



In the Literature

Highlights from Commonwealth Fund-Supported Studies in Professional Journals

Cost-Effectiveness of Automated Telephone Self-Management Support with Nurse Care Management Among Patients with Diabetes

November 14, 2008

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Journal: *Annals of Family Medicine*, November/December 2008 6(6):512–18

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An abstract is available at: <http://www.annfammed.org/cgi/content/abstract/6/6/512>

Synopsis

A recent study found that managing type 2 diabetes with the aid of an automated telephone self-management (ATSM) tool, plus nurse care management, was comparable in cost and outcomes to other accepted diabetes-management interventions. The intervention also achieved a public health goal—engaging patients in moderate or vigorous exercise—at modest cost.

The Issue

An estimated 20 million Americans have type 2 diabetes, an illness linked to organ damage, functional decline, depression, pain, and lost productivity. The total economic burden of this disease is expected to surpass \$156 billion annually by 2010. Although studies have examined the cost-effectiveness of diabetes screening or treatment with medications, little research has focused on the cost-effectiveness of self-management support systems—an increasingly important tool in the management of chronic illnesses. In addition, minorities are vastly underrepresented in most of these studies, despite evidence that they are disproportionately affected by diabetes.

“[T]here may be benefits associated with widespread implementation and dissemination of ATSM-based programs in reducing diabetes-related health disparities among vulnerable populations.”

Key Findings

- The total annual cost of the ATSM diabetes intervention (including program setup and ongoing implementation) was approximately \$65,000 per quality-adjusted life-year (QALY) gained, or \$782 per patient. The annual ongoing maintenance cost was roughly \$32,000 per QALY gained, or about \$388 per patient.

- The per-patient cost to achieve a 10 percent increase in the proportion of intervention patients meeting American Diabetes Association exercise guidelines was estimated to be \$558 when all costs were considered and \$277 when only ongoing costs were considered.

Addressing the Problem

Interactive disease-management tools such as automated telephone self-management are increasingly attractive to health plans looking for cost-effective ways to improve satisfaction and functional status among diabetes patients. An advantage of ATSM is that it can be modified to conduct disease surveillance and deliver health education in the languages and literacy levels of any population. Although there is no universally accepted threshold for the cost of a diabetes-management intervention, costs associated with implementing the ATSM tool were well within the range for standard care of diabetes patients, including the use of medications to lower cholesterol and control glucose, and diabetes case management. The authors observed that distributing costs over a larger population than the one included in this study would likely decrease costs substantially.

About the Study

The cost analysis used data from 226 patients involved in the trial. Patients were English, Spanish, and Cantonese speakers with type 2 diabetes who receive primary care from four clinics in San Francisco's Community Health Network. The analysis compared costs associated with improvements in care processes, behavioral outcomes (e.g., diet and exercise), and functional outcomes (e.g., general health and productivity) among patients who received automated telephone self-management plus usual care, or usual care alone to manage their diabetes over a nine-month period. The researchers used quality-adjusted life years as a measure of health outcomes. QALYs integrate quality and quantity of life into a common metric that reflects patient preferences and allows for comparison across conditions and interventions. They are measured on a scale from 0 to 1, where 0 corresponds to death and 1 corresponds to perfect health.

The Bottom Line

Diabetes is a chronic illness associated with significant costs. Automated telephone self-management, plus nurse care management, may be a cost-effective way to approach standard management of diabetes for a variety of patients. For more information on the ATSM system and other published results, see: <http://www.innovations.ahrq.gov/content.aspx?id=1863>

Citation

M. A. Handley, M. Shumway, and D. Schillinger, Cost-Effectiveness of Automated Telephone Self-Management Support with Nurse Care Management Among Patients with Diabetes, *Annals of Family Medicine*, November/December 2008 6(6):512–18.

This summary was prepared by Helen Garey and Deborah Lorber.