



Changes in Health Care Financing & Organization (HCFO)

# findings brief

## key findings

- The 11 programs in the extended Medicare Coordinated Care Demonstration did not reduce hospitalizations among the overall sample of fee-for-service Medicare beneficiaries and did not result in net savings to Medicare.
- However, four of the care coordination programs reduced hospitalizations by 8 to 33 percent among enrollees with a high risk of near-term hospitalization and were cost neutral.

## Program Features and Targeting Are the Keys to Successful Medicare Care Coordination Interventions

### Overview

Policymakers seeking to slow the growth in Medicare spending are increasingly exploring interventions involving beneficiaries with multiple chronic conditions. These beneficiaries tend to have high rates of hospital admissions and readmissions, making them a key driver of total Medicare spending.<sup>1,2</sup> Several factors appear to contribute to the high rates of hospitalizations among these patients, including inadequate or inappropriate care, poor patient adherence to recommended medication and self-care regimens, and poor communication among a patient's several providers.

In this context, care coordination has emerged as a potential approach for reducing hospitalizations, controlling Medicare costs, and improving beneficiaries' quality of life. In 2002, the Center for Medicare and Medicaid Services (CMS) selected 15 programs nationwide to participate in the

Medicare Coordinated Care Demonstration, an initiative mandated by the Balanced Budget Act of 1997. The goal of the demonstration was to test whether paying the programs to provide care management to fee-for-service Medicare beneficiaries, in addition to beneficiaries' usual services, could either reduce Medicare expenditures or increase quality of care and patient satisfaction without increasing total expenditures.

Randall Brown, Ph.D., and Deborah Peikes, Ph.D., were among the researchers at Mathematica Policy Research who evaluated the demonstration programs after the first four years of operations.<sup>3</sup> They found that only 2 of the 15 programs reduced hospitalizations overall and none of the programs generated net savings to Medicare. However, the evaluation also suggested that care coordination interventions have the potential to be cost-neutral and to improve patients' well-being.



Robert Wood Johnson Foundation

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In a HCFO-funded study, Dr. Brown, Dr. Peikes and colleagues at Mathematica built on this work by examining the 11 demonstration programs that CMS extended for two years or longer.<sup>4</sup> By taking a closer look at which care coordination interventions worked and for whom, the researchers sought to determine whether the overall results from the initial study masked important effects on high-risk subgroups of patients, and what factors distinguished the most effective programs from the others.

## Methods

The programs selected for the Medicare Coordinated Care Demonstration began enrolling eligible beneficiaries in 2002 and were initially authorized to operate for four years. Eligible beneficiaries included anyone who resided in the program's catchment area, was covered by fee-for-service Medicare with primary Part A and B coverage, and had one or more chronic conditions – most commonly, coronary artery disease, congestive heart failure, diabetes, chronic pulmonary disease, or some combination of these conditions. At the time of enrollment, Mathematica randomly assigned beneficiaries to the treatment or the control group in each program.

While treatment interventions differed slightly across programs, a common feature was the hiring of bachelor's degree-trained registered nurses to serve as care coordinators. In this role, the nurses developed care plans, educated patients about adherence to treatment recommendations and self-care activities, and attempted to improve the flow of communication among providers and between patients and providers. Other types of interventions included working with the patients' primary care physicians when the patient's treatment appeared to deviate from evidence-based care for their conditions.

In their HCFO study, the researchers focused on the 11 programs that CMS extended beyond the first four years of the demonstration. Using data from Medicare claims and the Medicare Enrollment Database, they examined the number of hospitalizations and Part A and B Medicare spending per month,

with and without care management fees, after enrollment. They also conducted in-person and telephone interviews with care coordinators, their supervisors, and program medical directors or managers. The researchers conducted analyses for both the full sample of nearly 22,000 enrollees and for four subgroups of high-risk patients with varying diagnoses and hospitalization rates for the period 2002 through 2008, with an average length of follow-up of 39 months for sample members.

## Results

Mirroring a key finding from the first evaluation, the researchers found that only two of the 11 programs reduced hospitalizations among the full sample of enrollees. One of the successful programs, based at a hospital in an integrated delivery system, showed reduced hospitalizations of about 12 percent over the six-year study period. This was smaller than the 17 percent reduction observed follow-

ing the first four years of the demonstration. Another program, operated by a hospice and home health agency, reduced hospitalizations by 11 percent, up from the 7 percent reduction observed after four years. None of the other nine programs showed a significant overall treatment-control difference in hospitalizations, and none of the 11 programs reduced traditional Part A and B expenditures.

However, in their analysis of high-risk enrollees, the researchers found four programs with favorable effects on hospitalizations among one or more of the patient subgroups. All four programs were effective among the highest-risk subgroup, which included enrollees with either: (1) one or more of three major chronic conditions (congestive heart failure, coronary artery disease, and chronic obstructive pulmonary disease) and at least one hospitalization in the year before enrollment, or (2) any of

## Case study

The experience of the Washington University School of Medicine in St. Louis underscores the value of care coordination programs for high-risk patients.<sup>5</sup> As one of the original 15 programs in the Medicare Coordinated Care Demonstration, Washington University did not show reductions in hospitalizations or Medicare spending for its patients over the first four years. In fact, the program increased total Medicare spending by 12 percent.

Then in 2006, a change in program management spurred a major redesign and dramatic results. Washington University's partnership with a health management vendor that had been managing the care for 80 percent of program enrollees from a call center in San Diego was dissolved. Care managers in St. Louis, who had previously overseen only the 20 percent of patients deemed most complex, assumed responsibility for all of the enrollees. In addition, Washington University extended to all enrollees the approach it had previously used with only the most complex patients. Other features of the redesign included strong transitional care, medication management, systematic assessments, focused care plans, and in-person contact between care managers, patients and providers.

The researchers found that in the 2.5 years after the redesign, the Washington University program reduced hospitalizations by 11.7 percent and total Medicare Part A and B spending per beneficiary by 9.6 percent. Driving the results were program effects for a higher-risk subgroup that included enrollees with two or more hospitalizations during the two years before enrollment – a group whose average costs in the follow-up period were over \$35,000 per year per beneficiary in the control group. In this higher-risk subgroup, the program reduced average hospitalizations per beneficiary per year by 17 percent and monthly Medicare Part A and B spending by 14.8 percent, yielding net savings to Medicare (i.e., after accounting for care coordination fees) of over \$3,400 per enrollee per year.

nine chronic conditions and multiple hospitalizations in the two years before enrollment. Three of the four programs reduced hospitalizations for this subgroup by 8 to 15 percent, while the fourth program reduced hospitalizations by 33 percent.

When the researchers pooled the four effective programs to estimate effects on Medicare expenditures, they found the programs reduced average monthly Medicare expenditures (without care management fees) by \$123, or 5.7 percent. None of the four programs generated net savings to Medicare when care management fees were included. However, for the four programs combined, the estimated effect on Medicare expenditures, including fees, was not significant, indicating that the programs as a group were cost-neutral.

### Limitations

The researchers identified three limitations of the study. The first is its low statistical power (18 to 59 percent) to detect reductions in standard Medicare expenditures large enough to offset program fees of \$150 for the high-risk group. However, the researchers note that their sample sizes were larger than most published studies of care coordination. A second limitation is that the researchers did not specify the high-risk subgroups before the demonstration began in 2002. They acknowledge that high-risk patients defined by other measures might also have significant results for some of the programs. However, the high-risk group that they identified includes 18 percent of the Medicare population and accounts for 37 percent of all Medicare costs in the year after the group is identified. Finally, because the evaluation was not designed to systematically test the effects of specific interventions, the study does not prove that the features associated with successful programs are actually the determining factors.

### Policy Implications

The research suggests that care coordination is a promising approach for reducing hospitalizations among high-risk, high-cost Medicare beneficiaries. While the programs under the Medicare Coordinated Care Demonstration did not reduce

hospitalizations among enrollees overall, four programs were successful among individuals with a high risk of near-term hospitalization. Furthermore, these four programs were cost-neutral.

The study findings also have implications for the design of future care coordination programs. In collecting and reviewing information on various program features, the researchers identified six distinguishing features that were present in at least three of the four successful programs but were absent in all or most of the five unsuccessful programs for which the researchers had complete data. The distinguishing features included: frequent in-person contact between care coordinators and patients; strong working relationships with patients' primary care physicians through pre-existing relationships, co-location, or accompanying patients on office visits; care coordinators serving as communications hubs among a patient's providers; use of evidence-based patient education interventions and proven behavior change techniques to help patients overcome barriers to adherence; comprehensive medication management, including information about medications from non-patient sources and consultation with a pharmacist or the program's medical director on medication problems; timely, comprehensive responses to transitions between care settings; and close monitoring and sharing of information by the care coordinator during a patient's hospital stay and after discharge.

Finally, the findings from this study suggest that generating net savings for Medicare will require modest fees and increased effectiveness. The researchers found that the observed reductions in hospitalizations generated sufficient savings to cover monthly fees for care coordination only if fees were roughly \$125 to \$150 per member – meaning programs must find cost-effective ways to deliver their interventions.

### Conclusion

As policymakers continue to explore how best to control Medicare expenditures, this study suggests care coordination can reduce the need for hospitalizations if programs are targeted to the right people.

Furthermore, the research shows that while care coordination programs may not reduce net Medicare expenditures, they can keep patients out of the hospital while remaining cost-neutral. The success of future care coordination efforts, including those embedded in a medical home or accountable care organization, will depend in part on their ability to build on lessons learned from the demonstration – regarding both targeting and program implementation – and to continuously learn from their own experiences.

### For More Information

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### Endnotes

1. Thorpe KE, Howard D. The rise in spending among Medicare beneficiaries: the role of chronic disease prevalence and changes in treatment intensity. *Health Aff.* 2006; 25(5):w378-88.
2. Medicare Payment Advisory Commission. *A Databook: Healthcare Spending and the Medicare Program*. Washington, DC: Medicare Payment Advisory Commission; 2008.
3. For complete findings see Peikes D, Chen A, Schore J, Brown R. Effects of care coordination on hospitalization, quality of care, and health care expenditures among Medicare beneficiaries: 15 randomized trials. *JAMA*. 2009;301(6):603-18.
4. For complete findings see Brown R, Peikes D, Peterson G, Schore J, Razafindrakoto C. Six features of Medicare Coordinated Care Demonstrations programs that cut hospital admissions of high-risk patients. *Health Aff.* 2012;31(6):1156-66.
5. For complete findings see Peikes D, Peterson G, Brown R, Graff S, Lynch J. How changes in Washington University's Medicare Coordinated Care Demonstration pilot ultimately achieved savings. *Health Aff.* 2012;31(6):1216-26.