
Implementing AHRQ Effective Health Care Reviews

Helping Clinicians Make Better Treatment Choices

Effectiveness of Outpatient Case Management for Adults

Practice Pointers by DEAN A. SEEHUSEN, MD, MPH, and MEGHAN RALEIGH, MD, *The National Capital Consortium Family Medicine Residency Program, Fort Belvoir Community Hospital, Fort Belvoir, Virginia*

The Agency for Healthcare Research and Quality (AHRQ) conducts the Effective Health Care Program as part of its mission to organize knowledge and make it available to inform decisions about health care. A key clinical question based on the AHRQ Effective Health Care Program review is presented, followed by an evidence-based answer and an interpretation that will help guide clinicians in making treatment decisions. For the full review, clinician summary, consumer summary, and CME activity, go to <http://effectivehealthcare.ahrq.gov/index.cfm/search-for-guides-reviews-and-reports/?productid=1677&pageaction=displayproduct>.

A collection of Implementing AHRQ Effective Health Care Reviews published in *AFP* is available at <http://www.aafp.org/afp/ahrq>.

CME This clinical content conforms to AAFP criteria for continuing medical education (CME). See CME Quiz Questions on page 447.

Author disclosure: No relevant financial affiliations.

Key Clinical Issue

Does outpatient case management for adults with medical illness and complex care needs improve patient-centered outcomes, quality of care, or resource utilization?

Evidence-Based Answer

Compared with usual care, case management does not reduce mortality in patients with multiple chronic diseases. (Strength of recommendation [SOR]: A, based on consistent, good-quality patient-oriented evidence.) Case management improves patient satisfaction with care for congestive heart failure and cancer, and increases patient perception of care coordination. It improves the quality of care for patients with complex illnesses. (SOR: B, based on inconsistent or limited-quality patient-oriented evidence.) Case management interventions showed mixed results in improving patient quality of life and functional status. For caregivers of patients with dementia, targeted case management programs improve levels of stress, burden, and depression. The effects of case management on health care resource utilization and on costs of care are minimal. (SOR: B, based on inconsistent or limited-quality patient-oriented evidence.)

Practice Pointers

Chronic conditions can become medically complex, and the patient can develop special needs, both of which can quickly overcome the usual capabilities of physicians in the outpatient setting. Case management is one strategy to optimize care for patients with medically complex chronic diseases.¹ The Case Management Society of America defines case management as the collaborative

process of assessment, planning, care coordination, evaluation, and advocacy for services to meet patients' comprehensive health needs through communication and available resources to promote quality, cost-effective outcomes.² Case management programs vary considerably in their design, goals, personnel, and resources.

This Agency for Healthcare Research and Quality (AHRQ) review focused on non-psychiatric, medically complex care in the outpatient setting. Case management was defined as a "supplemental service, in which a person, usually a nurse or social worker, takes responsibility for coordinating and implementing a patient's care plan, alone or in conjunction with a team of health professionals." Almost all of the studies evaluated compared case management with usual care.³

Case management did not reduce mortality in the patients with multiple chronic diseases or in populations with specific diseases. However, it improved disease-specific functioning and quality of life when these measures were specifically targeted by the intervention. Measures of global function and quality of life were not generally improved by case management.³

Disease-specific health outcomes were inconsistently impacted by case management. For instance, pain was reduced in patients with cancer. While there is heterogeneity in the outcomes for A1C, the results of eight studies taken together suggested that case management improved glucose control.³ Case management was effective at improving self-management behaviors (e.g., medication compliance). When receipt of a specific health service was an explicit

Clinical Bottom Line: Effectiveness of Outpatient Case Management for Adults

Programs that serve patients with multiple chronic diseases (specifically older patients)

Patient experience

Increased the perception of patients that their care was better coordinated. ●●●

Clinical outcomes

Did not improve functional status or overall mortality. ●●●

Resource utilization

Were more effective for preventing hospitalizations when case managers had greater personal contact with patients and physicians. ●○○

Were more effective for reducing hospitalization rates among patients with greater disease burden. ●○○

Did not reduce overall hospitalization rates. ●●●○

Did not reduce Medicare expenditures. ●●●

Programs that serve frail elderly patients

Clinical outcomes

Did not affect mortality. ●○○

Resource utilization

Did not reduce nursing home admissions or acute-care hospitalizations. ●○○

Programs that serve patients with dementia

Patient experience

Reduced caregiver depression at two years and caregiver burden at one year. ●●○

Quality of care

Increased adherence to clinical guidelines for dementia care when focused on those guidelines. ●○○

Clinical outcomes

Delayed nursing home placement of patients with dementia who had in-home spouse caregivers when program duration was longer than two years. ●○○

Did not result in significant delays in nursing home placement if the programs had durations of two years or less. ●●○

Did not lower mortality rates. ●●●

Did not result in changes in behavioral symptoms of patients. ●●○

Resource utilization

Did not result in reduction of total health care expenditures at one year. ●●○

Programs that serve patients with congestive heart failure

Patient experience

Increased patient satisfaction. ●●○

Quality of care

Increased patient adherence to recommended disease self-management behaviors. ●●○

Were more effective in improving patient outcomes when case managers were a part of a multidisciplinary team of health care professionals. ●○○

Clinical outcomes

Improved quality of life but did not affect mortality. ●○○

Programs that serve patients with diabetes mellitus

Clinical outcomes

Improved glucose control. ●○○

Did not improve management of lipids or weight/body mass index. ●●○

Were not effective at reducing mortality. ●○○

Resource utilization

Were not effective at reducing hospitalization rates. ●○○

Programs that serve patients with chronic infection

Quality of care

Improved rates of successful treatment for tuberculosis in vulnerable populations who were in short-term programs that emphasized medication adherence. ●●○

Clinical outcomes

Did not improve survival among patients with human immunodeficiency virus infection. ●○○

Programs that serve patients with cancer

Patient experience

Improved patient satisfaction with care. ●●○

Quality of care

Were effective in increasing the receipt of appropriate (guideline-recommended) cancer treatment. ●●○

Were more effective when the intensity and duration of the intervention were greater, the program was integrated with patients' usual health care professionals, and the interventions were structured through preintervention training and care protocols. ●○○

Clinical outcomes

Were effective in improving selected cancer-related symptoms and functioning (physical, psychosocial, and emotional) but did not improve overall quality of life or survival. ●○○

Resource utilization

Had little effect on overall health care resource utilization and cost of care. ●○○

Programs that serve patients with other clinical conditions

Resource utilization

Reduced emergency department visits among patients with chronic obstructive pulmonary disease and among the homeless population. ●○○

Strength of evidence scale

High: ●●● There are consistent results from good-quality studies. Further research is very unlikely to change the conclusions.

Moderate: ●●○ Findings are supported, but further research could change the conclusions.

Low: ●○○ There are very few studies, or existing studies are flawed.

Insufficient: ○○○ Research is either unavailable or does not permit estimation of a treatment effect.

Adapted from the Agency for Healthcare Research and Quality, Effective Health Care Program. Effectiveness of outpatient case management for adults with medical illness and complex care needs. Clinician research summary. Rockville, Md.: Agency for Healthcare Research and Quality; August 2013. <http://effectivehealthcare.ahrq.gov/ehc/products/240/1677/case-management-clinician-130828.pdf>. Accessed May 21, 2014.

goal, case management was effective at increasing receipt of that health service, but did not improve adherence to guideline-recommended care in general.³

Overall, case management was associated with improved satisfaction in patients with multiple chronic diseases, congestive heart failure, or cancer, and with increased satisfaction of caregivers of patients with dementia. This increase in satisfaction was mostly because of improved coordination among clinicians.³ Burden and depression were improved in caregivers of patients with dementia who have case management interventions.⁴

Case management did not reduce overall resource utilization or hospitalization rates. It had mixed effects on emergency department use—some studies showed reduced emergency department use in patients who had case management, whereas others showed no effect. There were also variable results on the number of clinic visits for patients with case management services.³

The setting (outpatient, home health, or integrated health system) did not impact effectiveness, nor did the experience, training, or skills of the case managers studied. Case management interventions may be more successful when protocols or scripts are used, and when the case manager works with a physician or health care team.³

Although the AHRQ review does not suggest a single proven formula for building an effective case management program, it provides some broad principles. A case management intervention is more likely to work if it has a narrow focus and defined objectives. Case managers should have preintervention

training, utilize protocols or scripts, and work closely with clinicians. Whether a case management intervention succeeds seems to depend on numerous factors, many of which will be unique to the individual program. Given this uncertainty, it would be wise to conduct a formal evaluation of effectiveness locally for any new case management program.

EDITOR'S NOTE: *American Family Physician* SOR ratings are different from the Agency for Healthcare Research and Quality Strength of Evidence (SOE) ratings.

The views expressed in this article are those of the authors and do not reflect the policy or position of the U.S. Army Medical Department, Department of the Army, Department of Defense, or the U.S. government.

Address correspondence to Dean A. Seehusen, MD, MPH, at dseehusen@msn.com. Reprints are not available from the authors.

REFERENCES

1. Sandberg M, Jakobsson U, Midlöv P, Kristensson J. Case management for frail older people—a qualitative study of receivers' and providers' experiences of a complex intervention [published online ahead of print January 10, 2014]. *BMC Health Serv Res*. <http://www.biomedcentral.com/1472-6963/14/14>. Accessed May 22, 2014.
2. Case Management Society of America. What is a case manager? <http://www.cmsa.org/Consumer/FindaCaseManager/WhatisaCaseManager/tabid/276/Default.aspx>. Accessed May 21, 2014.
3. Agency for Healthcare Research and Quality, Effective Health Care Program. Outpatient case management for adults with medical illness and complex care needs. Rockville, Md.: Agency for Healthcare Research and Quality; January 2013. <http://effectivehealthcare.ahrq.gov/search-for-guides-reviews-and-reports/?pageaction=displayproduct&productID=733>. Accessed May 21, 2014.
4. Mittelman MS, Roth DL, Coon DW, Haley WE. Sustained benefit of supportive intervention for depressive symptoms in caregivers of patients with Alzheimer's disease. *Am J Psychiatry*. 2004;161(5):850-856. ■