Impact of Telephone Medication Therapy Management on Medication and Health-Related Problems, Medication Adherence, and Medicare Part D Drug Costs: A 6-Month Follow Up

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ABSTRACT

Background: The Medicare Modernization Act of 2003 mandated the provision of medication therapy management (MTM) to eligible Part D beneficiaries to improve medication-related outcomes. As MTM programs evolve, evaluation is necessary to help inform MTM best practices.

Objective: The objective of this study was to determine the impact of pharmacist-provided telephone MTM on: (1) medication and health-related problems (MHRPs); (2) medication adherence; and (3) Part D drug costs.

Methods: This quasi-experimental study included Part D beneficiaries from a Texas health plan. Andersen's Behavioral Model of Health Services Use served as the study framework. MTM utilization was the health behavior. Age, gender, and race were predisposing factors, and number of medications, chronic diseases, and medication regimen complexity were need factors. Outcomes were pre-to-post changes in: (1) MHRPs; (2) medication adherence, using the medication possession ratio (MPR); and (3) total drug costs. Multiple regression was used to analyze group differences while controlling for predisposing and need factors.

Results: At baseline, the intervention (n = 60) and control (n = 60) groups were not statistically different regarding predisposing and need factors, with the exception of gender. The intervention group had significantly ($P = 0.009$) more men compared with the control group (51.7% vs 28.3%). There were 4.8 (2.7) and 9.2 (2.9) MHRPs identified at baseline and 2.5 (2.0) and 7.9 (3.0) MHRPs remained at the 6-month follow up in the intervention and control groups, respectively. The intervention group (vs control) had significantly more MHRPs resolved ($P = 0.0003$). There were no significant predictors of change in MPR or total drug costs from baseline to follow up, although total drug costs decreased by $158 in the intervention group compared with a $118 increase in the control group.

Conclusions: A telephone MTM program resolved significantly more MHRPs compared with a control group, but there were no significant changes in adherence and total drug costs. (*Am J Geriatr Pharmacother*. 2011;9:328–338)

Key words: Medicare Part D, medication-related problems, medication therapy management.

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INTRODUCTION

In 2006, prescription drug costs reached $216.7 billion and are predicted to more than double to $515.7 billion by 2017.[1,2] The elderly (≥65 years old) comprise 13% of the U.S. population, yet they use 35% of prescription drugs in the United States.[3] The elderly are also vulnerable to increased risk of prescription-related morbidity and mortality due to physiologic changes associated with aging, comorbid conditions, and multiple medications.[4–8] The costs of treating medication-related problems often exceed the cost of the initial medication therapy.[5,9] It has been estimated that adverse drug events, only one type of medication-related problem, cost over $2 billion in the Medicare population aged ≥65 years, and $887 million of these costs may be preventable.[10]

Poor medication adherence can also impact medication outcomes in the elderly. Falls, postural hypotension, heart failure, and delirium have been noted to occur in elderly patients who are not adhering to their medication regimens.[11–13] Despite the importance of medication adherence in the elderly, it has been reported that 40% to 45% of the elderly are not taking medications as prescribed.[14] Furthermore, nonadherence to medications has been reported to cause up to 11% of hospitalizations and 23% of nursing home admissions among the elderly.[11–13,15]

One component of the Medicare Modernization Act of 2003, which requires the provision of medication therapy management (MTM) to eligible Medicare beneficiaries, has the potential to improve medication outcomes in the elderly. MTM was established to improve the quality of medication regimens, increase patient adherence, and prevent adverse medication events for eligible Medicare beneficiaries.[16] Eligible beneficiaries include enrollees with multiple chronic diseases who are taking multiple Part D drugs and likely to incur high annual prescription drug costs (defined as $4000; data 2006–2009).[16]

Thus far, there have been few reports on the impact of MTM on medication-related or other health outcomes for Part D beneficiaries. However, 1 study reported that a telephone Part D MTM program significantly reduced gastrointestinal bleeds, improved medication adherence, and decreased prescription drug costs.[17] Another study indicated that costs of prescription drugs decreased after participation in a face-to-face or telephone Part D MTM program provided by a community pharmacist.[18] Although initial reports have indicated that MTM has had a positive impact, MTM outcomes remain important to help inform MTM best practices, which have not been established. This study utilized the Andersen Behavioral Model of Health Services Use to examine how predisposing, need for care, and behavioral factors impacted medication-related problems, medication adherence, and total Part D drug costs in Medicare Part D beneficiaries eligible for a telephone MTM program provided by Scott & White Health Plan (SWHP), a regional Part D plan in Texas.

METHODS

Medication Therapy Management Program

In 2007, SWHP provided an opt-in telephone MTM program to eligible Medicare Part D beneficiaries, which included beneficiaries who had at least 2 chronic diseases, were taking at least 2 Part D drugs, and incurred at least $4000 in Part D drug costs. The SWHP MTM program was developed by the SWHP MTM coordinator and was adapted from the American Pharmacists Association and National Association of Chain Drug Stores Foundation MTM Framework.[19] Its purpose was to identify and resolve medication and health-related problems (MHRPs). The MTM program consisted of a comprehensive medication therapy review, personal medication record, medication action plan, intervention and referral, documentation, and follow up. SWHP mailed eligible beneficiaries a brochure that described the MTM program. Beneficiaries opted-in to the program by calling SWHP to schedule an MTM appointment. The MTM providers (3 clinical pharmacists and 1 managed care pharmacy resident) completed a standardized MTM training session conducted by the MTM coordinator. A detailed description of the SWHP MTM program has previously been reported.[20]

Theoretical Framework

The Andersen Behavioral Model of Health Services Use was chosen as the theoretical framework for this study because it has previously been used to evaluate various types of health care utilization in the elderly.[21–28] Although the original Andersen model consisted of predisposing factors, enabling factors, and need factors that predicted use of health services, a revised model that included health outcomes was used in this study.[29,30] Predisposing factors, which are characteristics that exist before illness,[29,30] in this study were age, gender, and race. Enabling factors consist of family and community conditions, such as income, access to care, and number of providers in the community, that allow one to seek health services.[29,30] Enabling factors were not included in this study because of the homogeneity of study participants regarding access to care. Study participants were enrolled in the same prescription drug benefit plan, and the study was conducted over the telephone. Additionally, all eligible patients had access to the