

Guideline Adherence and Health Outcomes in Medicare FFS Patients with Diabetes

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Project Period: 08/01/08 - 09/30/10
Grant Number: R21 HS017646

Description

In older patients with diabetes, the short-term risks of tight adherence to diabetes treatment guidelines may outweigh the long-term benefits. Therefore, tailored treatment is recommended for this population. However, little evidence exists to support treatment decisions for older patients with diabetes, especially for those with co-occurring chronic conditions. This study examines the effect of tight adherence to diabetes treatment guidelines on short-term negative health outcomes in a group of Medicare fee-for-service patients with diabetes.

Specific Aims

1. Examine the relationship between patients' control levels of diabetes risk factors (hemoglobin A1c, low density cholesterol, and blood pressure) and short-term negative health outcomes (ER visits, hospitalizations, and death).
2. Determine whether the presence of congestive heart failure or chronic kidney disease modifies the relationship between diabetes risk factors and short term harms.
3. Analyze how the relationship between diabetes risk factors and short term harms differs depending on the definition used to assign patients to providers.

Findings

- This study is the first to directly compare methods currently in widespread use for assigning patients to provider groups for group-level performance estimates. The plurality provider algorithm (PPA), which has been implemented in Medicare performance initiatives and has been proposed for use when extending the Medicare PGP Demonstration to Accountable Care Organizations, selected approximately 1/3 more patients when compared to the diabetes care home (DCH) method,

Main Objective

Assess the short-term risks of adhering tightly to diabetes treatment guidelines in older patients.

Chronic Conditions Considered

Diabetes
Congestive heart failure
Chronic kidney disease

Preventive Service Considered

Screening for lipid disorders in adults
Screening for type 2 diabetes mellitus in adults

Study Design, Data Sources & Sample Size

Longitudinal epidemiological study (2003-2009)

Claims and electronic health records from patients enrolled in Medicare fee-for-service who receive care at a large Midwestern physician group.

Strategies Addressed from the HHS Strategic Framework on Multiple Chronic Conditions

- 4.C. Increase clinical health research

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which has been implemented in a state-level voluntary public reporting initiative. Using these two different sets of visit pattern criteria results in substantive differences in the characteristics of patients who are selected and ultimate levels of diabetes performance.

- Methods for assigning patients to individual providers typically do not account for team-based care. Team-based care involving physician assistants and/or nurse practitioners (PA/NPs) in the patient-centered medical home is one approach to improving care quality. Panels with PA/NP as the usual providers had higher proportions of patients with Medicaid, Medicare entitlement due to disability, dementia, obesity, ulcers, and depression and the lowest proportion of Caucasian patients. Patients with physicians as their usual providers had similar probabilities of visits with supplemental PA/NPs and physicians for all service types. However, patients with PA/NP as their usual providers had higher probabilities of visits with a supplemental physician.
- Even when considering team-based care, there was no role that was consistently associated with A1c testing, A1c control (<7%), and short-term negative outcomes such as emergency department visits.

Implications

- The method for assigning patients to provider groups matters when interpreting absolute levels of performance and defining threshold and improvement targets in the design of pay-for-performance systems, and may help provider groups understand why they appear to have different levels of performance when different metrics are used.
- A team-based care approach should be considered when assigning patients to individual providers. Multiple potential approaches to incorporating PA/NP roles into primary care teams exist, but local factors such as the characteristics of the patients served and prioritization of goals are important considerations.

Publications (as of September 2013)

Everett CM, Thorpe C, Carayon P, Palta M, Bartels C, Smith MA. Teams, roles and goals: Primary care physician assistant and nurse practitioner roles and outcomes for older patients with diabetes. *Health Affairs*. In Press.

Everett CM, Thorpe CT, Palta M, Carayon P, Gilchrist VJ, Smith MA. Division of primary care services between physicians, physician assistants, and nurse practitioners for older patients with diabetes. *Med Care Res Rev*. 2013. 70(5):531-541.

Thorpe CT, Fahey LE, Johnson H, Deshpande M, Thorpe JM, Fisher EB. Facilitating healthy coping in patients with diabetes: A systematic review. *Diabetes Edu*. 2013;39(1):35-54.

Thorpe CT, Flood GE, Kraft SA, Everett CM, Smith MA. Effect of patient selection method on provider group performance estimates. *Med Care* 2011;49(8):780-5.

Posters and Presentations

Everett CM, Thorpe CT, Palta M, Carayon P, Bartels C, Gilchrist VJ, Smith MA. PA/NP roles in primary care differentially impact diabetes outcomes for older patients with diabetes. Poster presentation at the Annual Research Meeting of AcademyHealth. 2013 June 23-25; Baltimore, MD.

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Everett CM. The role of PA/NPs on primary care panels of Medicare patients with diabetes. Presentation at AAPA IMPACT 2012. 40th Annual Conference of the American Academy of Physician Assistants. 2012 May; Toronto, ON.

Smith MA, Thorpe CT, Liou J, Palta M, Everett CM, Johnson HM, Flood GE, Wubben D, Kraft SA. Tight control of A1c and short-term negative outcomes for patients with diabetes and cardiovascular disease. Podium presentation at Better Care, Better Health: Delivering on Quality for All Americans. 4th Annual Conference of the Agency for Healthcare Research and Quality. 2010 Sept. 27-29; Bethesda, MD.

Smith MA, Thorpe CT, Liou J, Palta M, Everett CM, Johnson HM, Flood GE, Wubben D, Kraft SA. Identifying optimal levels of glucose control for Medicare patients with diabetes. Poster presented at Better Care, Better Health: Delivering on Quality for All Americans. 4th Annual Conference of the Agency for Healthcare Research and Quality. 2010 Sept. 27-29; Bethesda, MD.

Thorpe CT, Smith MA, Liou J-I, Palta M, Everett CM. Outcomes of tight glucose control in complex patients with diabetes. Presentation at University of Wisconsin - Madison Population Health Sciences' 50th Anniversary Symposium. 2009 Aug. 27-28; Madison, WI.

Thorpe C, Flood G, Kraft S, Everett C, Smith M. Diabetes performance measurement at the physician group practice level: A comparison of methods for assigning Medicare beneficiaries with diabetes to an outpatient provider group [abstract]. Poster presentation at the Annual Research Meeting of AcademyHealth, 2009 Jun 28-30; Chicago, IL.

Thorpe CT, Flood GE, Kraft SA, Everett CM, Smith MA. Diabetes performance measurement at the physician group practice level: Comparison of methods for assigning Medicare beneficiaries with diabetes to an outpatient provider group. Poster presentation at the 26th Annual Research Meeting of AcademyHealth. 2009 June 28-30; Chicago, IL.

Smith MA. Guideline adherence and health outcomes in Medicare FFS patients with diabetes. Presentation at Promoting Quality, Partnering for Change. 2nd Annual Conference of the Agency for Healthcare Research and Quality. 2008 Sept. 7-10; Washington DC.