) transaction costs would be minimized for organizations making up the channel of distribution for MTM. Some MTM payers run protocols on beneficiary drug claims to identify those most likely to benefit from an MTM service, then communicate those needs to the patients' pharmacists. Such targeting integrates the payer and provider while potentially raising service awareness and service levels to patients.

Theme 4: Business

Business discussions focused on better defining the pricing structures that would provide suitable reimbursement for MTM programs. Price should be commensurate with the perceived value of the product offering; otherwise, buyers will turn to competitors for their product choices. Pricing also requires decision making related to revenue objectives, determination of demand, estimation of costs, competitors' offers, and the most suitable pricing methods. Comments focused on creating business models that would create enough volume for covering the costs of delivering MTM programs. Analysis of the text revealed that participants viewed current business models for MTM as insufficient for obtaining reimbursement at required levels. Some discussion occurred regarding the use of integrated models for MTM in which this function would be viewed as an internal cost necessary for providing patient care. As such, MTM would not be viewed as a separate service that would be directly reimbursable by an outside payer.

Concluding remarks about Future of MTM Roundtable

Findings from the 2010 Future of MTM Roundtable provided insights regarding practice, promotion, logistics, and business aspects of MTM services.[23] Because MTM is still in the introduction and growth stages of its product life cycle, change will be rapid, needs will change constantly, and channel power may shift frequently. Competitive advantage will be realized by being able to anticipate and respond to changes in the MTM environment. However, as pointed out by some roundtable participants, the pharmacy profession has a history in which new methods or new technologies have interfered with practice development in that they drove practice rather than responding to practice needs.

Table 5. Distribution of comments at Future of MTM Roundtable

Type of comment	Practice	Promotion	Logistics	Business	Total
Challenges	24	27	3	12	66
Successes	6	11	1	2	20
Future directions	32	7	9	3	51
Functions	23	1	21	1	46
Total	85	46	34	18	183

Ideas for positioning and integrating MTM programs

MTM environmental scans conducted from 2007 through 2010 and the Future of MTM Roundtable conducted in October 2010 revealed characteristics of the emergent life cycle of the MTM concept. The developing channel of distribution for MTM can be characterized by providers that (1) offer MTM primarily out of professionalism and patient care motivations, (2) are building competence and capacity for these services, and (3) rely on other organizations for marketing MTM and identifying patients. However, providers have been faced with the challenge of establishing widely accepted business models and norms for conducting transactions for MTM programs.

The channel also can be characterized by MTM payers that (1) pay attention to achieving a return on their investment in MTM via cost reduction and/or improved performance, (2) adjust cost and performance goals from year to year to reflect organizational strategies, and (3) implement MTM programs with a focus on meeting Medicare Part D guidelines, supply/demand considerations, and transaction cost factors.

Based on insights from an expert panel that participated in the Future of MTM Roundtable, the channel of distribution for MTM was described as having:

- A poorly developed concept (i.e., MTM) in terms of a service offering that fits within currently dominant practice models.
- A poor fit between MTM and current pharmacy practice acts.
- A need to change pharmacists' image and to increase awareness of MTM programs among patients, payers, and other health care providers.
- A need for integrated models in which information would be accessible and shared, referrals would be made, and transaction costs would be minimized for organizations that make up the channel of distribution for MTM.
- Business models that would create enough volume for covering the costs of delivering MTM programs.

Based on these findings, we propose two ideas for positioning and integrating MTM programs in the U.S. health care system. The first idea relates to "customer portfolio management" and the second idea relates to "costs of transacting."

Customer portfolio management

Customer portfolio management focuses on building value for a service offering such as MTM across an entire portfolio of potential customer relationships.[29] Different customers represent different levels of relationship with a product or service provider. That is, each customer represents a "customer portfolio lifetime value" that links value creation within individual customer relationships with overall value creation for the firm. Firms must understand when and when not to grow relationships with potential customers.

From a provider perspective, building competence and capacity for MTM service delivery is necessary but not sufficient for successful MTM program development. Other issues to consider include (1) other service offerings being more profitable than MTM, (2) uncertainty regarding which business models for MTM will be acceptable to payers, (3) lack of consumer demand for MTM, or (4) lack of organizational power in their negotiations with payers for MTM. These issues reflect the opportunity cost for using labor, capital, and entrepreneurship in developing MTM services.

It appears that MTM providers have devoted attention to building competence and capacity associated with MTM but have relied on other organizations for marketing these services and identifying patients. We propose that MTM providers could apply a "customer portfolio management" approach to their specific organization's client base to help with patient identification, marketing, and business transaction approaches that would be best suited for their organization and payer groups.

From a payer perspective, customer portfolio management can be useful as well. For example, stand-alone prescription drug plans may have incentives related to reducing prescription drug costs because that is their predominant area of risk. However, in health plans that have medication and medical costs in their risk portfolio, motivation for investing in medication use may be greater if such use decreases medical costs or reduces wasteful spending. A customer portfolio management approach could help broaden perspectives for individual organizations into a perspective that would be advantageous for all members of an integrated health system and point the focus to factors such as (1) waste reduction (rather than cost reduction), (2) pay for performance, and (3) broader expenditure considerations. Such a broadened perspective may be especially important as payment mechanisms change in the health care domain.

Costs of transacting

Second, we propose that costs of transacting are salient considerations at this point of MTM development. Participants in the Future of MTM Roundtable suggested that logistics models are needed in which (1) information would be accessible and shared, (2) referrals would be made, and (3) transaction costs would be minimized for organizations making up the channel of distribution for MTM. Integration and efficiencies were viewed as key for developing cost-effective MTM program offerings.

In channels of distribution for goods and services, firms will internalize activities that they are able to perform at lower cost and will rely on other firms for activities in which other channel members have an efficiency or effectiveness advantage.[30] Findings from the environmental scans showed that both MTM providers and payers have been making these decisions and have attempted to internalize some MTM functions while outsourcing others. Some examples include identifying patients, marketing, billing, and decisions regarding use of contracted or in-house practitioners.

The transaction cost economics framework proposes that members of the channel of distribution for a service such as MTM are assumed to (1) be opportunistic (having a tendency to take advantage of or cheat other parties) if given the chance, (2) have imperfect or asymmetric information, and (3) have bounded rationality (i.e., rationality that is limited by available information, cognitive limitations, and finite amount of time for

decision making).[30] These market forces work to bring about an "efficient sort" for transactions and channel governance structures so that exchange relationships can be understood in terms of "transaction cost economizing."[31] When it comes to organizations within a channel of distribution, the decision to "make" (i.e., provide the service or function themselves) or "buy" (i.e., outsource the service or function to another channel partner) depends on the (1) specificity of the service or function, (2) level of uncertainty about the future of the relationship between channel members, (3) complexity of the interaction, and (4) frequency of trade. For these four factors, higher levels of each are associated with a more integrated channel of distribution.

We propose that MTM program provision is moving to integrated, orchestrated, and harmonization stages in its development. We believe that organizations will experience success and failure as channel members compete for market power, efficiencies, and chances to be opportunistic in order to be profitable in both the short and long term. We suggest that MTM program provision is entering a competitive period in which both MTM providers and payers will need to minimize costs of transacting.

Focusing on different relationships simultaneously

The ideas we proposed can help providers and payers position and integrate MTM programs in the broad health care marketplace. We suggest that a need exists for strategic planning related to understanding the size, structure, and behaviors of the target markets for MTM services. To accomplish this, different relationships will need to be focused on simultaneously. For example, practice models for MTM have focused primarily on the interaction between organization and patient (business-to-consumer [B2C] relationships).[32,33] We propose that strategic planning is needed regarding both B2C and business-to-business (B2B) relationships, agreements, and exchanges in order to further develop and position the MTM product offering in health care systems.[32] In addition to B2B and B2C exchanges, peer-to-peer (P2P) relationships have been proposed as a way to enhance transactions and communication.[33–36] We mention this because an important part of MTM is the exchange of information, collaborative care arrangements, and referrals among peers (i.e., health professionals) in the MTM process.

Conclusion

Based on findings from the MTM environmental scans conducted from 2007 through 2010 and the Future of MTM Roundtable conducted in October 2010, we propose that the MTM concept is becoming more developed and that some aspects of MTM have become established within the organizations that are providing and paying for these programs. However, the findings also revealed that a need exists to better integrate MTM between organizations and patients serviced (B2C relationships), between partnering organizations (B2B relationships), and between collaborating practitioners (P2P relationships).[32,33]

The findings suggest a "channel of distribution" is emerging for MTM program provision through which information, services, and payment are created and exchanged.[30,31] In this new channel of distribution, we believe that (1) organizational relationships and (2) cost efficiencies will be important considerations in the near term. Further, we believe that customer portfolio management[29] and transaction cost economics[30,31] will yield fruitful insights and help improve decision making regarding the positioning and integrating of MTM in the U.S. health care system.

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