Medication Therapy Management: Outcomes of Telephonic Pharmacist Outreach

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Introduction

- Medication Therapy Management (MTM) is an evolving service provided by pharmacists that is designed to optimize medication therapy, increase adherence rates, and improve therapeutic outcomes.[1] Pharmacists conduct MTM by performing a comprehensive medication review (CMR) with a patient, either in person (face-to-face) or over the telephone (telephonic). Non-adherence is a primary drug therapy problem addressed during pharmacist-led MTM sessions.[2,3] In the United States, it is estimated that $105 billion in overall health care costs is attributed to non-adherence.[4] This cost is driven by poor clinical outcomes.
- The 2003 Medicare Prescription Drug, Improvement, and Modernization Act (MMA) requires Medicare Part D sponsors to establish MTM programs for beneficiaries who meet specific eligibility requirements.[5,6] Since the MMA was implemented in 2006, an increasing number of MTM programs have been established within Medicare Part D plans. Consequently, an increasing amount of research has been conducted to evaluate outcomes of different MTM program strategies.[2-3,6-11] While the number of studies about MTM programs in general has risen, few studies have evaluated outcomes of telephonic MTM services. Understanding the effect of these services on clinical outcomes is crucial to the development of successful telephonic MTM programs.

Purpose

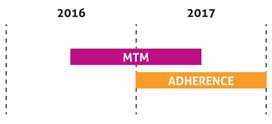
- This IRB-approved retrospective cohort study evaluated the impact of a clinical pharmacist-based telephonic MTM program on medication adherence rates and healthcare utilization in Medicare Part D patients who qualify for MTM services compared to patients who qualify for, but choose not to participate in MTM.

Methods

- **Aim 1:** Determine if patient participation in telephonic MTM results in improved medication adherence rates for
  - Angiotensin-converting enzyme inhibitors and angiotensin II receptor blockers (ACE-I/ARBs)
  - Oral type 2 diabetes mellitus (T2DM) medications
  - HMG-CoA reductase inhibitors (statins)
- **Aim 2:** Determine if patient participation in telephonic MTM results in a lower mean number of annual hospital (inpatient or emergency room) visits and outpatient (clinic or office) visits.

Methods continued

- **Inclusion Criteria:** Medicare Part D patients within the Magellan Health MTM program who qualified for the MTM program per CMS criteria from from July 1, 2016 to July 1, 2017.
  - Must have at least three of the following diseases: asthma, chronic obstructive pulmonary disease (COPD), congestive heart failure (CHF), coronary artery disease (CAD), diabetes, dyslipidemia, hypertension, osteoarthritis, and/or rheumatoid arthritis.
  - Must have been taking a minimum of six Part D medications.
  - Must have incurred at least $980 in total cost for Part D medications (including what the insurance paid and the copayments) in the previous three months.
- **Exclusion Criteria:** Dis-enrolled from health plan or death between July 1, 2016 and July 1, 2017.
- **Data Analysis Timeframe:** Both adherence data and number of hospital and outpatient visits for patients who were eligible for MTM were analyzed between January 1, 2017 and December 31, 2017. A follow-up time of five months was chosen to ensure there was enough time to detect a change in adherence and healthcare utilization between patients who completed MTM compared with patients who did not complete MTM.



- **Statistical Analysis:** Adherence rates were measured by calculating the proportion of days covered (PDC) from patient pharmacy claims for each medication class. This study aligned with CMS and defined patient adherence as >80% PDC. Once PDC rates were collected, the percentage of patients within each group who were adherent versus not adherent for each individual class of medications was calculated. Values of percent adherence from the MTM and non-MTM groups were evaluated for trends. Mean number of hospital and outpatient visits were also calculated. All analyses were reviewed for accuracy and completeness by each investigator.

Results

- Patients who utilized telephonic MTM services exhibited an increase in adherence for all three categories of medication compared with patients who chose not to use MTM services (ACE-I/ARB: 85.19% vs. 83.97%, oral T2DM: 89.15% vs. 84.07%, statins: 86.81% vs. 84.91%) during the time period of this study. The mean number of outpatient visits in 2017 was higher for patients who used telephonic MTM services compared with patients who did not use MTM services (29.81 vs. 27.14). The mean number of hospital visits, however, was lower for patients who used telephonic MTM services compared with patients who did not use MTM services (4.33 vs. 5.40).

Results continued

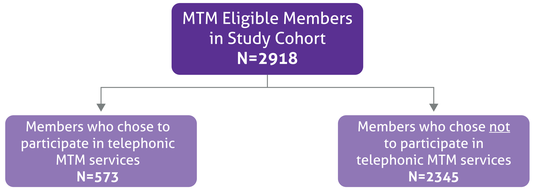
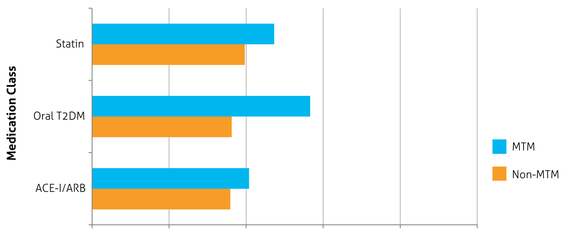


Table 1. MTM Eligible Patient Characteristics at Baseline

Characteristic	Patients who opted-in to MTM N=573	Patients who opted-out of MTM N= 2345
Age, yr (mean +/- SD)[a]	77.4 +/- 7	77.8 +/- 7
Gender		
Female, no. (%)	308 (54%)	1215 (52%)
Male, no. (%)	265 (46%)	1130 (48%)
State of Residence		
Utah, no. (%)	497 (87%)	1544 (66%)
Other states, no. (%)	76 (13%)	801 (34%)
Medication Type[b]		
ACE-I/ARB[c], no. (%)	324 (57%)	1273 (54%)
Oral T2DM[d], no. (%)	129 (23%)	496 (21%)
Statin, no. (%)	364 (64%)	1405 (60%)

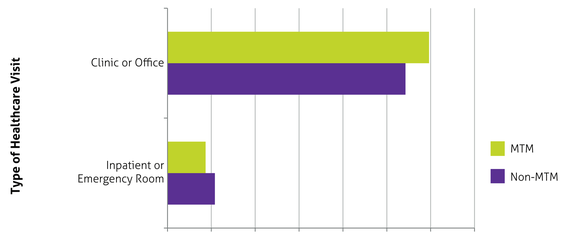
[a]As of date of patient MTM eligibility
[b]Patients may have taken more than one medication type
[c]ACE-I: angiotensin converting enzyme inhibitor
[c]ARB: angiotensin II receptor blocker
[d]T2DM: type 2 diabetes mellitus

Figure 1. Medication Adherence Results for MTM vs. Non-MTM Patients



	ACE-I/ARB	Oral T2DM	Statin
MTM	85.19	89.15	86.81
Non-MTM	83.97	84.07	84.91

Figure 2. Healthcare Utilization Results for MTM vs. Non-MTM Patients



	Inpatient or Emergency Room	Clinic or Office
MTM	4.33	29.81
Non-MTM	5.4	27.14

Conclusion

- This study illustrates the effects of a pharmacist-led telephonic MTM program on medication adherence rates and healthcare utilization in Medicare Part D patients. Results from this analysis show a trend in higher medication adherence rates and fewer number of inpatient/emergency room visits in patients who received telephonic MTM. These results suggest that pharmacists are key players in providing beneficial clinical outcomes by improving patient medication adherence and preventing inpatient/emergency room visits.

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