BACKGROUND & OBJECTIVE

- The Medicare Prescription Drug, Improvement, and Modernization Act of 2003 expanded access to medication therapy management (MTM) services for patients with chronic conditions through Medicare Part D prescription drug (MAPD) benefits.
- The impact of pharmacist-managed MTM programs has been positive, with several studies reporting improvements in clinical and economic outcomes. 1-4
- However, most research on MTM programs has been conducted in the private insurance setting. Little is known about how the MTM programs affect medication adherence in elderly Medicare beneficiaries with chronic conditions.
- The University of Florida Medication Therapy Management Communication and Care Center (UF MTMCCC), established in 2010, educates fourth–year student pharmacists, provides experimental practice sites and facilitates the delivery of MTM and other patient care services by clinical pharmacists. 5
- To understand the effects of MTM program in elderly population, providing the first student-staff MTM center, this study assessed the impact of MTM reminder call services on medication adherence among MAPD beneficiaries.

METHODS

MTM intervention
- AvMed Health Plans, a Florida based Health Plan, contracted with the UF MTMCCC to provide their MAPD health plan members with live interactive telephonic assessments.
- The phone call included a live interactive conversation with the patient to assess the use of their medication(s); to identify potential barriers to medication adherence; to provide possible recommendations including patient education, solutions for obtaining timely medication refills, and interventions related to side effect resolution and cost-related issues.

Study design and population
- A retrospective analysis using AvMed Health Plans (Jan 2013 – Dec 2014) was conducted for the MAPD plan beneficiaries (Fig1).
- Patients were included if they were (1) ≥18 years of age; (2) prescribed at least 2 prescription claims of antihypertensives; (3) continuously enrolled for 6 months prior to and 6 months following the index date (Jan –Jul 2014).
- A post-pre comparison study design with a matched control group (difference-in-differences analysis) was employed.

RESULTS

Patient Characteristics
- After matching, a total of 1126 patients were included in the study, with 563 patients in each of the intervention and control groups. (Table 1).
- After matching, there were no statistically significant differences between groups in terms of age, gender, county and PDC during the pre-implementation period.

Table 1: Baseline comparison of MTM intervention and control groups

<table>
<thead>
<tr>
<th>After propensity score matching a</th>
<th>Baseline characteristic</th>
<th>Intervention group (n=563)</th>
<th>Matched control group (n=563)</th>
<th>P Value b</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years), mean (SD)</td>
<td>76.1 (8.3)</td>
<td>76.3 (8.0)</td>
<td>0.486</td>
<td></td>
</tr>
<tr>
<td>Gender, n (%) male</td>
<td>220 (39.1%)</td>
<td>201 (35.7%)</td>
<td>0.195</td>
<td></td>
</tr>
<tr>
<td>County, n (%)</td>
<td>Broward County</td>
<td>345 (61.3%)</td>
<td>327(58.1%)</td>
<td>0.105</td>
</tr>
<tr>
<td></td>
<td>Miami-Dade County</td>
<td>218 (38.7%)</td>
<td>236 (41.9%)</td>
<td></td>
</tr>
<tr>
<td>Proportion of days covered (PDC)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean (SD)</td>
<td>63.1 (29.9)</td>
<td>62.3 (29.4)</td>
<td>0.285</td>
<td></td>
</tr>
<tr>
<td>No. of patients ≥ 80%, n (%)</td>
<td>225 (40.0%)</td>
<td>214 (38.0%)</td>
<td>0.266</td>
<td></td>
</tr>
</tbody>
</table>

Patient with ≥80% adherence

Data Analysis
- Medication adherence was defined by the Proportion of Days Covered (PDC), the number of days during the study period that the patient had medications on hand. 6
- A 1:1 propensity score matching technique was used to pair each patient in the intervention group with one individual from the control group.
- A Generalized Estimating Equation (GEE) model using the gamma family with a log link was used controlling for age, gender, county, pre-index PDC, therapy pattern, and index month.

Figure 1: Study design

Table 2: Changes in adherence 6-month post-implementation period versus 6-month pre-implementation period for patients in the intervention and control groups

<table>
<thead>
<tr>
<th>Intervention group (n=563)</th>
<th>Matched control group (n=563)</th>
<th>Difference in differences (DID)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of MTM calls, mean (SD)</td>
<td>1.48 (0.87)</td>
<td>0</td>
</tr>
<tr>
<td>Proportion of Days Covered (PDC)</td>
<td>Change P Value a</td>
<td>Change P Value a</td>
</tr>
<tr>
<td>Mean (SD)</td>
<td>17.33 (13.56)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

aP-value compares changes between the 6-month pre- and post-intervention using paired t-test.
bP-value compares the difference in differences in intervention group vs. matched control group using paired t-test.

LIMITATIONS & CONCLUSIONS

- The findings of the present study suggest that the telephonic reminder calls delivered by campus-based MTM center was effective in improving adherence to antihypertensives among MAPD plan beneficiaries.
- The UF MTMCCC started providing the advanced adherence services in 2015 including all aspects of the basic reminder call services with the addition of incorporating a validated survey tool for addressing adherence barriers and offering various reminder tools targeted at patient-specific adherence barriers.
- Further research is needed to evaluate which type of service would be more effective in improving medication adherence.

Limitations
- As a general limitation with the use of claims databases, PDC was used as proxy measure of adherence. Thus, it cannot be ascertained whether patients actually used the medications as prescribed, but merely that they had their medications filled. 4
- The 6-month time period analyzed may not have been enough time to capture a significant impact of the adherence program, especially for those receiving a 90-day supply of medications.

REFERENCES


Acknowledgement

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