



Original Research

# Self-reported responses to medication therapy management services for older adults: Analysis of a 5-year program

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## Abstract

**Background:** Medication therapy management (MTM) services provide essential reviews of drug regimens and are increasingly recognized as beneficial to patient safety, improved health outcomes, and cost savings. **Objective:** To assess patient behavioral outcomes from an MTM service, including actions following receipt of a pharmacist report.

**Methods:** A retrospective analysis of an MTM program at the Sanford Center for Aging (NV, USA) was conducted. Outcome measures included whether the patient discussed the review with the physician, whether any changes in the client's drug regimen occurred, and whether the client feels more knowledgeable about his or her medications. Predictor variables included basic demographics, prescription insurance status, number of prescriptions taken, self-reported health status, and use of medications considered to be high risk. The analysis plan involved the use of multivariate logistic regression models.

**Results:** The odds of discussing the medication review with physicians, making changes recommended in the report, and both discussing and making a change were 65%, 60%, and 67%, respectively, lower among those below poverty level than among those above poverty level; 95% confidence intervals (CIs): 0.15, 0.80; 0.18, 0.85; and 0.15, 0.73, respectively. The odds of those using high-risk drugs of making changes in drug regimens, and of discussing with physicians and making changes together, were 2 times higher than the odds of those not using these drugs, 95% CIs: 1.02, 4.31 and 1.20, 4.87, respectively. The likelihood of those reporting good or excellent health of doing the combination of discussing the MTM report with physicians and to make a drug regimen change was 2 times greater than for those reporting poor to fair health, 95% CI: 1.08, 3.65. Gender, ethnicity, age group, rural status, prescription drug insurance, and high polypharmacy were not significant factors for acting on the medication review in the adjusted model.

**Conclusion:** MTM services are associated with enhanced patient self-advocacy, but like other interventions, they are constrained by social disparities. Greater attention to the resources of target populations to respond to pharmacy services is merited.

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## Introduction

Public health interventions such as medication therapy management (MTM) programs have demonstrated effectiveness in optimizing outcomes and lowering risks associated with medication use in older adults. Beyond improved health outcomes, additional reviews of drug regimens increasingly are recognized as beneficial to patient safety and cost savings. This article reports results from 5 years of local clinical service provision and follow-up surveys that elicited patient behaviors following receipt of a pharmacist report.

MTM includes a wide range of professional activities and services such as assessment of the patient's health status; formulation of a medication treatment plan; monitoring and evaluation of the therapy; medication review to identify, resolve, and prevent medication-related problems; recording of care delivered and communication with the patient's other primary care providers (PCPs); providing verbal education and training to the patient to promote the appropriate use of their medications; and providing information, support, and resources that enhance the adherence to medications.<sup>1</sup> In general, MTM services are intended to promote patient understanding about medication use, increase adherence to drug regimens, detect drug-related problems, increase health literacy, and save lives.<sup>2</sup> This is 1 response to the problem of drug safety; adverse drug events continue to be a major cause of morbidity and mortality among older adults.<sup>3–5</sup> From 1995 to 2008, serious events such as injury and death from prescribed medications grew faster than the number of prescriptions.<sup>6</sup> The utility of outpatient therapeutic management and education by pharmacists to improve health care outcomes is increasingly well known.<sup>7,8</sup>

Clinical medication review, in its various forms, is increasingly used in the United States.<sup>9–12</sup> Recently, Medicare-contracted drug insurance plans provide cognitive clinical consulting services to optimize drug regimens under Part D.<sup>13,14</sup> The policy has roots in the Health Insurance Portability and Accountability Act of 1996, which included pharmacy and all health professions in the definition of health data transmission, and inspired the formation of a pharmacy coalition to lobby for billing codes for professional services.<sup>15</sup>

Additionally, the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 mandates that Part D Prescription Drug Plans (PDPs) and Medicare Advantage Plans provide for MTM services using pharmacists “or other qualified health care providers.”<sup>16</sup> Claims data from Medicare Part D are publicly available for research purposes; however, these do not specifically enumerate MTM because the services are required in the contract overheads.<sup>17</sup> For contract year 2010, the Centers for Medicare and Medicaid Services (CMS) announced 678 active Part D contracts with an approved MTM program, which is down from 712 contracts in 2008.<sup>18</sup> The survey of plans found millions of enrollees, yet the amount of actual services provided is not enumerated, and enrollees do not necessarily take advantage of the MTM reviews.<sup>19</sup> CMS monitor the PDP contracts, but less is known about the details of service delivery to patients in the community.

MTM intervention studies such as the Asheville project that provided extra pharmacy consultations to qualified patients have demonstrated that MTM services may enhance safety and reduce societal health care costs,<sup>20</sup> while improving access to drugs and reducing patient out-of-pocket expenditures.<sup>21</sup> The evidence of the effects of clinical pharmacy interventions on health and costs is mixed, with more evidence demonstrating positive health outcomes<sup>22,23</sup> such as improved adherence to complicated regimens,<sup>24</sup> but less so for medical cost savings.<sup>25,26</sup> One, large integrated health plan with pharmaceutical care services reported 10 years of data with a return on investment of \$1.29 for every \$1.00 in MTM costs.<sup>10</sup> Another health plan conducted a survey of MTM beneficiaries and found general satisfaction with services but neutral opinions on empowerment and knowledge of medication regimens.<sup>27</sup> Health status improvements and cost savings may be difficult to demonstrate because MTM reviews require the cooperation of a physician or other prescriber to fully complete the health intervention.

A campus academic center for aging studies, the Sanford Center for Aging (SCA), facilitates an MTM clinical service program translated from a research study. The Nevada Aging and Disability Services Division provides funding for low-income

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