

An Application of CDPS for Case Management Selection in a Fee-for-Service Medicaid Sample

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Background:

The Center for Medicaid and CHIP Services (CMCS) has recently focused efforts to support innovative care deliver models, including case management and care coordination. Case management selection typically focuses on high utilizers and specific high-cost conditions, which may ignore the confounding influence of other conditions, high expenditures relative to similar beneficiaries, and the influence of poor coordination of care. This study seeks to improve case management selection by assessing the effects of coordination of care on beneficiaries with higher than expected risk-adjusted annual costs.

Objectives:

The objectives of this research were first to describe an approach using predictive modeling to estimate risk-adjusted annual costs and create risk ratios for Mississippi (MS) Medicaid fee-for-service (FFS) beneficiaries. Second, a coordination of care variable was created to assess the effect of poor coordination of care on high risk ratio group membership.

Methods:

This study utilized 2011 MS Medicaid FFS outpatient medical and pharmacy claims and the Chronic Illness and Disability Payment System (CDPS) to develop risk-adjusted ratios to identify outlier beneficiaries with higher than expected costs for targeted interventions and case management. Risk ratios, defined as the ratio of total actual costs to total predicted costs, were created for each beneficiary. The risk ratios were then categorized into three groups. Next, a coordination of care variable was created (Care Group 1 = ideal coordination through Care Group 3 = least coordinated) to explore the impact of inefficiency in care on high risk ratio group membership. Logistic regression was used to determine how well coordination of care predicted the dichotomous outcomes of high and low risk ratios.

Results:

A total of 3,185 beneficiaries received the highest level of uncoordinated care (Care Group 3), of which 508 of the beneficiaries also had high risk ratios. Logistic regression showed that patients within Care Group 3 were 110% more likely to be in the high risk ratio group (OR=2.100, 95% CI=1.883–2.343) as compared to patients within Care Group 1. Patients within Care Group 2 were 39% more likely to be in the high risk ratio group (OR=1.389, 95% CI=1.343–1.437) as compared to patients within Care Group 1.

Conclusion:

The level of coordination in care, after accounting for age and gender, was found to be a significant predictor of high risk ratio group membership. This study found that beneficiaries who cost more than predicted were more likely to receive uncoordinated care.