

Predictors of medication adherence and associated health care costs in an older population with type 2 diabetes mellitus: a longitudinal cohort study.

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BACKGROUND: The cost of treating diabetes mellitus and its complications is high (91.8 billion dollars in the United States in 2002). It is important to understand predictors of adherence to therapy with different antidiabetic medications and to determine the relationships between adherence and health care service utilization in older adults (aged ≥ 65 years) with type 2 diabetes mellitus. **OBJECTIVE:** The aim of this study was to examine the relationship between self-reported health status data, subsequent antidiabetic medication adherence, and health care service utilization in older adults with type 2 diabetes mellitus in a managed care setting. **METHODS:** This was a longitudinal cohort study of older adults in the south-eastern United States with type 2 diabetes mellitus who completed a health status assessment, used antidiabetic medications, and were enrolled in a health maintenance organization (HMO) continuously for 1 to 5 years. The baseline assessment included questions related to demographics, health care service utilization in the year before enrollment, lifestyle, and quality of life. Demographic, clinical, and utilization-related economic variables were also retrieved from the administrative claims data of the patients' HMO. Prescription refill patterns were used to measure adherence. Associations were examined with a sequential, mixed-model, regression approach. Model appropriateness was tested via sensitivity analyses with logged and unlogged dependent variables. **RESULTS:** A total of 775 patients were included. Increased comorbidity severity and an emergency room visit during the year prior to enrollment in a Medicare HMO were independently associated with decreased antidiabetic medication possession ratios (MPRs) after enrollment. After controlling for type of medication therapy and other variables, increased antidiabetic MPR remained the strongest predictor of decreased total annual health care costs (8.6% to 28.9% decrease in annual costs with every 10% increase in MPR; $P < 0.001$). Adherence to anti-diabetic medications was a greater driver of cost reduction than other concurrent medications (eg, statins) in this population. **CONCLUSIONS:** This study found strong associations between decreased anti-diabetic medication adherence and increased health care service utilization in older adults with type 2 diabetes mellitus in a managed care setting. Health status assessments completed at time of enrollment had the potential to identify enrollees with higher risk for both nonadherent behaviors and poor health-related outcomes.