CHAPTER 8

Improving Medicare chronic care demonstration programs: Section 150 of the Medicare Improvements for Patients and Providers Act of 2008 report

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Chapter summary

Over the last several years, the Commission and others have examined and expressed serious concerns about persistent gaps in care coordination for beneficiaries enrolled in traditional fee-for-service (FFS) Medicare. The Commission's analyses and work by other researchers suggest that poor care coordination and the growing prevalence of chronic disease have created a large and growing financial strain on the Medicare program and its beneficiaries while undermining the quality of care. The Congressional Budget Office estimated that in 2001 the costliest 25 percent of Medicare beneficiaries accounted for 85 percent of total Medicare spending and that more than 75 percent of these high-cost beneficiaries had one or more of seven major chronic conditions (CBO 2005). The Commission believes we must act expeditiously to find innovative ways to change the misaligned cost and quality incentives in the health care delivery system that contribute to this problem.

The Congress and CMS have initiated a number of demonstration and pilot programs to test different approaches to improve care coordination

In this chapter

for Medicare beneficiaries. Results suggest that some of these programs may have modest effects on the quality of care and mixed impacts on Medicare costs, with most programs costing Medicare more than would have been spent had they not been implemented. In the Medicare Improvements for Patients and Providers Act of 2008, the Congress directed the Commission to study the results of two of the largest Medicare chronic care coordination demonstration and pilot programs and advise the Congress on the feasibility of establishing a "Medicare chronic care practice research network" as another approach to testing models of care coordination for beneficiaries with chronic conditions. The Commission proceeded with the following three issues foremost in mind: the evidence that gaps in care coordination for FFS beneficiaries contribute to the unsustainable rate of growth in Medicare costs and adversely affect the quality of care, the paucity of successful outcomes from the care coordination demonstrations implemented to date, and overarching concerns about the inadequate amount and flexibility of resources committed to Medicare research and development activities. The Commission believes that any proposal must be evaluated in light of all three considerations.

We have reviewed a proposal from a group of 12 health care provider and research organizations called the Medicare Chronic Care Practice Research Network (MCCPRN). The group's members—academic medical centers; providers of care coordination, disease management, or quality improvement services; and long-term care providers—have proposed serving as testing sites to be governed by a board of directors led by CMS, representatives from each site, and possibly other federal agencies such as the Agency for Healthcare Research and Quality (AHRQ). The proposed entity would include an expert advisory panel and several administrative units. The network would be financed by Medicare, and the providers of care coordination services in the network would not be at risk for Medicare benefit cost increases or reductions that were attributable to the network's interventions.

On the basis of our review, the Commission has several key concerns, including the following:

- The initial group of network sites would not be selected competitively through a transparent public process, which could set an undesirable precedent for future proposals.
- The fees paid by Medicare to the network sites for their care coordination interventions would not be at risk for rates of growth in Medicare medical costs that exceeded cost growth rates for a comparison group nor would the sites have the opportunity to share in any savings they may achieve from lower rates of cost growth in the intervention group.
- The role of CMS in selecting research projects and administering the network may not be prominent enough to ensure accountability for the Medicare funds spent on the network's activities, and, if it were, CMS may not have sufficient resources under current funding, which affects the agency's ability to adapt Medicare's administrative infrastructure to comport with many requests of demonstration sites (e.g., providing real-time data and more frequent data feeds, reinstatement of notice of hospital admission, and use of prior authorization).
- The proposed network could duplicate some of the existing financial and administrative resources devoted by AHRQ to its two practice– and delivery-system–based research networks.

While the Commission in this report is not making a recommendation supporting or opposing the specific MCCPRN proposal we reviewed, we look forward to further exploring, in partnership with CMS and interested parties, the feasibility of using practice-based research to advance our shared goal of improving the quality and reducing the cost of care for Medicare beneficiaries with chronic illnesses.

The results of our review suggest larger issues with the structure and funding of research and development in Medicare. Funding levels for

Medicare research activities are low relative to the overall size of the program, CMS often has externally imposed constraints on redirecting research funding as program needs and priorities shift, and administrative process requirements—such as the Medicare demonstration approval process—are time-consuming (Guterman and Serber 2007). In future work, the Commission intends to examine these and other issues that affect how quickly and effectively Medicare can test, implement, evaluate, and disseminate policy innovations that could improve quality and slow the rate of cost growth in FFS Medicare. ■

Background on care coordination in Medicare

Over the last several years, the Commission has examined and expressed serious concerns about persistent gaps in care coordination for beneficiaries enrolled in traditional fee-for-service (FFS) Medicare (MedPAC 2007, MedPAC 2006, MedPAC 2004). The Commission's analyses and work by other researchers suggest that poor care coordination practices and the growing prevalence of chronic disease have created a large and growing financial strain on the Medicare program and its beneficiaries, while undermining the quality of care and frustrating those providers in the health care delivery system who want to do better. Most Medicare beneficiaries with one or more chronic diseases, their families, and in many cases their primary care providers struggle to navigate an increasingly complex and fragmented health care delivery system (Bodenheimer 2008). Care coordination, defined in a recent comprehensive clinical evidence review as "the deliberate organization of patient care activities between two or more participants (including the patient) involved in a patient's care to facilitate the appropriate delivery of health care services" (AHRQ 2007), has the potential to improve the quality and efficiency of Medicare.

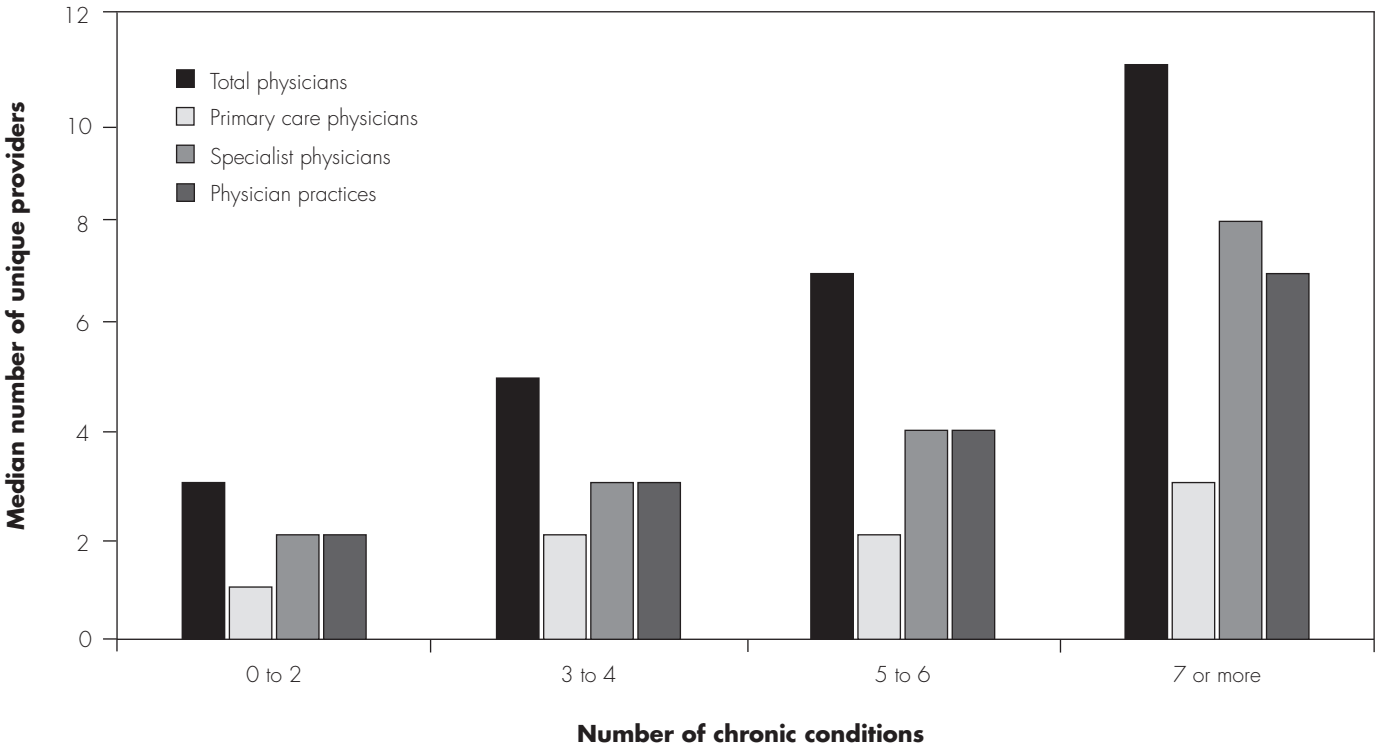
Problems with care coordination are not unique to Medicare. The Institute of Medicine identified care coordination as 1 of 20 national priorities for action to improve quality along its 6 dimensions of making care safe, effective, patient centered, timely, efficient, and equitable (IOM 2003). The National Priorities Partnership has identified care coordination as 1 of 6 areas of focus for its 28-member coalition of key health care stakeholders from the public and private sectors (National Priorities Partnership 2008).[1] In a recent survey of adults in the United States and residents of seven other industrialized countries, respondents in the United States with at least one of seven prevalent chronic diseases reported significantly higher out-of-pocket costs, higher rates of forgoing needed care because of costs, and more instances of poorly coordinated care, such as medical records or test results not being available during a scheduled visit, having tests duplicated unnecessarily, and experiencing lab and diagnostic test errors (Schoen et al. 2008).[2] A recent paper in the *New England Journal of Medicine* summarized 11 studies that involved a range of patient populations and care settings and documented how common care coordination failures are among Medicare and non-Medicare patients and how they negatively affect the quality of care (Bodenheimer 2008).

In Medicare, the challenges presented by chronic disease and the cost and quality consequences of poorly coordinated care are magnified. An estimated 83 percent of Medicare beneficiaries have at least one chronic condition (Anderson 2005). The proportion of beneficiaries with five or more chronic conditions grew from an estimated 31 percent in 1987 to more than half of all Medicare beneficiaries by 2002 (Thorpe and Howard 2006b).[3] These beneficiaries must navigate a daunting number of provider relationships, treatment decisions, and follow-up prescriptions. One study estimated that beneficiaries with 5 or more chronic conditions see an average of 13 physicians and fill an average of 50 prescriptions per year (Anderson 2005). A Commission analysis of 2003 Medicare claims data found that an average Medicare beneficiary saw 5 different physicians that year, but 61 percent of those diagnosed with three common chronic conditions—coronary artery disease (CAD), congestive heart failure (CHF), and diabetes—saw 10 or more different physicians that year. A study by researchers at the Center for Studying Health System Change found similar patterns of care being increasingly dispersed across more physicians and more practices as the number of chronic conditions per beneficiary increased (Figure 8-1, p. 224) (Pham et al. 2007).

The financial impact on the Medicare program and on beneficiaries with multiple chronic conditions is significant and growing. In 2002, treatment costs for beneficiaries with five or more chronic conditions accounted for three-quarters of total spending (including out-of-pocket and other costs); beneficiaries with three or more conditions accounted for about 93 percent of total spending (Thorpe and Howard 2006b).[4] A Congressional Budget Office (CBO) analysis of high-cost Medicare beneficiaries found a link between the prevalence of chronic conditions and high expenditures (CBO 2005).[5] CBO estimated that about 30 percent of high-cost beneficiaries had four chronic conditions—CAD, CHF, diabetes, and chronic obstructive pulmonary disease (COPD). A Commission analysis in 2004 found that 70 percent of inpatient hospital spending was for beneficiaries with three chronic conditions—CAD, CHF, and diabetes.

The Commission and others have noted for several years that the FFS payment systems in Medicare exacerbate the clinical challenges of treating and managing patients with multiple chronic conditions (Berenson and Horvath

FIGURE 8–1 **Beneficiaries with more chronic conditions are treated by greater number of physicians**



Source: Pham et al. 2007.

2003, Bodenheimer 2008, Lawrence 2005, MedPAC 2006, Sochalski et al. 2009, Tynan and Draper 2008, Wolff and Boult 2005). Medicare was designed as insurance against the costs of diagnosis and treatment of relatively short-duration illnesses, and it largely remains organized that way almost 45 years after its implementation. By their structure, Medicare's FFS policies perpetuate the traditional "silos" of care delivery settings (e.g., hospital services, physician services, post-acute care services) and create incentives for providers within each of those silos to treat beneficiaries with an increasing volume and intensity of services. At the same time, the program's payment incentives discourage providers from engaging in the labor-intensive and time-consuming tasks of coordinating and managing care for beneficiaries with one or more chronic conditions. The poor alignment between the financial incentives in FFS Medicare and the care coordination needs of beneficiaries with one or more chronic conditions can leave these beneficiaries at risk for poor outcomes, including acute exacerbations of their chronic disease and potentially preventable hospital admissions and readmissions.

Given the lack of compelling evidence to support the effectiveness of any single definitive approach to care coordination interventions (AHRQ 2007), the Congress and CMS initiated several demonstration and pilot programs over the past decade that took a variety of approaches to find out what does and does not work in improving care coordination for beneficiaries with one or more chronic illnesses. As part of the Medicare Improvements for Patients and Providers Act of 2008 (MIPPA) provision that directed the Commission to undertake this study, the Congress specifically required us to examine two of the initiatives: the Medicare Coordinated Care Demonstration and the Medicare Health Support pilot (see text box). We believe it is also informative to look at the results to date of two ongoing demonstrations that use different types of care coordination interventions to improve quality of care and reduce costs: the Care Management for High-Cost Beneficiaries (CMHCB) demonstration and the Physician Group Practice (PGP) demonstration.

Section 150 of the Medicare Improvements for Patients and Providers Act of 2008 (MIPPA)

(a) STUDY.—The Medicare Payment Advisory Commission (in this section referred to as the ''Commission'') shall conduct a study on the feasibility and advisability of establishing a Medicare Chronic Care Practice Research Network that would serve as a standing network of providers testing new models of care coordination and other care approaches for chronically ill beneficiaries, including the initiation, operation, evaluation, and, if appropriate, expansion of such models to the broader Medicare patient population. In conducting such study, the Commission shall take into account the structure, implementation, and results of prior and existing care coordination and disease management demonstrations and pilots, including the Medicare Coordinated Care Demonstration Project under section 4016 of the Balanced Budget Act of 1997 (42 U.S.C. 1395b–1 note) and the chronic care improvement programs under section 1807 of the Social Security Act (42 U.S.C. 1395b–8), commonly known as ''Medicare Health Support''.

(b) REPORT.—Not later than June 15, 2009, the Commission shall submit to Congress a report containing the results of the study conducted under subsection (a). ■

Review of Medicare care coordination demonstration and pilot programs

For each of the four Medicare care coordination demonstrations and pilots reviewed, we examined program structure; implementation details; and results achieved in terms of cost, quality, and current program status.

Medicare Coordinated Care Demonstration

Section 4016 of the Balanced Budget Act of 1997 mandated that the Secretary conduct a demonstration project to evaluate whether methods of care coordination could improve the quality of care and reduce Medicare expenditures for beneficiaries enrolled in FFS Medicare.

Structure

In 2000, CMS released a request for proposals to solicit organizations to participate in the Medicare Coordinated Care Demonstration (MCCD). CMS sought applicants with experience operating disease management programs who could present evidence of decreased hospitalizations, decreased costs, or both. Each applicant was allowed to define its own intervention and target population within broad parameters established by CMS. In January 2002, CMS selected 15 of 58 proposals to participate in the demonstration (Table 8-1, p. 226). These 15 programs served a variety of target populations in 16 states and the District of Columbia:

- Five programs served beneficiaries in rural areas.
- Six programs targeted beneficiaries with single conditions, including four targeting beneficiaries diagnosed with CHF, one targeting those with CAD, and one targeting those with cancer.
- One program targeted people with both CAD and CHF.
- Eight programs targeted beneficiaries diagnosed with multiple chronic diseases (Brown et al. 2007).

Implementation

Between April and September 2002, each program began enrolling patients on a voluntary basis. As of June 30, 2005, the programs had enrolled about 18,400 beneficiaries, who were randomly assigned upon enrollment into either a treatment group or a control group for each site. The size of the treatment groups across the MCCD sites as of June 2005 ranged from 92 (University of Maryland) to 1,511 (CorSolutions), with most sites (9 of 15) having treatment groups of between 400 and 750 beneficiaries. Notable characteristics of the beneficiaries enrolled in the programs include:

- Four programs (Avera, Charlestown, Hospice of the Valley, and Jewish Home and Hospital) had from 20 percent to more than 40 percent of their enrollment

TABLE 8–1

Baseline characteristics of Medicare Coordinated Care Demonstration sites and enrolled beneficiaries

Project site sponsor	Sponsor location	Sponsor type	Beneficiary location	Rural/ urban	Targeted diseases	Total number of beneficiaries enrolled through June 2005	Medical use during the year before randomization	
							Average annualized number of hospitalizations	Average monthly Medicare expenditures
Carle Foundation Hospital	Urbana, IL	IDS	Eastern IL	Rural	Various chronic conditions	2,657	0.52	$590
CorSolutions, Medical, Inc.	Buffalo Grove, IL	DM/CC provider	Houston, TX	Urban	CHF	2,646	2.60	2,934
Washington University	St. Louis, MO	AMC	St. Louis, MO	Urban	Various chronic conditions	2,289	1.88	2,311
Health Quality Partners	Doylestown, PA	DM/CC provider	Eastern PA	Both	Various chronic conditions	1,466	0.32	476
CenVaNet	Richmond, VA	DM/CC provider	Richmond, VA	Urban	Various chronic conditions	1,445	0.76	862
QMED, Inc.	Laurence Harbor, NJ	DM/CC provider	Northern CA	Urban	Coronary artery disease	1,406	0.30	539
Medical Care Development	Augusta, ME	Hospital	ME	Rural	Heart conditions	1,329	1.38	1,495
Hospice of the Valley	Phoenix, AZ	Hospice	Maricopa County, AZ	Urban	Various chronic conditions	1,048	1.65	2,059
Mercy Medical Center	Mason City, IA	Hospital	Northern IA	Rural	Various chronic conditions	934	1.43	1,356
Jewish Home and Hospital	New York, NY	LTC provider	New York City	Urban	Various chronic conditions	872	0.86	1,629
Avera McKennan Hospital	Sioux Falls, SD	Hospital	SD, IA, MN	Rural	CHF	858	2.18	1,725
Charlestown Retirement Communities[a]	Baltimore, MD	Retirement community	Baltimore County, MD	Urban	Various chronic conditions	830	0.89	1,108
Georgetown University Medical Center[b]	Washington, DC	AMC	DC, MD suburbs	Urban	CHF	230	3.01	2,898
Quality Oncology, Inc.[c]	McLean, VA	DM/CC provider	Broward County, FL	Urban	Cancer	211	0.88	2,303
University of Maryland[d]	Baltimore, MD	AMC	Baltimore, MD	Urban	CHF	181	2.28	2,945
Medicare total in 2003	N/A	N/A	Entire US	Both	N/A	42.3 million	0.30	552

Note: IDS (integrated delivery system), AMC (academic medical center), DM/CC provider (provider of disease management, coordinated care, or quality improvement services), LTC (long-term care), CHF (congestive heart failure), AMI (acute myocardial infarction), N/A (not applicable).
a. Demonstration ended 3/31/06.
b. Demonstration ended 12/31/05.
c. Demonstration ended 8/31/06.
d. Demonstration ended 6/30/06.

Source: Peikes et al. 2009, Peikes et al. 2008.

composed of beneficiaries age 85 or older, compared with about 11 percent of all Medicare beneficiaries.

- All but three programs enrolled no or a relatively small proportion (compared with Medicare overall) of beneficiaries under age 65—that is, those eligible on the basis of disability. However, in one program (Washington University), about 26 percent of enrollees were under age 65, compared with about 14 percent for Medicare overall.
- Six sites had a higher than average percentage of enrollees who were dual eligibles (Medicare beneficiaries who are also enrolled in Medicaid), while five of the seven largest sites had a smaller than average percentage of dual-eligible enrollees.
- Six sites, including two of the largest, enrolled a much higher than average percentage of beneficiaries identified as black/non-Hispanic, ranging from about 15 percent to 63 percent of the site's enrollees, compared with about 10 percent of Medicare beneficiaries overall. Eight of the nine other sites had smaller than average percentages of beneficiaries identified as black/non-Hispanic, ranging from 0 percent to about 5 percent of their enrollment.
- As expected, enrollees in most programs had high rates of hospitalizations and high monthly expenditures the year before their enrollment compared with Medicare overall. However, two sites (Health Quality Partners and QMed) enrolled beneficiaries with prior-year hospitalization rates and average monthly expenditures that were about the same as the average for all Medicare enrollees (Peikes et al. 2009).

Treatment intervention protocols varied widely across sites, but many shared certain strategies and characteristics. For instance, all the programs assigned patients to a care coordinator who assessed their needs and used that information to develop patient care plans. In all but one program, the care coordinators were required to be registered nurses (the other program used licensed practical nurses). All the programs routinely contacted patients, primarily by telephone, with four programs also contacting patients in person nearly once a month. Eleven programs contacted patients from 1 to 2.5 times per month, and 3 programs contacted patients from 4 to 8 times per month (the remaining program did not report complete data on contacts).

Almost all the programs relied on patient education as the foundation of their interventions. Within each program, the interventions used standardized curricula based on established guidelines designed to improve patients' diets, exercise regimens, and adherence to medications. Most programs evaluated the effectiveness of their patient education interventions by reviewing clinical indicators or home monitoring data for evidence of improved health, by asking patients to report changes in behavior, or by testing patients' knowledge of the curricula. Most programs tried to minimize demands on physicians and their office staff and focused primarily on patient-centered approaches to care coordination. Ten programs paid physicians either a monthly stipend per patient or a fee for participating in meetings or for sharing medical records with care coordinators (Peikes et al. 2008).

With regard to information about whether the programs affected the costs or quality of care while the interventions were under way, some program sites reported that there was little opportunity for them to perform interim or process evaluations that they could use to change their programs' directions or strategies. Similar to experiences reported by sites in other demonstrations, some of the MCCD sites reported that CMS and its claims-processing contractor could not provide timely data about program participants' use of Medicare services such as inpatient admissions and emergency department visits, which could have been used to inform ongoing adjustments to program interventions (MCCPRN 2008a). However, nine of the programs implemented their own procedures to learn about hospitalizations quickly, either by having hospitals notify program staff when they admitted a program's patients, having program staff review hospital and emergency room admission lists, or following up when a patient did not submit a telemonitoring report (Peikes et al. 2008).

Results

The *Third Report to Congress on the Evaluation of the Medicare Coordinated Care Demonstration* reflects four years of program implementation experience (Peikes et al. 2008). The evaluation estimated the impacts of each of the 15 programs on Medicare costs and several quality measures and assessed which program features appeared to be associated with program success. The evaluation concluded that "most of the care coordination programs tested … had limited or no improvements in quality of care, few achieved cost neutrality, and none reduced total Medicare expenditures when care coordination fees were included." Five of the programs (Georgetown University,

Health Quality Partners, Medical Care Development, QMed, and Quality Oncology) had modest favorable effects on some quality indicators without significantly increasing total Medicare expenditures. An analysis of the differences between more and less successful programs generated little information about best practices, and Mathematica Policy Research, Inc., concluded that "no particular program types or target populations were consistently associated with favorable cost and quality outcomes." Overall, the programs appeared to have no consistent discernible effect on participating beneficiaries' behaviors and outcomes except receipt of health education (Peikes et al. 2008).

Costs Mathematica's evaluation of the financial outcomes of the programs found that none significantly reduced Medicare expenditures, even without counting the care coordination fees paid (Peikes et al. 2009). Medicare paid a negotiated fee to each program ranging from $80 to $444 per beneficiary per month (PBPM). For total Medicare spending including care coordination fees, treatment groups for 9 of the 15 programs had significantly higher spending—ranging from 8 percent to 45 percent higher—than the control groups (Table 8-2). For the remaining six programs, the differences in total spending between treatment and control groups were statistically indistinguishable from zero.

Examination of the use of inpatient hospital services revealed that only 2 of the 15 programs (Georgetown University Medical Center and Mercy Medical Center) had lower hospitalization rates in their treatment groups by a statistically significant amount (–24 percent and –17 percent, respectively). However, one of these sites, Mercy Medical Center, had statistically significantly higher total Medicare costs (11 percent) relative to the control group. This result was due to the relatively large ($236 PBPM) care coordination fee that Medicare paid this program not being fully offset by savings from lower Medicare spending for the treatment group.

Quality of care and patient satisfaction None of the programs had favorable effects on any of the adherence measures tracked for the intervention group, and there were only a few scattered statistically significant positive outcomes on the 18 self-reported and claims-based process-of-care quality indicators. Surveys conducted on patients in the 12 programs with more than 300 enrollees by the end of their first year and on physicians in all 15 programs suggest that the programs were popular with beneficiaries and providers. The latest evaluation of the demonstration, however, reported that one in seven control group members surveyed said they had received care coordination services (i.e., they thought they had been affected by the intervention even though they were in the control group) and one in three treatment group members stated they had not received care coordination services. To the extent that these self-reported statistics accurately reflect the unintentional spillover of the interventions to the control group and their less than complete penetration into the intervention group, the programs would have had to have proportionally greater impacts on the beneficiaries with whom they did intervene to demonstrate statistically significant impacts on their satisfaction with care compared with the control group.

Current status of MCCD In January 2008, CMS reached agreements with two of the MCCD sites—Health Quality Partners and Mercy Medical Center—to continue their programs for another two years, with payment rates consistent with the estimated savings in Part A and Part B expenditures for each program as reported in the third report to the Congress (Peikes et al. 2008). Mathematica is expected to deliver a fourth and final evaluation of the MCCD to CMS in 2010.

Medicare Health Support pilot

Section 721 of the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 authorized a phased-in pilot program to test voluntary programs in chronic care improvement designed to improve the quality and control the growth in costs of care for FFS beneficiaries diagnosed with at least one of three chronic illnesses: CHF, diabetes, and COPD. Originally named the Chronic Care Improvement Program, CMS renamed it Medicare Health Support (MHS) shortly before program implementation in 2005.

The Congress set out a two-phase model for MHS. First, sites would be selected for a pilot phase to test various interventions targeting CHF, diabetes, and COPD. If these pilot programs proved successful, the Secretary could authorize expanding the program's successful elements into the Medicare program without further congressional authorization. Expansion into the second phase of the pilot was contingent on findings determined by an independent evaluation contractor for CMS that the programs, or components of them, resulted in improvements in clinical quality of care and beneficiary satisfaction and achieved target savings. At first, the savings target was set at 5 percent, including the fees paid to the participating

TABLE 8–2

Most Medicare Coordinated Care Demonstration sites increased Medicare costs relative to control group

Project site sponsor	Sample size through June 2005		Average number of follow-up months through June 2006	Average monthly program fee received	Impact (as percentage of control group mean)		
						Monthly Medicare expenditures	
	Treatment group	Control group			Annualized number of hospital admissions	Excluding care coordination fees	Including care coordination fees
University of Maryland[a]	92	89	23.5	$268	–7.3%	35.3%[e]	45.4[f]%
Charlestown Retirement Communities[b]	413	417	30.5	215	19.0[f]	18.6[f]	40.6[f]
Carle Foundation Hospital	1,338	1,319	37.0	148	4.2	8.7	30.1
Jewish Home and Hospital	435	437	30.8	227	11.2	9.9	23.0[f]
Avera McKennan Hospital	430	428	25.4	270	–1.8	–2.7	17.0[f]
CenVaNet	722	723	35.2	72	5.9	4.6	13.0[f]
Washington University	1,150	1,139	29.3	155	–1.4	4.5	12.9[f]
Mercy Medical Center	467	467	32.6	236	–17.1[f]	–9.3	11.1[e]
Hospice of the Valley	531	517	20.4	177	–7.2	0.9	9.6[e]
QMED, Inc.	707	699	37.7	83	1.4	–2.2	9.0
CorSolutions, Medical, Inc.	1,511	1,135	25.2	215	–3.2	0.6	8.2[e]
Health Quality Partners	740	726	30.1	103	–11.4	–11.9	2.8
Medical Care Development	669	660	26.2	134	–3.4	–6.0	1.7
Quality Oncology, Inc.[c]	107	104	18.4	60	4.4	–1.1	0.8
Georgetown University Medical Center[d]	115	115	27.7	240	–24.0[e]	–14.0	–4.4

Note: a. Demonstration ended 6/30/2006.
b. Demonstration ended 3/31/2006.
c. Demonstration ended 8/31/2006.
d. Demonstration ended 12/31/2005.
e. Indicates a statistically significant difference between the treatment and control group averages at a 90 percent confidence interval.
f. Indicates a statistically significant difference between the treatment and control group averages at a 95 percent confidence interval.

Source: Peikes et al. 2009.

TABLE 8–3

Medicare Health Support organizations served diverse geographic areas and most ended early

Medicare Health Support organization	Beneficiary location	Launch date	Termination date	
			Revised	Original
Healthways	Maryland and DC	8/1/2005	N/A	7/31/2008
Lifemasters Supported SelfCare	Oklahoma	8/1/2005	12/31/2006	7/31/2008
Health Dialog Services	Pennsylvania (western region)	8/15/2005	N/A	8/14/2008
McKesson Health Solutions, LLC	Mississippi	8/22/2005	5/31/2007	8/21/2008
Aetna Life Insurance Company	Chicago, IL (surrounding areas)	9/1/2005	N/A	8/31/2008
CIGNA Health Support	Georgia (northern region)	9/12/2005	1/14/2008	9/11/2008
Green Ribbon Health*	Florida (west-central region)	11/1/2005	8/15/2008	10/31/2008
XLHealth Corporation	Tennessee (selected counties)	1/16/2006	7/31/2008	12/31/2008

Note: N/A (not applicable).
*Partnership between Humana and Pfizer Health Solutions.

Source: McCall et al. 2008.

Medicare Health Support Organizations (MHSOs); that is, the MHSOs would have had to reduce Medicare spending for their assigned intervention group by 5 percent plus an additional percentage equal to the monthly fees they were paid by Medicare. CMS later amended this requirement after the Office of Management and Budget approved the less stringent condition of budget neutrality.

Structure

CMS selected programs to participate in MHS through a competitive solicitation process. In their bids, applicants were required to provide a rationale for the geographic areas of operations selected; the clinical focus of their targeted populations; a description of their proposed chronic care improvement programs, which was expected to comply with statutory programmatic requirements; proposed fee amounts; and measures of and performance guarantees for clinical quality and beneficiary satisfaction.

CMS selected nine programs to participate in the pilot, and eight programs chose to proceed with implementation (Table 8-3). All eight programs targeted beneficiaries with diabetes, CHF, or both; none of the programs specifically targeted beneficiaries with COPD.

CMS used Medicare claims data to identify Medicare FFS beneficiaries diagnosed with heart failure (HF) or diabetes or both and a hierarchical condition categories (HCC) score of 1.35 or greater.[6] Excluded from the sample were beneficiaries with end-stage renal disease and those enrolled in a Medicare Advantage plan, a CMS-sponsored Medicare FFS chronic care demonstration, or hospice care. After identifying eligible beneficiaries, CMS used block randomization to assign 30,000 of them to intervention and comparison groups in a ratio of 2:1 in each geographic area. Beneficiary names, addresses, available demographic data, available telephone numbers from Social Security Administration records, and Medicare claims from 2003 and 2004 for the intervention group were provided to each MHSO before the start date of the MHS operations. CMS sent eligible beneficiaries in the intervention groups a letter from Medicare introducing the program and provided approximately two weeks to opt out of being contacted by the MHSO. MHSOs were then permitted to contact beneficiaries to confirm their willingness to participate in the program and begin providing services (McCall et al. 2007).

Across the entire population of MHS eligible beneficiaries, the program's independent evaluators observed high levels of comorbidity during the year prior to randomization. Almost one-half of the MHS eligible beneficiaries had diagnoses of CAD; almost one-third had diagnoses related to respiratory diseases, such as COPD; 15 percent to 20 percent had evidence of acute or chronic renal disease; and roughly 10 percent had diagnoses related to valve disorders, cardiomyopathy, peripheral vascular disease, and renal failure. In the groups of beneficiaries randomly assigned to the MHSOs, average HCC scores ranged from 2.2 to 2.6, and average PBPM total Medicare payments ranged from $1,209 to $1,524 in the year

before randomization. About one-half had the threshold condition of diabetes only, and about one-quarter each had HF only and HF with diabetes. Rates of all-cause hospitalizations across all beneficiaries originally randomized to the intervention group ranged from 633 to 935 per 1,000 beneficiaries, but only a small fraction of these admissions were for the principal reason of HF or diabetes. Rates of all-cause emergency room (ER) visits for these beneficiaries ranged from 732 to 1,448 per 1,000 beneficiaries and very few of these ER visits were principally for HF or diabetes (McCall et al. 2008, McCall et al. 2007).

Implementation

During the initial six-month outreach period, MHSOs received a negotiated monthly management fee for all assigned beneficiaries except those who declined participation or were deemed ineligible before the program started. After the initial six-month period, each MHSO received a monthly fee for each actual participant. All fees paid to the MHSOs were at risk for the clinical and financial performance of the full population randomized to the intervention group whether the beneficiaries in this group elected to participate in the MHSOs' programs or not. This model was designed to provide strong incentives for MHSOs to develop and implement effective outreach and intervention strategies. To keep all their management fees, MHSOs had to reduce Medicare costs for the entire intervention group by at least the amount of the accrued fees—that is, achieve budget neutrality. To the extent that the MHSOs actually engaged only a portion of their assigned populations, they would have had to achieve a greater percentage savings on this portion to have met the overall budget-neutrality requirement. CMS also required MHSOs to put a portion of their fees at risk for several clinical process-of-care measures and one patient satisfaction measure (McCall et al. 2008).

During an initial six-month outreach period, MHSOs were expected to contact all their assigned beneficiaries to encourage participation in their programs. MHSOs recruited participants systematically, rather than randomly, but used varied methods across sites and target populations to engage potential participants (McCall et al. 2007). Most programs ranked beneficiaries as being at immediate, high, or moderate risk for adverse events, in order to target interventions accordingly and ideally maximize the effects of their program interventions and ultimately cost savings. More than three-quarters of all intervention beneficiaries verbally consented to participate in the MHS program during the first 18 months of the pilot. MHSOs were unable to contact between 4 percent and 15 percent of their assigned beneficiaries.

The independent evaluations of the MHS observed that the populations randomly assigned to the MHSOs had on average high HCC scores, high rates of acute care and ER use, and high total Medicare costs (as, by design, did the comparison group), but they also found that the beneficiaries assigned to the intervention group who then actually agreed to enroll in the MHSOs' programs were on average healthier and had lower Medicare costs than the intervention group overall (McCall et al. 2008, McCall et al. 2007). The evaluations found several statistically significant differences between beneficiaries who were assigned to the intervention group but who chose not to enroll in an MHSO or who could not be contacted (referred to as nonparticipants) and beneficiaries who chose to enroll when contacted by an MHSO (referred to as participants). These differences between nonparticipants and participants included the following:

- In all but one of the MHSOs, the proportion of participating beneficiaries with Medicaid coverage was between 3 percentage points and 14 percentage points lower than among nonparticipants, suggesting that most of the MHSOs were not as successful in recruiting Medicare–Medicaid dual eligibles to participate.
- Six of the MHSOs had lower rates of Medicare beneficiaries under age 65 (i.e., beneficiaries with disabilities) among participants than nonparticipants.
- Five MHSOs had lower rates of African American beneficiaries as participants than nonparticipants, while three had higher rates.
- Across all the MHSOs, average HCC risk scores for one year before MHS start-up were 20 percent to 40 percent lower for participants than for nonparticipants.
- All-cause hospitalization and ER visit rates during the year before MHS start-up were significantly lower for beneficiaries who became participants than for those who chose not to participate. Depending on the MHS site, all-cause hospitalization rates for participants in the year before program start-up were lower by 196 to 631 per 1,000 beneficiaries, and ER visit rates were lower by 41 to 568 per 1,000 beneficiaries.
- Average Medicare spending PBPM for participants was $267 to $792 lower in the year before start-up than it was for nonparticipants.

Although the MHSO participants still had higher HCC scores, rates of acute care utilization, and total Medicare costs than the average for the Medicare population overall, this phenomenon of the MHSOs enrolling relatively healthier members of their assigned intervention groups had an important implication for budget neutrality. Because the pilot design was an intent-to-treat model, the MHSOs' engagement of less costly intervention beneficiaries required the MHSOs to have a larger effect on participants to achieve the required savings (McCall et al. 2008).

Each of the MHSOs conducted a comprehensive health assessment after beneficiaries agreed to participate. Assessments varied substantially across sites. However, all sites used the information garnered during initial patient health assessments to help determine the type and level of intervention to deliver and to set self-management goals (McCall et al. 2008). All MHS programs focused on providing telephonic care management services and all included the following additional patient services components:

- intensive case management for beneficiaries identified as high cost
- patient education and skill building
- medication management and support
- referrals for provision of community-based services

The MHSOs received monthly CMS claims data for their intervention group participants, and comparison group data were provided to the MHSOs quarterly, both in aggregate reports and as de-identified claims data sets. Some MHSOs developed other data strategies to enhance their ability to manage MHS operations by obtaining hospital and nursing home inpatient census, Medicare claims, or other administrative data on a more frequent basis, including in some cases negotiating data-sharing agreements with Medicare carriers, fiscal intermediaries, or other major health care partners. Other MHSOs relied primarily on the data provided from CMS and its MHS contractors. By the middle of year 2 of the pilot, the operating MHSOs received CMS data on Part D prescription drug events and used them to different degrees to better understand the clinical conditions of their participants and to look for drug–drug interactions (McCall et al. 2008).

Results

The findings of the most recent independent evaluation and report to the Congress on MHS are based on the first 18 months of implementation and the experience of approximately 290,000 chronically ill Medicare beneficiaries randomized to the program's intervention and control groups in 8 geographic areas (there were approximately 30,000 intervention and control group members in each of 8 MHSOs' original populations and between 4,000 and 8,000 intervention and control group members in each of 7 MHSOs' refresh populations).[7] According to this report, MHS is the largest randomized experiment to date of population-based care management (McCall et al. 2008). The report concluded with five key findings:

- Several vulnerable subpopulations of Medicare FFS beneficiaries were less likely to agree to participate in the MHS pilot program. The programs' difficulty in engaging sicker, more costly beneficiaries raises questions about the success of a broad, population-based approach to Medicare chronic disease management.
- The level of interventions provided in these programs with the participating beneficiaries is unlikely to produce significant behavioral change and savings.
- There was limited effect in improving beneficiary satisfaction, care experience, self-management, and physical and mental health functioning during the first 18 months.
- Seven of the MHSOs had a positive intervention effect on one or more process-of-care measures, such as cholesterol and blood glucose screening, but had no positive effect on reducing acute care utilization or mortality. There were no statistically significant decreases in hospital admission or readmission rates or ER visits in the intervention groups.
- Through the first 18 months of the program, cumulative fees paid to MHSOs far exceeded savings produced, making it very difficult for MHSOs to reduce Medicare Part A and Part B costs in the remaining 18 months of the pilot by the amount needed to offset the fees paid and achieve budget neutrality.

Costs Table 8-4 summarizes the individual financial outcomes of each MHSO through the first 18 months of the program. Before taking into account the fees paid to the MHSOs, four of them had average Medicare expenditures for their intervention group that were 1.0 percent to 2.1 percent lower than expenditures for the

comparison group on a PBPM basis, while the other four MHSOs had costs higher than or no different from costs in the comparison group. After factoring in the negotiated monthly fees that Medicare paid to the MHSOs, each pilot program cost Medicare more than it would have spent in the absence of the pilot. Across the programs, net costs to Medicare ranged from 3.5 percent to 9.4 percent of PBPM costs of the comparison group ($50 to $130). None of the observed differences in costs between the intervention and comparison groups was statistically significant. CMS will conduct a final financial reconciliation to determine each MHSO's actual refund obligation (McCall et al. 2008).

Quality Patient surveys were conducted with the intervention and control groups to assess the effect of the intervention on beneficiaries' self-management behaviors. The surveys focused on patients' willingness to set self-management goals, their ratings of self-efficacy, and the number of self-care activities in which they engaged. Five of the seven MHSOs showed positive effects related to setting goals, and two MHSOs showed positive effects related to creating a self-management plan (Table 8-5, p. 234). In contrast, there was little meaningful improvement in ratings of self-efficacy or in the number of self-care activities performed. This result was not surprising, given the high level of reported compliance with self-care guidelines in baseline survey data. Of the seven MHSOs included in this analysis, only two demonstrated a positive effect related to helping beneficiaries cope with their chronic condition, which was considered the primary measure of patient satisfaction. Seven of the eight MHSOs demonstrated at least one positive intervention effect.

Quality impacts were also assessed by tracking changes in evidence-based process-of-care measures for the intervention populations compared with the control groups. The evaluation found modest improvement in the process measures tracked. Across 40 measures (5 measures for each of the 8 MHSOs), 16 showed improvement. For beneficiaries with HF (with or without diabetes), rates of cholesterol testing in the year before the pilot ranged from 55 percent to 71 percent, and during months 7 through 18 of the pilot, the intervention groups' rates of change of cholesterol testing were 2 percentage points to 4 percentage points higher for four of the MHSOs relative to their comparison groups' rates (changes in the rates for the other four MHSOs were not statistically significant). For beneficiaries with diabetes (with or without HF), four evidence-based process measures were evaluated: cholesterol screening (rates ranged from 65 percent to 85 percent in the year before the pilot), hemoglobin A1c testing (81 percent to 88 percent in the year before the pilot), urine protein screening (65 percent to 74 percent in the year before the pilot), and retinal eye examination (32 percent to 42 percent in the year before the pilot). During months 7 through 18 of the pilot, intervention groups at 6 of the MHSOs showed modest positive intervention effects on these measures (McCall et al. 2008).

TABLE 8–4

All MHSOs increased Medicare costs through the first 18 months of operation

MHSO	Difference in 18-month intervention and comparison group PBPM growth rates*: Excluding MHSO fees	Including MHSO fees
Health Dialog Services	1.9%	9.4%
McKesson Health Solutions, LLC	0.0	8.4
Lifemasters Supported SelfCare	2.7	8.1
Healthways	1.6	7.5
CIGNA Health Support	–1.0	7.2
XLHealth Corporation	–2.1	7.2
Aetna Life Insurance Company	–1.5	5.4
Green Ribbon Health	–1.2	3.5

Note: MHSO (Medicare Health Support Organization), PBPM (per beneficiary per month).
*Medicare costs are for original assigned population and do not include "refresh" population.

Source: McCall et al. 2008.

The program evaluation also analyzed whether the MHSO interventions were associated with any changes in the use of hospital and ER services. Across the 120 comparisons evaluated (15 measures for each of the 8 MHSOs), there were no statistically significant reductions in the rate of growth in hospitalizations, readmissions, or ER visits in the original MHSO population intervention groups relative to the comparison groups.

Current status of MHS On the basis of interim results, CMS announced in January 2008 that it would end MHS phase I as scheduled and not renew the five remaining active contracts beyond their scheduled termination dates in 2008. CMS also announced it will evaluate the results of the third and fourth MHS evaluations expected sometime in 2010 or 2011 before making a final decision about whether to proceed to phase II.

TABLE 8–5

MHSOs had few significant effects on surveys of beneficiary satisfaction, self-management activities, and functional status

	Statistically significant intervention effect						
	Aetna	**Healthways**	**CIGNA**	**Health Dialog**	**McKesson**	**Green Ribbon Health**	**XLHealth**
Beneficiary satisfaction							
Health care team helped beneficiary cope with chronic condition	+			++			
Beneficiary experience with care							
Number of helpful discussion topics			++	++	+		
Quality of communication with health care team			++	++			
Self-management							
Percent helped set goals		+		+	+	+	+
Percent helped make a plan				++	+		
Self-efficacy ratings (level of confidence)							
Take all medication	+						
Plan meals and snacks							
Manage your blood sugar level	+				–		
Check feet for sores or blisters	+						+
Exercise 2 or 3 times weekly	+						
Limit salt							
Weigh yourself							
Limit fluids							
Self-care activities (number of days per week)							
Prescribed medications taken							––
Blood sugar tested		++			++		
30 minutes of continuous physical activity	+						
Feet were checked		+					
Followed healthy eating plan							
Weight was measured					+		
Salt was limited							
Fluids were limited				++			
Physical and mental health functioning							
PHC score							
MHC score							
PHQ–2 score							
Percent PHQ–2 score indicating depression	+						
Number of ADLs—difficult to do				+			
Number of ADLs—receiving help							

Note: MHSO (Medicare Health Support Organization), PHC (Physical Health Component [of the Veterans RAND–12 (VR–12) instrument]), MHC (Mental Health Component [of the VR–12 instrument]), PHQ–2 (Patient Health Questionnaire–2), ADLs (activities of daily living). Statistical significance determined using analysis of covariance: positive intervention effect denoted as + $p < 0.05$, ++ $p < 0.01$; negative intervention effect denoted as – $p < 0.05$, –– $p < 0.01$. LifeMasters is not included in the beneficiary survey reporting because LifeMasters' termination occurred prior to the follow-up survey being fielded.

Source: McCall et al. 2008.

Medicare Care Management for High-Cost Beneficiaries demonstration

In 2005, CMS announced establishment of the Care Management for High-Cost Beneficiaries (CMHCB) demonstration to test various models of care coordination aimed at high-cost FFS Medicare beneficiaries. In a press release issued at the time, the agency noted that "While CMS has a number of planned and ongoing care coordination and disease management demonstrations and programs, the CMHCB demonstration will be the first effort to focus specifically on provider-directed models of care for high-cost fee-for-service Medicare beneficiaries" (CMS 2005).

Structure

Six care management organizations (CMOs) were selected to participate in the demonstration. In contrast to MHS, this demonstration was not designed to target beneficiaries with a preidentified set of chronic disease diagnoses—each CMO was allowed to propose its own screening criteria for beneficiary enrollment and its own set of intervention protocols. All the programs were designed to increase adherence to evidence-based care, reduce unnecessary hospital stays and ER visits, help participants avoid costly and debilitating complications, and target high-risk individuals likely to incur particularly high Medicare costs (CMS 2005).

As in MHS, beneficiaries were enrolled by using a population-based intent-to-treat model. CMS used the beneficiary selection criteria approved for each site to establish control and treatment populations for each site. Because of this design, enrollment and assignment methodologies differed across sites. Two of the sites have randomized control groups and four sites have matched comparison groups.

CMS pays each site a monthly fee for each enrolled beneficiary, and each site is at risk for reducing Medicare costs for the intervention group by an amount equal to the fees it has been paid plus an additional percentage reduction. CMS set this additional reduction target at 5 percent for the original demonstration population but reduced it to 2.5 percent for the refresh populations assigned to the sites. Net savings are calculated by comparing FFS costs for the control group with FFS costs plus care management fees for the intervention group. To date, CMS has not released a financial evaluation of the demonstration or details of the financial arrangements with the CMOs, such as monthly fee amounts.

Implementation

The CMOs launched their programs between October 2005 and August 2006 (Table 8-6, p. 236). As of January 2009, total enrollment for the four sites still participating in the demonstration was 5,667 beneficiaries, ranging from 540 to 2,267 beneficiaries per site (Kapp 2009). Interventions incorporate a wide range of services, including support programs for health care coordination, physician and nurse home visits, use of in-home monitoring devices, use of electronic medical records, self-care and caregiver support, education and outreach, patient tracking, reminders of beneficiaries' preventive care needs, 24-hour nurse telephone lines, behavioral health care management, and transportation services.

Each CMO uses Medicare claims data to track its patients' use of Medicare services and costs as one way to identify and prioritize high-risk patients and monitor trends in the effectiveness of their individual care management interventions. According to CMS staff, the sophistication and use of these data systems have varied across the demonstration sites. The sites' internal data capabilities are important because inherent delays in Medicare claims processing can result in a lag of three months or more between the provision of a service (especially an inpatient admission) and its appearance in claims data, which then may take up to another month to be transmitted to the demonstration sites (based on experience in the MHS pilot). CMS has been working to improve the timeliness of hospital claims data reporting to the CMOs and recently began providing the sites with their enrolled beneficiaries' hospital claims on a monthly basis, though the time lag will remain between a beneficiary's hospital admission and when the hospital's claim for that admission is submitted to Medicare. CMS also receives quarterly financial reports for each site from the demonstration's independent implementation and monitoring contractor and shares that information with the CMOs.

An independent evaluation contractor monitors and evaluates each site's performance with respect to quality and patient satisfaction. The contractor is using a pre- and post-longitudinal study design to collect quality and patient satisfaction data directly from beneficiaries. A November 2008 report prepared by the independent evaluation contractor summarized the findings from the initial round of quality and patient satisfaction surveys, which are discussed later.

TABLE 8–6

Three Care Management for High-Cost Beneficiaries demonstration sites have been extended

Name of project	Initial approval period	Current status	Population focus	Program features	Beneficiary location
Care Level Management	October 1, 2005 to September 30, 2008	Terminated by CMS effective February 29, 2008	Beneficiaries with advanced, progressive chronic disease(s) and comorbidities with two or more condition-related hospital admissions in the past year	Provides care management via a distributed network of personal visiting physicians who see patients in their homes and nursing facilities and are available 24/7	California Texas Florida
Health Hero Network "Health Buddy"	February 1, 2006 to January 31, 2009	Three-year extension, subject to annual renewals, approved to begin February 1, 2009	Beneficiaries with congestive heart failure, diabetes, and or chronic obstructive pulmonary disease 540 participating beneficiaries as of January 2009	Patients receive a Health Buddy appliance that coaches them about their health, collects vital signs and symptoms, and transmits results back to multi-specialty medical groups	Oregon Washington
Massachusetts General Care Management	August 1, 2006 to July 31, 2009	Three-year extension, subject to annual renewals, approved to begin August 1, 2009	Beneficiaries who seek care from Massachusetts General health care system 2,267 participating beneficiaries as of January 2009	Provides comprehensive care management by a dedicated team of doctors and nurses, with specialized programs for patients with chronic conditions; home visits and home telemonitoring; electronic medical record	Massachusetts
Montefiore Care Guidance "Care Management Organization"	June 1, 2006 to May 31, 2009	Not extended by CMS	Beneficiaries with multiple chronic conditions residing in naturally occurring retirement communities and fee-for-service beneficiaries cared for within Montefiore healthcare network	Provides enhanced home-based services to participants using telemonitoring equipment and home visit programs; medication management, falls prevention, palliative care, and disease management programs	New York
RMS DM, LLC – RMS "KEY to Better Health"	November 1, 2005 to October 31, 2008	Three-year extension approved to begin November 1, 2008	Beneficiaries with chronic kidney disease 1,603 participating beneficiaries as of January 2009	Provides intensive disease management directed by nephrologists in supplementary clinics to identify potential problems and avoid complications, coordinate early intervention plans, and prevent acute hospitalization	New York
Texas Senior Trails	April 1, 2006 to March 31, 2009	Withdrew July 31, 2007	Beneficiaries who receive care from Texas Tech Physician Associates and at risk for readmission or adverse events	Care team coordination of home and office-based care	Texas

Source: CMS, Care Management for High-Cost Beneficiaries demonstration site-specific fact sheets (updated February 5, 2009) and "Medicare extends demonstration to improve care of high cost patients and create savings" press release.

Results

In January 2009, CMS announced that three of the CMHCB sites would be granted extensions to continue their programs for up to an additional three years beyond their original end dates: RMS Key to Better Health, Massachusetts General Care Management Program, and Health Hero Network's Health Buddy Project. In a press release announcing the extensions, CMS stated that "Each program has had a positive impact on selected high cost Medicare beneficiaries and has met and/or exceeded the savings target required in the demonstration agreement" but released no further details of the analysis behind its decision (CMS 2009).

The independent evaluation contractor, RTI International, submitted a report to CMS in November 2008 summarizing the findings from a survey of enrolled beneficiaries that was conducted to determine the effects of each care management program on beneficiaries' ability to cope with chronic illness, self-management behavior, and physical and mental functioning. The report found that overall beneficiaries in the intervention groups did not report more favorable experiences getting help to set goals, create a care plan, or cope with a chronic condition than did those in the control groups. With few exceptions, the interventions appeared to have little impact on the frequency of self-care activities or self-efficacy to perform these activities. RTI found that none of the six CMOs demonstrated consistently positive intervention effects across both domains of satisfaction with care experience and self-management activities. One of the six CMOs had a positive satisfaction intervention effect for at least one measure in each of the three domains. However, none of the CMOs achieved a positive intervention effect for all five satisfaction measures.

Medicare Physician Group Practice demonstration

In January 2005, CMS announced the establishment of the Physician Group Practice (PGP) demonstration in response to a legislative mandate in section 412 of the Medicare, Medicaid, and State Children's Health Insurance Program Benefits Improvement and Protection Act of 2000. The demonstration is the first pay-for-performance initiative for physicians under the Medicare program; it offers 10 large physician practices the opportunity to earn performance payments for improving the quality and cost efficiency of health care delivered to Medicare FFS beneficiaries. By rewarding improvements in quality and cost efficiency, the demonstration aims to encourage care coordination of Part A and Part B services and promote investment in care management programs, process redesign, and tools for physicians and their clinical care teams. Initially designed to be a three-year project, the demonstration was extended and is now in its fifth and final year.

Structure

CMS selected 10 sites to participate in the demonstration through a competitive process. Sites were selected based on technical review panel findings, organizational structure, operational feasibility, geographic location, and demonstration implementation strategy. Each participating physician group comprises at least 200 physicians, and they collectively include more than 5,000 physicians. The groups include freestanding group practices, components of integrated delivery systems, faculty group practices, and a physician network organization comprising small and individual physician practices. Together, they provide the largest portion of primary care services for more than 220,000 Medicare FFS beneficiaries. Under the demonstration, the participating groups are paid as usual under Medicare Part A and Part B, but after each "performance year" CMS analyzes the claims data for beneficiaries assigned to each group and from a local comparison group to determine whether (on a risk-adjusted basis) each group succeeded in having a lower rate of growth in total Medicare expenditures for its treatment group than for the comparison group.

The demonstration includes a base year and performance years covering the following periods:

- *base year:* January 1, 2004, to December 31, 2004
- *performance year 1:* April 1, 2005, to March 31, 2006 (results announced in July 2007)
- *performance year 2:* April 1, 2006, to March 31, 2007 (results announced in August 2008)
- *performance year 3:* April 1, 2007, to March 31, 2008
- *performance year 4 (extension):* April 1, 2008, to March 31, 2009
- *performance year 5 (extension):* April 1, 2009, to March 31, 2010

Implementation

CMS initiated the demonstration in April 2005. Once sites were selected and beneficiaries were enrolled,

participating PGPs began implementing care management strategies designed to improve quality and reduce costs. These strategies included electronic medical record modules; disease-specific patient registries; patient education programs; risk stratification tools; reports to track progress on quality measures; patient follow-up and outreach initiatives; telephonic remote monitoring systems; and automated identification, notification, and scheduling services.

These systems and tools were established, enhanced, and adopted at different speeds during the demonstration. Some PGPs reported issues implementing their care management strategies fast enough to have a sizable effect in the first year. Several PGPs indicated that motivating physician and organizational change took longer than expected, and their interventions did not become fully operational until performance year 2.

Some PGPs also reported lags in data reporting from CMS, making the PGPs' information systems important in tracking clinical and cost information. Ideally, rapid feedback of data on assigned beneficiaries would enable PGPs to evaluate the impact of specific interventions more quickly and revise them as needed during the demonstration. However, because claims data take time to accumulate, rapid feedback has been difficult to achieve.

Performance indicators on both quality and cost efficiency are used to calculate performance payments. Quality measures were developed by CMS working in an extensive process with the American Medical Association's Physician Consortium for Performance Improvement and the National Committee for Quality Assurance. The measures have undergone review or validation by the National Quality Forum, and CMS worked with the physician groups to develop a consensus agreement on how to report the measures and how to use them to assess performance and reward quality under the demonstration (CMS 2008). The measures have been phased in, beginning with the diabetes mellitus measures that were used to assess performance and reward quality care during performance year 1. Additional measures focusing on CHF and CAD were added in performance year 2. Hypertension and cancer screening measures were added in performance year 3, and all measures are in effect in performance years 4 and 5.

Medicare savings for each PGP demonstration site are calculated by comparing actual spending with a target. The target is set at each PGP's base-year per capita expenditures, trended forward by the comparison group's expenditure growth rate. Case-mix adjustments are made to account for changes in the severity of illness over time in the patients treated by the PGP and in the comparison group. Up to 80 percent of Medicare savings in excess of 2 percent is distributed to each PGP based partly on the magnitude of savings achieved and partly on the group's performance on the quality measures in effect for the given performance year.

Results

The PGP demonstration is in progress, but interim results from the first two performance years indicate that the quality of care for participating beneficiaries has improved, although financial outcomes are less clear.

Cost Two of the PGP sites earned performance payments of $7.3 million in performance year 1 as their share of $9.5 million in total demonstration savings estimated by CMS to have accrued to Medicare. Both sites that shared in savings in the first year had risk-adjusted expenditure growth rates for their assigned populations that were lower than those of their comparison group populations. In August 2008, CMS announced that four of the demonstration sites had earned a total of $13.8 million in performance payments as their share of $17.4 million in Medicare savings for performance year 2. As in the previous year, other sites also had rates of growth in their intervention groups' expenditures that were lower than growth rates for their comparison groups, but not sufficiently lower, under the demonstration's performance-based payment methodology, to share in the savings generated.

The apparent success of the sites in constraining the rate of cost growth is less clear once risk adjustment effects are taken into account. According to unpublished data from CMS staff, the rates of total expenditure growth without risk adjustment from the base year to performance year 2 were higher or about the same in 8 of the 10 demonstration sites as in their comparison groups. After adjusting for population risk differences (using a methodology similar to that used in Medicare Advantage), only three of the sites had higher total spending growth rates than did their comparison groups. The difference between the unadjusted and adjusted results stems from the fact that 9 of the 10 demonstration sites also reported that their patient risk scores grew faster than risk scores for the sites' comparison groups. The relatively faster increase in risk scores for the sites may be due to their attracting a greater share of sicker patients than the comparison group, their patients could be getting sicker while enrolled

in the demonstration, or the sites may be more fully documenting and coding diagnoses to identify patients for care management and quality improvement initiatives. Because the increased risk scores of patients at the sites may be due to improved detection and coding of acute and chronic conditions, actual cost savings in the first two years of the demonstration are unclear.

Quality In performance year 1, all the demonstration sites improved the clinical management of their diabetes patients. Specifically, all 10 sites achieved benchmark or better performance on at least 7 of the 10 diabetes quality measures, and 2 sites met all 10 benchmarks. In addition, all sites increased their scores on at least four diabetes measures, eight sites increased their scores on at least six of these measures, and six sites increased their scores on nine or more measures. In performance year 2, overall performance on quality measures among the sites continued to improve, even as more quality measures were introduced. All 10 sites achieved benchmark or better performance on at least 25 of the 27 quality measures covering patients with diabetes, CAD, and CHF. Five of the physician groups achieved benchmark performance on all 27 quality measures.

Summary of demonstration and pilot program results and implications for Medicare chronic care research

Taken together, the results of the three demonstrations and one pilot program are as follows:

- In almost all cases, the cost to Medicare of the intervention exceeded the savings generated by reduced use of inpatient hospitalizations and other medical services.
- Significant improvements in quality were sporadic, with the notable exception of the PGP demonstration, where almost all the program sites significantly increased performance on the clinical process and intermediate outcome measures being tracked.

The most significant reasons for these empirical results are more difficult to isolate and identify because of the multiple complex interactions that affect outcomes in a clinical intervention program for beneficiaries with multiple chronic illnesses. Nonetheless, the evidence appears to support the following points:

- A commentary accompanying a journal article on the MCCD results suggests that the evaluation "offers 2 important insights to guide Medicare policy on coordination of chronic disease care," which are that "care coordinators must interact in person with patients" and that "care coordinators must collaborate closely with patients' physicians to have a reasonable prospect of influencing care" (Ayanian 2009).
- CMS's administrative resource constraints may limit the agency's capacity to deliver timely information and program feedback to demonstration sites in some instances, which may have inhibited the potential of some programs to affect outcomes positively since the programs did not have the information they needed to assess whether their interventions were producing the desired outcomes. In the most recently launched demonstration (CMHCB), it appears that CMS is providing the demonstration sites with more of the information they seek in a timely fashion. In a larger sense, there is a question about how much providers can reasonably rely on CMS to provide operational data, when part of what is expected of them is to have the internal data collection, analysis, and reporting capabilities to inform their care management interventions.
- In some cases, the participating organizations may have limited their investment of resources in the demonstration programs, because the programs were relatively small and therefore given less priority than other organizational activities or because the programs were known to be time limited and therefore not worth the amount of investment that could be recouped over a longer time.

These observations suggest the critical success factors for Medicare in developing its ability to improve the quality and reduce the costs of care for beneficiaries with one or more high-cost chronic conditions. These factors should be taken into account in evaluating proposals to improve chronic care management, including the proposed MCCPRN.

Proposed Medicare Chronic Care Practice Research Network

The MCCPRN proposal has been advanced by a group of 12 health care provider and research organizations with a goal, in the group's words, "to serve as the leading

TABLE 8–7

Seven of the proposed MCCPRN sites also were Medicare Coordinated Care Demonstration sites

Proposed MCCPRN site	Location	Organization type	Site in Medicare Coordinated Care Demonstration?
Avera Research Institute (Avera McKennan Hospital and University Health Center)	Sioux Falls, SD	Hospital	Yes
Care Management Plus, Oregon Health & Science University	Portland, OR	Academic medical center	No
Central Virginia Health Network (CenVaNet)	Richmond, VA	DM/CC provider	Yes
Health Quality Partners	Doylestown, PA	DM/CC provider	Yes
Hospice of the Valley	Phoenix, AZ	Hospice	Yes
The Jewish Home & Hospital for the Aging	New York, NY	LTC provider	Yes
Mercy Medical Center–North Iowa	Mason City, IA	Hospital	Yes
Partners in Care	Los Angeles, CA	DM/CC provider	No
Rush University Medical Center	Chicago, IL	Academic medical center	No
Scott and White Memorial Hospital, Texas A&M Health Science Center	Temple, TX	Academic medical center	No
University of Illinois at Chicago, College of Nursing	Chicago, IL	Academic medical center	No
Washington University	St. Louis, MO	Academic medical center	Yes

Note: MCCPRN (Medicare Chronic Care Practice Research Network), DM/CC provider (provider of disease management, coordinated care, or quality improvement services), LTC (long-term care).

Source: MCCPRN 2008a, Peikes et al. 2009.

national resource available to advance the science and operational standards of care management for the chronically ill Medicare population, with special focus on their widespread adoption and relevance to new and improved payment policies" (MCCPRN 2008a). Under the proposal, "CMS would be directed to establish via federal legislation" a "standing network" of 12 preselected organizations—several academic medical centers, two long-term care providers, and three providers of care coordination, disease management, or quality improvement services (Table 8-7). Seven of the 12 proposed network member organizations also participated in the MCCD. Only one of these organizations' MCCD programs was found in the most recent evaluation to be close to budget neutral for Medicare. The proposed network would build on the MCCD infrastructure to create a standing network of sites that could "reduce elapsed time from concept to study design" and shorten the "long cycle times" that occur in setting up, implementing, and evaluating new Medicare demonstrations (MCCPRN 2008b).

As described in the proposal, the network's mission would "be to develop, execute and evaluate innovative, evidence-based chronic care initiatives focused on high cost fee-for-service Medicare beneficiaries." The network would "implement care management components based on evidence and best practices and focused on adoption by beneficiaries, health care providers and administrators and other entities critical to successful deployment" (MCCPRN 2008a).

Design features of the proposed MCCPRN

According to the materials submitted to the Commission in the course of our review, the proposed network would have

a governance and administrative structure in addition to the 12-site standing research network (Figure 8-2, p. 242).[8] The network would be led by a board of directors that would include a CMS representative, representatives from each of the network sites, and possibly a representative from the Agency for Healthcare Research and Quality (AHRQ) and the National Institute on Aging; an advisory panel of outside professional experts and patient advocates; a coordinating center; an evaluation center; and four workgroups—an organizational group, a project design and implementation group, a financial group, and an evaluation design and implementation group.

As described in the proposal, CMS's involvement in the network would be through the board of directors, which would be responsible for setting overall policies to guide network development and specific project activities. The board of directors also would be responsible for contracting with an external evaluator to analyze the outcomes of the research projects undertaken by the network. The MCCPRN proposal also states that CMS would be responsible for determining the "implications for replication potential and policy changes to facilitate wide adoption of the most promising innovations" that emerge from the network's activities (MCCPRN 2008a). However, the proposal does not call for explicit authorization of new administrative flexibility for CMS to implement promising care coordination interventions program wide.

As for the use of the network to test the effectiveness of payment policy innovations, the proposal mentions the network's "ability to contribute to defining mechanisms for incentives to physicians to provide more cost effective care" through "use of physician incentives" (MCCPRN 2008a). Based on the experience in the MCCD—where 10 of the programs paid physicians either a monthly stipend per patient (typically $20 or $30) or a fee for participating in meetings or for sharing medical records (Peikes et al. 2008)—it is not clear that these types of payments to physicians by a separate care coordination entity are effective in increasing quality or reducing total costs. According to the MCCPRN materials reviewed by the Commission in preparation of this report, the network would not be designed to test the types of fundamental payment reforms recommended by the Commission to change the current incentives inherent in Medicare's FFS payment system. Similar to the financial arrangements in the MCCD, Medicare would pay a monthly care coordination fee for each beneficiary enrolled in the network, and providers of services covered by Medicare Part A and Part B would continue to be reimbursed through traditional FFS Medicare.

The concept of a practice-based research network (PBRN) embodied in the MCCPRN has been explored and refined over the past several years under programs administered by AHRQ (see text box, pp. 244–245). In contrast to the MCCPRN proposal, the current AHRQ PBRNs were created through an open, competitive solicitation process. To construct the networks, AHRQ released a request for proposals outlining the program criteria and contractual requirements participating organizations would have to meet and used a formal proposal review process to select the organizations that form each network. Once the networks are created, specific projects and interventions are fielded and evaluated quickly under task orders, which are less time-consuming to implement than demonstrations, typically taking 12 months to 18 months from initiation to completion (AHRQ 2009). While the networks have produced some practice-based research results focused on specific conditions (e.g., improving colorectal cancer screening in primary care practice), the programs have not undergone an independent evaluation to date (Lanier 2008).

Financing the proposed MCCPRN

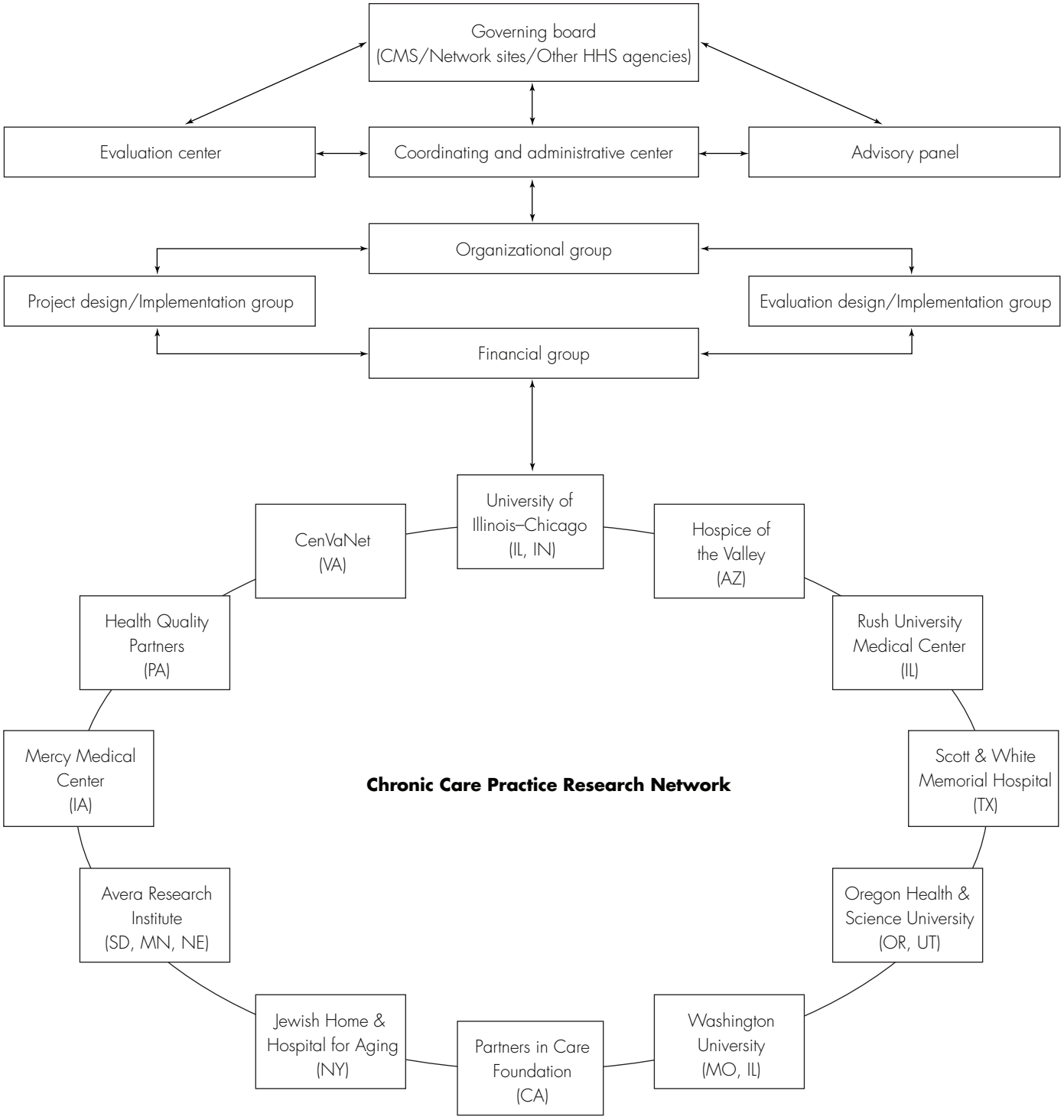
Funding for ongoing operations of the MCCPRN is not addressed in the materials submitted to the Commission for this report, but related legislation introduced but not enacted in the 110th Congress (H.R. 4327) would have authorized $60 million in Medicare funds over five years to finance the network. The average annual amount provided by this funding authorization would be $12 million per year, but this amount could vary in a given year depending on specific administrative and project funding needs (e.g., more funding could be required up front for capital expenses to support information technology acquisition for data collection and administrative staffing).

According to the MCCPRN proposal, Medicare funding would support four areas of activity:

- It would fund collaboration and networking among the sites, including conference calls, meetings and other forms of direct communication, publication of guidelines and findings, and developing and disseminating "tool kits."
- It would fund infrastructure support such as information systems to enable participation in research protocols at individual sites. This activity would build on information systems and other decision support

FIGURE 8–2

Administrative structure of proposed MCCPRN



Note: MCCPRN (Medicare Chronic Care Practice Research Network), HHS (Department of Health and Human Services).

Source: MCCPRN 2008a.

tools that some of the network sites have already developed and implemented with success while participating in the MCCD. Amounts allocated to each network site may be based on the site's enrollment size or success in realizing targets and compliance with data submission requirements.

- It would fund patient recruitment and care management support at the sites to deliver specific services to large patient panels and regularly test improvements.
- It would fund internal and external evaluation activities, including expenses incurred at the level of the individual sites and the network (MCCPRN 2008a).

Assuming the network's funding would work in a manner similar to the MCCD, the network sites would be paid a monthly care coordination fee for each beneficiary enrolled in the project intervention group. These fees would be paid in addition to any Medicare Part A and Part B payments to the providers treating program participants. The MCCPRN proposal explicitly rejects the policy of budget neutrality: "Achieving 'budget neutrality' from the funding agency's perspective (as is the requirement of current CMS demonstrations) or placing Network members at financial risk is contrary to the research purpose of the Network. Financial incentives should reward the efficient development and flawless execution of promising research designs involving improvements in care coordination and chronic care management" (MCCPRN 2008a).[9] While the MCCPRN proposal envisions using cost outcomes as one component (along with quality) in program evaluations, the proposal does not accept applying a budget-neutrality requirement on the network as a whole or having the network sites assume financial risk for cost outcomes.

Evaluation of the MCCPRN proposal

The Commission's evaluation of the proposed MCCPRN is based on our analysis of the evidence from the chronic care demonstration and pilot programs that we reviewed as well as our past work on methods Medicare could use to improve care coordination for beneficiaries with chronic conditions. Our review of the MCCPRN proposal did not evaluate—and should not be interpreted to comment on—the capabilities of the specific organizations that make up the network in its currently proposed configuration or the potential efficacy of the proposed interventions discussed in the MCCPRN proposal.

In essence, the practical effect of the MCCPRN proposal would be to continue the MCCD with the following important differences:

- About half of the network sites are organizations that CMS selected through a competitive solicitation process to participate in the MCCD (Table 8-7, p. 240), while the others have not been evaluated by CMS as to their research, information systems, and intervention delivery capabilities.
- The MCCPRN sites' interventions would be targeted to a subset of Medicare beneficiaries with multiple chronic conditions who have been identified through algorithms based on the network's analysis of the data collected by the sites and CMS over the five-year course of the MCCD. A significant portion of the planning funds MCCPRN has received has been allocated to analyzing the MCCD results and developing evidence-based algorithms to identify the clinical and utilization characteristics of those beneficiaries who experienced the most positive outcomes from the MCCD interventions.
- Care coordination and other interventions would be standardized across all MCCPRN sites through the use of clinical protocols, provider education and training, and continuous monitoring of implementation metrics and routine feedback to the sites of this program management performance data.
- A new administrative structure would be constructed for program operations with CMS playing a significantly different administrative and research role than it has in the MCCD and other Medicare demonstrations and pilots.

Our evaluation of the proposal raises the following concerns:

- The group of organizations submitting the MCCPRN proposal—which also would comprise the initial set of network sites—was not selected through an open, competitive solicitation process. A transparent solicitation process administered by CMS could be used to ensure that participating organizations had the necessary technical capabilities to implement and evaluate the selected care coordination interventions and that they shared characteristics (e.g., organization types and patient demographics) that would increase the prospects of being able to generalize and scale up from successful results. Although the process of

Practice-based research networks administered by the Agency for Healthcare Research and Quality

The Agency for Healthcare Research and Quality (AHRQ) administers two types of practice-based research networks (PBRNs): primary care PBRNs and integrated delivery system PBRNs.

Primary care PBRNs

AHRQ has devoted funds to support primary care PBRNs since 1999. AHRQ defines a PBRN as a group of ambulatory care practices devoted principally to the primary care of patients and to the investigation of questions related to community-based practice and improving the quality of primary care. PBRNs often link practicing clinicians with investigators experienced in clinical and health services research, while enhancing the research skills of network members.

In 2006, AHRQ created the PBRN contract partnership as a mechanism to fund rapid-cycle practice-based research and implementation projects at 10 selected PBRNs. Through this mechanism, AHRQ funds a variety of projects, including observational studies of primary care practices, field testing of evidence-based interventions and tools in real-world primary care practices, and research into best practices for dissemination of successful results.

The PBRN contract partnership began with an open competition among all interested primary care PBRNs, which AHRQ administered through a request-for-proposals process. AHRQ's evaluation criteria included the size and diversity (in terms of age, race or ethnicity, socioeconomic status, and location of residence) of the patient population served by the PBRN and its information systems capabilities. In February 2007, AHRQ awarded 10 contracts to establish the program. The 10 contractors include 4 groups with multiple networks and 6 individual networks, for a total of 28 networks. According to AHRQ, these networks are composed of 2,209 primary care practices distributed across the 48 contiguous states and roughly equally distributed across urban, suburban, and rural areas. The providers within the practices include 7,875 physicians, 1,217 nurse practitioners, and 895 physician assistants. These practices provide primary care for roughly 11.8 million patients, of whom 58 percent are age 65 or older (Lanier 2009). All the PBRNs that were awarded contracts are prequalified to compete for specific projects under a relatively rapid administrative procedure known as a task order. Through this vehicle, AHRQ can design, field, and evaluate projects with timelines ranging from 12 months to 24 months, with costs ranging from $100,000 to $300,000 (AHRQ 2009).

AHRQ also provides a support program by operating a PBRN resource center to provide technical assistance, facilitate peer learning-group activities, sponsor an annual PBRN conference, maintain an electronic repository of all PBRN research, and host a secure website for the PBRNs.

Accelerating Change and Transformation in Organizations and Networks

AHRQ also administers an integrated delivery system PBRN called the Accelerating Change and Transformation in Organizations and Networks

(continued next page)

drafting a request for proposals, reviewing proposals, and setting up a Medicare-specific practice research network would incur costs and take time, these hurdles must be weighed against the risks of eliminating the bidding process. For example, it could be more difficult for CMS to limit the size and number of additional networks if it were to adopt the MCCPRN proposal as given without first setting clear selection criteria and a transparent selection process for awarding the associated funding.

- The MCCPRN proposal rejects the use of budget neutrality or other financial incentives to hold the network sites at risk for Medicare costs incurred by beneficiaries participating in the network's treatment protocols. We are concerned that only

Practice-based research networks administered by the Agency for Healthcare Research and Quality (cont.)

(ACTION) program. AHRQ describes ACTION as "a 5-year implementation model of field-based research that fosters public-private collaboration in rapid-cycle, applied studies. ... ACTION promotes innovation in health care delivery by accelerating the development, implementation, diffusion, and uptake of demand-driven and evidence-based products, tools, strategies and findings. ACTION develops and diffuses scientific evidence about what does and does not work to improve health care delivery systems" (AHRQ 2006).

ACTION is organized around 15 large partnerships between AHRQ and 15 prime contractors, each of which subcontracts with several collaborating organizations. ACTION participants span all states and include health plans, physicians, hospitals, long-term care facilities, ambulatory care settings, and other care sites. Each partnership includes health care systems with large databases, clinical and research expertise, and the authority to implement health care interventions (AHRQ 2006).

The program began with an open competition administered by AHRQ through a request-for-proposals process in 2006. The 15 contracted ACTION partnerships operate under multiyear cost reimbursement contracts, and each of the contractors is prequalified to compete for individual projects that are solicited on a rolling basis throughout each of several years. Projects are designed, implemented, and evaluated on a rapid-cycle basis; they are awarded under separate task orders and are completed within 15 months on average. Projects that require clearance from the Office of Management and Budget need on average an additional nine months (Meyers 2009). Project costs typically range from $350,000 to $500,000 but have cost as much as $3,000,000. From 2006 to 2008, AHRQ made 58 ACTION project awards with total funding of $30.2 million (Palmer 2008).

Independent evaluation of other AHRQ PBRNs

To date, there has been no independent evaluation of these two AHRQ programs, but a predecessor to the ACTION program, called the Integrated Delivery System Research Network (IDSRN) program, was independently evaluated for AHRQ by Mathematica Policy Research in 2004. That evaluation concluded that "[t]he operational impact of IDSRN has been mixed, and widespread diffusion was rare over the period studied" (Gold and Taylor 2007). Overall, 30 of the 50 completed IDSRN projects were found to have had some operational effect, but most often the effects occurred within the system in which the research had been conducted. The report points out that the IDSRN had little formal infrastructure to support more widespread dissemination, particularly outside of the entities participating in the program. According to AHRQ, the agency applied this experience when designing the ACTION program, which includes some infrastructure to gather and share input from participating organizations toward designing program-wide and individual research projects. ACTION also is designed to put more emphasis on funding projects that have broad applicability and potential scalability and on funding sequential projects in which results from one phase are built on in the next phase of implementation (AHRQ 2006). ■

one of the six proposed MCCPRN sites that also participated in the MCCD was found in the most recent independent evaluation to have approached budget neutrality, including the care coordination fees. Given the challenge of the long-term sustainability of the Medicare program, the incentives for care providers in FFS Medicare to increase the volume and intensity of services they deliver to beneficiaries, the limited evidence to date on cost savings from care coordination interventions, and the Commission's stated position on the need for Medicare to move to value-based purchasing, we believe that putting care coordination service providers at some financial risk is necessary to create a strong incentive to provide cost-effective, quality-enhancing interventions for beneficiaries in FFS Medicare.

In its previous work on care coordination (MedPAC 2006), the Commission discussed two types of at-risk payment—shared savings and an at-risk care management fee—both of which could be considered for use in a PBRN. While requiring care coordination providers to bear some financial risk is not a guarantee of success in reducing costs and improving quality, preliminary evidence from the PGP demonstration (which uses the shared savings model) and the CMHCB demonstration (which uses the at-risk care management fee model) suggests that these approaches may contribute to spurring quality improvements while reducing costs.

In the specific case of designing a Medicare chronic care research network, it will be important to consider whether requiring any amount of risk sharing could affect the types of organizations that would elect to participate. For example, it may not be financially or legally feasible for some types of organizations to bear a significant amount of financial risk, even if the risk-sharing arrangement offered the potential to share any savings achieved. In those cases, Medicare would need to evaluate the trade-off between requiring risk sharing (including how much and in what form) and the implications for the types of organizations that would agree to participate.

- The administrative oversight structure of the proposed MCCPRN would include CMS as one representative on the governing board along with one representative from each of the network sites. While the materials provided by MCCPRN to the Commission indicate CMS would play the lead role in the governing board, it is not clear how much control CMS would have over the identification, design, and evaluation of the research projects carried out by the network. CMS should have sufficient authority to fully meet its responsibilities as the administrator of Medicare and the public steward of Medicare funds. Even if this were the case, however, we are concerned about CMS's current resources—given the existing constraints on the agency's funding and administrative flexibility—to take on these new responsibilities, particularly given the new and unfamiliar challenges CMS would encounter in leading and administering a PBRN.
- A Medicare PBRN could duplicate some of the existing financial and administrative resources AHRQ devotes to its two practice– and delivery-system–based research networks, the primary care PBRNs and ACTION. It may be useful to explore whether either of these programs could be adapted to provide a platform for relatively rapid turnaround practice-based research into coordinated care interventions for Medicare beneficiaries. Doing so would require a thorough evaluation of several aspects of the AHRQ networks, including an assessment of whether the participating organizations have the requisite skill sets to meet the needs of Medicare beneficiaries with one or more chronic illnesses, whether they serve a sufficient number of Medicare beneficiaries to permit statistically robust research results, and what their capacity would be to bear financial risk for participating in the network if that were determined to be a requirement. Also, AHRQ's funding for its existing networks is usually distributed upon each project's initiation as a lump-sum grant, as opposed to the PBPM fees envisioned in the current Medicare research network proposal.

  According to the MCCPRN proposal materials the Commission reviewed, the MCCPRN would specifically target the Medicare population and test interventions expressly designed to improve care coordination for Medicare beneficiaries with multiple chronic conditions. The MCCPRN also would test interventions that are more comprehensive than most of those tested to date by the AHRQ networks. Whereas the AHRQ networks typically evaluate the effects of individual clinical tools or programs, the MCCPRN would test sets of tools and programs. For instance, rather than test the value of a particular telemonitoring system, the MCCPRN would evaluate the effectiveness of an entire care coordination package that may include the use of a telemonitoring system combined with a series of clinical protocols and standardized staff training.

Other options for improving Medicare chronic care delivery

As the Commission stated in its recent report on a medical home pilot program, it is appropriate to test new policies before fully committing Medicare to them, and it is also imperative that we seek ways to hasten the testing process (MedPAC 2008). In addition to, or instead of, implementing the proposed MCCPRN, other options for accelerating the design, implementation, and evaluation of care coordination and other interventions for Medicare

beneficiaries with one or more chronic conditions could include the following:

- The Secretary could be encouraged to explore setting up a coordinated care PBRN within AHRQ in close collaboration with CMS (or vice versa), building on one or both of AHRQ's existing PBRN programs. One advantage of this approach is that it could build on the nearly 10 years of AHRQ experience in administering practice-based research programs and take advantage of the existing infrastructure of primary care practices, integrated delivery systems, and other provider organizations in the existing AHRQ networks. The Congress could be asked to appropriate more funding for CMS and AHRQ specifically to manage this new array of research projects and to invest in CMS data systems dedicated to supporting the expected levels of research, implementation, and evaluation activity.

- CMS could expedite further analysis and research into the rich trove of data on interventions, service utilization, costs, and quality that have been amassed through the MCCD, MHS pilot, PGP demonstration, and CMHCB demonstration. As part of this effort, CMS could create a central database that houses data from all of its care coordination demonstration and pilot activities (including data from control group beneficiaries) and contract with independent analytic organizations and health services researchers to analyze it thoroughly. One researcher recently pointed out that CMS "now has longitudinal data (claims and program-generated data) on well-characterized cohorts of 20,000 chronically ill beneficiaries for each of the eight MHS pilot programs, along with 10,000-person control groups. Some of the MHS programs also received additional cohorts for the second program year. Allowing researchers to tap these rich data sets would allow further analysis of the recent programs and greatly advance the field" (Foote 2009).

  Any research studies that used a large database combining data from several different demonstrations and the MHS pilot would need to be carefully assessed, not only for producing statistically significant results, but also for supporting plausible hypotheses of causal relationships in the care delivery system that could have produced those results. Such a database would be complex because it would combine data from programs with different beneficiary populations, implemented across different time periods, and involving different types of care coordination interventions. The database also would need to include details of the specific interventions that took place in the intervention groups in order to reliably establish associations between interventions and results.

  One example of the type of analyses that could be performed with these data is described in a Mathematica research proposal recently awarded a grant by the Changes in Health Care Financing and Organization (HCFO) initiative of The Robert Wood Johnson Foundation. In this project, Mathematica is analyzing MCCD data (to which it has access as the program evaluator) to test the ability of care coordination programs to control health care costs, examine the design features and target populations that make certain programs effective, and determine how programs can be replicated (HCFO 2008).[10]

Possible directions for broader consideration and further work on improving Medicare's research and development activity

The concerns expressed by the Commission and others about the slow pace of Medicare's chronic care demonstrations and pilots are emblematic of larger issues concerning the constraints CMS faces in carrying out research and development for Medicare. Current funding levels for Medicare research and development activities are very low relative to the overall size of the program. The amount enacted in fiscal year 2008 for Medicare research, demonstrations, and evaluations was $31.3 million, which is equal to 0.007 percent of the $460 billion in spending on Medicare benefits estimated for that year (HHS 2008). CMS also often has no or limited flexibility to redirect research funding as program needs and priorities shift, and administrative process requirements for research and demonstration projects—such as Medicare demonstration approvals through the executive branch—are time-consuming and resource intensive. In future work, the Commission intends to examine these and other issues affecting how quickly and effectively Medicare can test, implement, evaluate, and disseminate policy innovations that could improve quality while slowing the rate of cost growth in FFS Medicare. ■

Endnotes

1 The National Priorities Partnership is a coalition of 28 major national organizations representing health care payers and purchasers (including CMS), patients (including AARP), providers, and quality improvement organizations. The group was convened by the National Quality Forum in 2008 and in November 2008 announced six priority areas for the group's efforts to improve the U.S. health care system, including to "ensure patients receive well-coordinated care within and across all healthcare organizations, settings, and levels of care" (National Priorities Partnership 2008).

2 The seven diagnoses used as screening conditions in this analysis were hypertension, heart disease (including heart attack), diabetes, arthritis, lung disease (asthma, emphysema, and chronic lung obstruction), cancer, and depression.

3 Different estimates of the prevalence and rates of growth of chronic illness in the Medicare population may be attributable to analysts' different definitions of chronic illness (Goldman and Sood 2006, Thorpe and Howard 2006a).

4 In this analysis, total spending is defined as "total health care spending linked to Medicare beneficiaries regardless of the source of payment (out of pocket, Medicaid, supplemental coverage)." The authors noted that a separate analysis they performed using only Medicare program spending found similar results (Thorpe and Howard 2006b).

5 CBO defined high-cost beneficiaries as the costliest 25 percent of beneficiaries enrolled in FFS Medicare. These beneficiaries accounted for 85 percent of total spending in 2001 (including out-of-pocket spending and payments from supplemental insurance coverage), with average spending of about $24,800.

6 A beneficiary with an HCC score of 1.35 is predicted to have Medicare payments in the following year that are 35 percent greater than estimated payments for the average Medicare FFS beneficiary.

7 After one year of operation, 47,000 more beneficiaries were added to the study at the request of some of the MHSOs who thought a "refresh" population would be helpful to account for beneficiaries in the original "intent-to-treat" cohort who had died or disenrolled because of loss of eligibility. These 47,000 beneficiaries were randomly assigned and distributed across the program sites that agreed to receive new patients.

8 We received new information clarifying the role CMS would play in directing the network and other aspects of its structure as this report was going to press. We attempted to reflect as much of this new information as possible in this report, but time constraints prevented the Commission from reviewing all the new information.

9 Under a budget-neutrality policy, the accountable entity (e.g., the entire network or each individual network site participating in a given project to implement a care coordination intervention with an assigned group of beneficiaries) may not be paid for its services or may not be paid the full cost for them unless the costs of care for the population it serves are less than they would have been absent the care coordination intervention.

10 The timeline for this HCFO grant project is March 2008 to August 2009. According to information on the HCFO website, at the end of these grants the principal investigator is responsible for submitting a final written report of a quality that would be suitable for publication in a refereed scholarly or policy journal.

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