Benefits of Pharmacist Interactions with High-Risk Medicaid Enrollees

CareSource Research White Paper

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Introduction

One of the greatest challenges in healthcare today is medication nonadherence among those being treated for chronic conditions (St. Peter, Wazney, & Patel, 2013), an issue estimated to cost approximately $290 billion dollars per year in avoidable medical spending (Brummel & Carlson, 2016; Nasseh et al., 2012). Nonadherence for chronic conditions is widely linked to increased mortality as well as greater rates of hospitalization and emergency department (ED) utilization compared to medication-adherent patients (Roebuck et al., 2011; Viswanathan et al., 2015). To address this problem, various programs have been established to support the connection between patient and pharmacist and promote dialogue about medications.

Commonly described as medication therapy management (MTM), these programs are designed to optimize the therapeutic benefits of prescribed and recommended treatments and allow patients an opportunity to better understand their treatment options, consequently improving medication adherence and decreasing the risk of an adverse event (Brummel & Carlson, 2016; Viswanathan et al., 2015; Isetts et al., 2008). A survey of patients participating in an MTM program revealed that more than 95% of respondents reported that the program was educational and believed that their health had improved (Ramalho de Oliveira, Brummel, & Miller, 2010).

Study Description

The present study analyzed data from CareSource Medicaid enrollees to evaluate the benefits of utilizing an intervention program, Medication Therapy Management – Comprehensive Medication Review (MTM-CMR). The MTM-CMR program is designed to coordinate a face-to-face interaction between pharmacists and CareSource members most likely to benefit from improved medication adherence and regimens. This intervention focus primarily on those with three or more chronic condition diagnoses who are taking four or more prescription medications.

To evaluate the benefits of the MTM-CMR intervention, a sample of program participants (see *Study Population*) were compared against a matched sample of Medicaid beneficiaries not enrolled in the program to explore cost, utilization, and medication adherence. Data were analyzed across 24 consecutive months, with the first 12 months representing a year's worth of claims prior to the intervention and the second 12 months representing the year after the intervention. Statistical analyses compared administrative claims data as well as indicators for medication adherence for two consecutive years to identify any changes between the two groups which could be associated with the pharmacist intervention.

Results

Claims & Utilization

The first phase of analyses compared claims paid as well as utilization counts between the two groups, looking both at differences between the groups as well as how the differences changed from the first year analyzed to the second. There were no differences between the groups for the change in claims paid or utilization counts across the two years analyzed, however:

- Claims paid for outpatient visits and prescriptions in the MTM-CMR group were significantly lower during both years analyzed.
- Control group members had significantly higher inpatient and ED visit counts during both years.

Medication Possession Ratio (MPR) & Prescription Gaps

Analysis of the MPR and number of gaps in medication fills revealed significant improvements for those in the MTM-CMR program. To best evaluate the potential benefits of the MTM-CMR program, the following analyses focused on three of the most prevalent chronic conditions among these members: depression (n = 675); diabetes (n = 1,548); and hypertension (n = 2,693).

MPR

MPR is calculated as the sum of days' supply for all prescription fills during the 12 consecutive months divided by the number of days in the time period, and is regarded as one of the top measures for medication adherence. Participation in the MTM-CMR intervention program was associated with significant improvements in MPRs for members diagnosed with diabetes or hypertension. As shown below in Figure 1, members diagnosed with either condition demonstrated improved rates of medication possession from Year 1 to Year 2, though the magnitude of increase was greater for members in the MTM-CMR group compared to similar members in the control group.

- Depression: Similar improvements were evident among members diagnosed with depression, but these effects were not significant.
- Diabetes: Average MPRs increased by approximately 3.2% for those who participated in the intervention program who have diabetes, but the same rates increased by only 0.7% for members in the control group.
- Hypertension: MTM-CMR participants treated for hypertension improved their MPRs by 2.3% from Year 1 to Year 2, while control group members saw gains of only 0.4%.

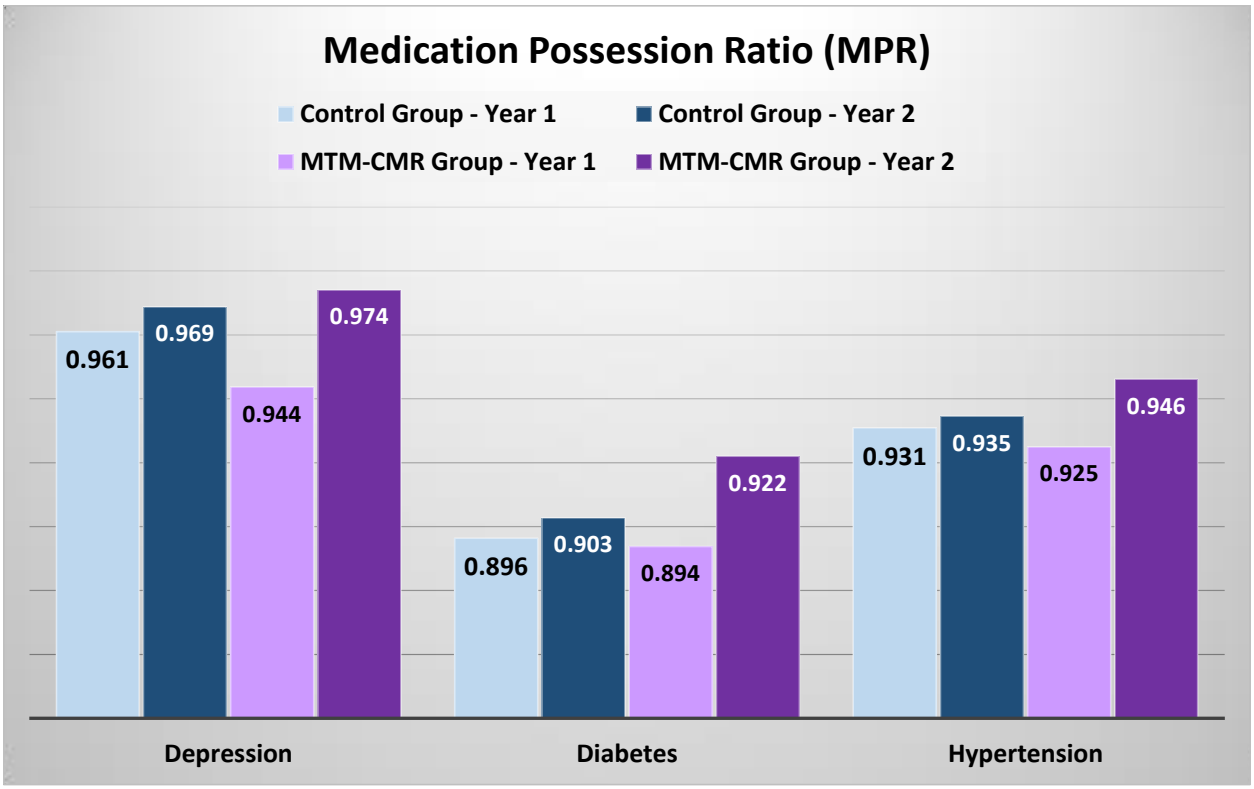

Figure 1. Average medication possession ratios for members in either the Control or MTM Comprehensive Medication Review groups during the first and second years analyzed.

Prescription Gaps

The second measure of medication adherence analyzed was the comparison of the number of gaps in prescription refills. Gaps in prescription fills, also known as medication nonpersistence, were defined as the number of times that the duration between refills exceeded a threshold equal to the last days' supply dispensed plus a 15 day grace period. As was evident for changes in average MPRs from Year 1 to Year 2, incidents of medication nonpersistence improved most dramatically for members in the intervention group, demonstrated in Figure 2 below.

- Depression: The biggest improvement in medication persistence for the intervention group was among members being treated for depression. Nonpersistence rates for these enrollees decreased significantly, by 34.8%, whereas rates for members in the control group had a 9% increase in their prescription refill gaps.
- Diabetes: Medication nonpersistence rates for MTM-CMR participants with diabetes decreased by nearly 19% compared to a 0.4% decrease among members in the control group.
- Hypertension: The number of prescription gaps decreased by 8.9% for intervention group members while increasing by 7.5% for those in the control group, however the effect was only marginally significant.

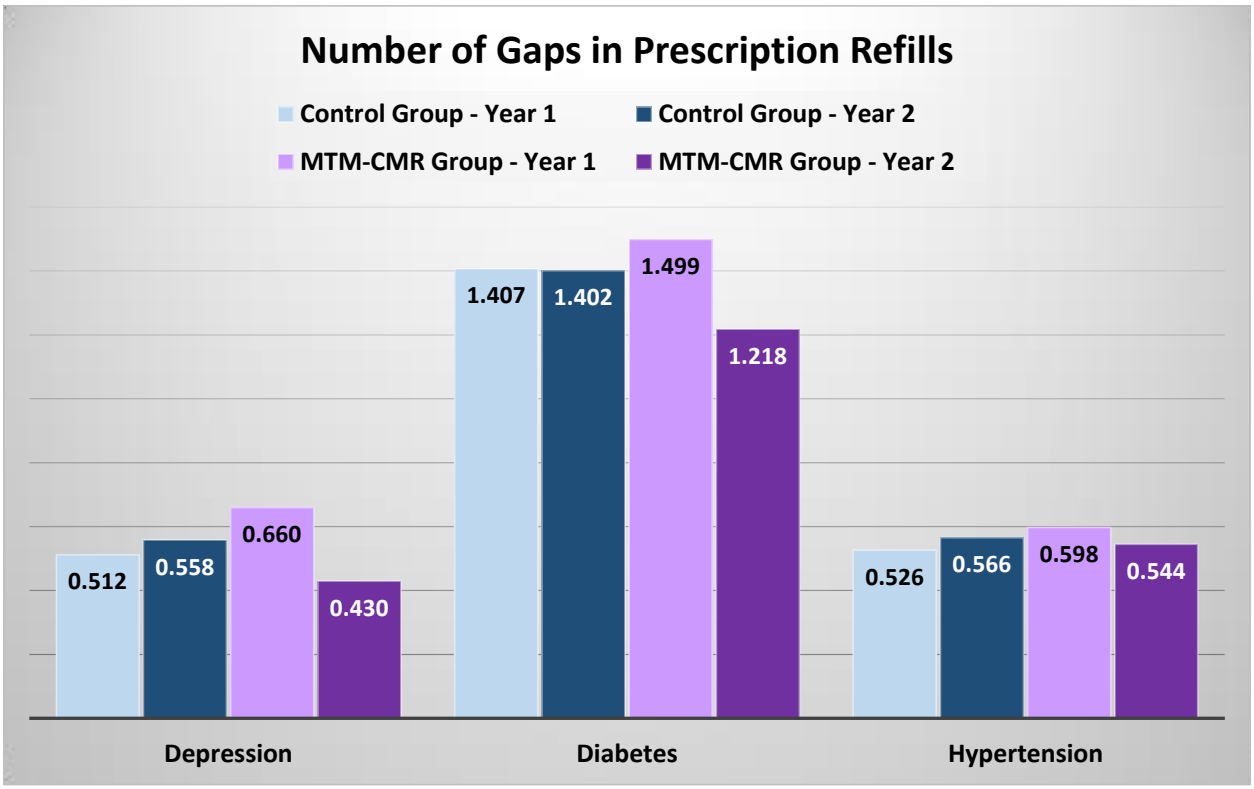

Figure 2. Average number of gaps in prescription refills for members in either the Control or MTM Comprehensive Medication Review groups during the first and second years analyzed.

Discussion

Data analyses examining changes in claims paid and utilization counts between the two groups revealed that participating in the MTM-CMR program was not associated with any change in medical services received across the two 12-month periods. Conversely, participation in the MTM-CMR program was associated with significant improvements on both measures of medication adherence within 12 months.

For the first measure, medication possession ratio, rates generally improved for both groups between Years 1 and 2, but the greatest gain was found for members in the intervention program. Comparable improvements were also evident for changes in medication persistence, with the number of gaps between refills decreasing by approximately 9 to 35% among members in the MTM-CMR program. Finding that the same improvements were not evident for members in the matched control group suggests that the changes demonstrated among members in the intervention group were attributable to the MTM-CMR program. Based on previous studies which reported improved well-being following increased medication adherence for those diagnosed with one of the chronic conditions analyzed herein (Cranor,

Bunting, & Christensen, 2003; Demyttenaere et al., 2008; Planas et al., 2009), it is likely at further benefits would be found with continued study.

Study Population

This study analyzed data from a total of 5,018 CareSource beneficiaries, 2,793 of whom participated in the MTM-CMR intervention group and 2,225 were in the control group. Females accounted for 68% of the control group and 66.2% of the intervention group. Within the MTM-CMR group, the most frequently reported races and ethnicities were White (69.2%), Black (26.1%), and Hispanic (1.2%), followed by members with no racial information available (2.5%) and those who had another race listed (1%). The distribution was similar in the control group, such that most members were either White (68.2%) or Black (26.2%), while the remainder identified as Hispanic (1.9%), another race or ethnicity (0.8%), or had no racial information provided (2.9%). Finally, the average age for those in the intervention group (49.3 yrs ± 11.3) was similar to those of members in the control group (50.4 yrs ± 11.2).

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