

Moving beyond Round Pegs and Square Holes: Restructuring Medicare To Improve Chronic Care

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Chronic disease is the norm rather than the exception among Medicare beneficiaries, yet Medicare's benefit structure and reimbursement mechanisms are poorly aligned with high-quality chronic care. This disconnect is thought to undermine the quality of chronic care, thereby contributing to excess program spending and placing beneficiaries at risk for undesirable health outcomes. Despite widespread recognition of this mismatch, there is little compelling evidence to suggest that successful quality improvement initiatives would reduce the costs of the Medicare program.

This paper describes state-of-the-art chronic care innovations to date, discusses ongoing and planned efforts by the Centers for Medicare & Medicaid Services to test related changes to Medicare's benefit structure and provider reimbursement, and suggests opportunities for future progress in this area.

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Chronic disease is widely recognized as the main contributor to morbidity, mortality, and health-related costs in the United States (1). Although there is some consensus regarding what constitutes high-quality chronic care (2–5), the delivery of such care remains largely elusive within the United States (6). In fact, the combination of increasing chronic disease prevalence and poorly organized health care delivery systems has been cited as a key driver of poor quality care (7). This chasm between possibility and reality is perpetuated by coverage and payment policies of the Medicare program (8, 9). In this paper, we describe state-of-the-art chronic care innovations to date, discuss ongoing and planned efforts by the Centers for Medicare & Medicaid Services (CMS) to test related changes to Medicare's benefit structure and provider reimbursement, and suggest opportunities for future progress in this area.

STATE-OF-THE-ART CHRONIC CARE

Several principles of high-quality chronic care have been outlined in the context of a chronic care model (2–5). This model endorses reliance on multidisciplinary teams of health care professionals who collaboratively educate, counsel, and empower patients with self-care techniques to manage their chronic diseases. Individually tailored evidence-based treatment plans guide clinical decision making and the frequency of patients' planned visits for chronic care. Supported by customized treatment plans and multidisciplinary teams of health care professionals, patients are charged with undertaking necessary lifestyle and behavioral modifications to manage their diseases responsibly. Information technology facilitates provider practice redesign, including the creation of disease registries, proactive outreach to patients, and greater involvement of nonphysician health professionals. Incentives are aligned so that community resources, health insurance payment systems, and provider teams can best facilitate desired processes and outcomes.

Despite a widespread and long-standing awareness of the need to restructure health care organization, financing,

and delivery to better address the needs of individuals with chronic disease, the best strategy for attaining the ideals of this chronic care model is far from straightforward. Several innovations have been designed to resolve the mismatch between the current health care system and the needs of individuals with chronic disease. Randomized, controlled trials of chronic care models (including geriatric evaluation and management, health enhancement, collaborative interdisciplinary care, transitional care, chronic disease self-management, and support for family caregivers) have demonstrated the ability to improve clinical outcomes, limit hospital or nursing home use, and reduce costs through health care delivery redesign (10–20). However, general incompatibility with mainstream health care financing and, in some cases, a disconnect with existing provider practice have impeded the dissemination of effective models into mainstream health care (6, 21). Disease management and case management are the approaches to chronic care that are most widely in use today.

Disease management is predicated on promoting patient self-management and physician adherence to evidence-based guidelines. Although disease management has demonstrated its potential for improving quality of care for an index disease (22, 23), few programs are designed to coordinate care among multiple providers or to manage health conditions unrelated to the index disease. For this reason, the relevance of disease management to older people with more than 1 chronic condition is more limited (24). For example, fewer than 4% of Medicare beneficiaries with heart failure, depression, or diabetes have no other

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Table 1. Component Processes of Chronic Care Models*

Model	Comprehensive Patient Evaluation	Individual Care Planning	Promote Adherence with EBGs	Empower Patient	Promote Healthy Lifestyle	Coordinate Care across Multiple Conditions	Coordinate Care across Provider Settings	Caregiver Support and Education	Access to Community Resources
Outpatient geriatric evaluation and management	XX	XX	X	–	X	X	X	X	X
Disease management	–	XX	XX	–	X	–	X	X	X
Self-management	–	–	–	XX	X	–	–	–	X
Health enhancement	X	X	–	X	XX	–	–	X	X
Case management	X	X	–	–	X	XX	X	–	–
Transitional care	–	X	–	–	–	X	XX	–	–
Caregiver support	–	–	–	–	–	–	–	XX	X

* EBG = evidence-based guidelines; X = model addresses need *partially*; XX = model addresses need *thoroughly*.

major chronic conditions; in fact, most (80%, 71%, and 56%, respectively) have 4 or more chronic conditions in addition to the index disease (25). Moreover, health literacy is lower among older adults (26, 27); consequently, the standard education, communication, and self-management techniques employed by disease management organizations may not be as effective among Medicare beneficiaries. Critically, several recent reviews of the literature have found insufficient evidence to conclude that disease management can reduce health-related costs, even for patients whose medical needs are less complex than those of Medicare enrollees (22, 23, 28).

Case management is another popular approach to meeting the special needs of medically complex individuals with chronic disease in the current health care delivery system. Case management typically identifies high-risk individuals, regardless of specific conditions, and takes a more comprehensive and customized approach to coordinating all of their health care needs. While there is some evidence that case management can be successful (29), the heterogeneity of interventions tested and outcomes evaluated complicates synthesis of the existing literature (30). Randomized, controlled trials of case management thus far do not substantiate its ability to lower health care costs (30–33).

Although novel models of chronic care have achieved varying levels of success, thus far most of these new approaches have focused on a single disease, a single site, a single transition, or single provider. Rarely have more than 2 of these innovations been integrated into comprehensive, coordinated systems of care (Table 1). Moreover, these models commonly operate independently rather than in conjunction with primary care (34), functioning either on a referral basis (for example, geriatric evaluation and management and the health enhancement program) or in parallel with primary care (such as disease management, case management, chronic disease self-management, and caregiver support) rather than being integrated within provider practice. The Program for the All-inclusive Care of the Elderly (35) and the second round of the Social Health Maintenance Organizations (36, 37) were designed as

comprehensive, integrated care models, but their operating costs are high, their penetration into mainstream health care has been limited, and their ability to improve chronic care or reduce costs remains uncertain (38, 39). In practice, chronic care lags far behind what is conceptually possible.

ROUND PEGS AND SQUARE HOLES

Identifying effective approaches for delivering chronic care is particularly relevant to Medicare beneficiaries, for whom chronic disease is the norm rather than the exception. Researchers estimate that 78% of Medicare beneficiaries have at least 1 chronic condition and that 63% have 2 or more chronic conditions (40). The majority of program spending is directed to beneficiaries with multiple chronic conditions; approximately two thirds of program costs are attributable to the 20% of beneficiaries with 5 or more chronic conditions (40). Despite the high prevalence of chronic disease and the disproportionate costs incurred by beneficiaries with multiple chronic diseases, fee-for-service Medicare today remains largely organized for the delivery of acute care services (8, 9, 41).

Fee-for-service Medicare fails to support the principles of high-quality chronic care in several ways. Coverage criteria favor services that improve rather than maintain physiologic function; many items with demonstrated importance for prevention and maintenance of functioning, such as eyeglasses, hearing aids, and, until recently, prescription drugs, are excluded. Provider reimbursement is based on encounters of short duration, which discourages the provision of time-consuming but critical activities, such as patient education, counseling, and coordination of care between providers. Medicare’s failure to reimburse services not provided or ordered by physicians impedes the operation of multidisciplinary teams and the contributions of nonphysician medical professionals who may be capable of meeting aspects of patients’ needs more appropriately and less expensively. The program currently lacks incentives for providers to adopt information technology, such as electronic medical records, disease registries, or other systems

to communicate among providers and manage patients proactively and longitudinally.

In the aggregate, Medicare's acute care orientation generally discourages rather than promotes high-quality chronic care. In the absence of professional guidance, beneficiaries with heavy disease burdens and their families find themselves alone in navigating a complex array of medical providers, potentially contradictory or confusing clinical recommendations, and critical treatment decisions (6, 41). Not surprisingly, outcomes within the Medicare program are suboptimal. Beneficiaries are at risk for a host of unwanted outcomes, including high out-of-pocket costs (42–44), general deficiencies in quality of care (45–47), medical errors and adverse events (48, 49), hospitalizations that might have been averted with good ambulatory care (50), and death (51, 52). The poor alignment between Medicare and the chronic care model results in excess spending and leaves beneficiaries at risk for acute exacerbations of chronic disease and other undesirable outcomes that could be potentially avoided with higher-quality care.

CURRENT CHRONIC CARE INITIATIVES

Given the expanding population of older persons with chronic conditions in the United States and a lack of compelling evidence to support any single definitive course of action, CMS, the federal agency responsible for the Medicare program, has a challenging mandate. Thus far, CMS has responded by embarking on an ambitious program to examine the effectiveness of chronic care innovations in Medicare through demonstration programs.

Some of these initiatives emanate from congressional interest and concern. The Balanced Budget Act of 1997; the Medicare, Medicaid, and State Children's Health Insurance Program Benefits Improvement and Protection Act of 2000; and the Medicare Prescription Drug, Improvement, and Modernization Act (MMA) of 2003 all included provisions to examine and conduct demonstration programs around innovations in chronic care. These demonstration programs, along with others initiated by CMS, are in various stages of planning and implementation (Table 2).

Beyond demonstration programs, the MMA also included numerous permanent provisions aimed at better meeting the needs of beneficiaries with chronic disease. With the introduction of the Part D benefit, Medicare will, for the first time, add prescription drugs to its range of covered services. Likewise, the inclusion of a one-time routine physical examination and new screening services for diabetes and cardiovascular disease will facilitate earlier detection of these diseases and opportunities for secondary prevention. Of importance, Section 723 of the MMA calls for CMS to develop a plan to "improve quality of care and reduce the cost of care for chronically ill Medicare beneficiaries." Other relevant initiatives include the development of national standards for electronic prescribing, medication

therapy management, and the creation of a new program of care for individuals with chronic disease.

Section 721 of the MMA establishes the Chronic Care Improvement Program (CCIP). The CCIP, a new service that is predicated on disease management, is being introduced on a pilot basis within fee-for-service Medicare. Now in its beginning phases, the pilot aims to voluntarily enroll 180 000 beneficiaries at 9 sites who have congestive heart failure with or without complex diabetes and chronic obstructive pulmonary disease. Contracting entities will provide supplemental disease management services and coordinate the health care of beneficiaries who choose to participate. Health care services will continue to be covered by the existing fee-for-service program. Contractors may propose monthly fees to cover the costs of providing disease management, but receipt of these fees will be subject to achieving at least 5% reductions in Medicare's overall health care costs. Service providers will also need to meet quality performance and beneficiary satisfaction standards (yet to be finalized). On the basis of results from the pilot, CCIP could be expanded nationally within 2 to 3 years.

In addition to testing changes in covered benefits, CMS is actively testing the extent to which revamped provider incentives might facilitate improved quality of care. The CCIP, as well as several other quality improvement initiatives, incorporates "pay-for-performance," an approach that rewards providers for high-quality care by linking a portion of Medicare's payments to providers' attainment of preestablished quality standards (54). Proponents of this approach point to the weight of evidence demonstrating the strong effect of payment on physician behavior (55). They claim that existing reimbursement policies, which fail to consider appropriateness or quality of services provided or outcomes achieved, are at least partially responsible for poor-quality care within the Medicare program.

The concept of "pay for performance" is controversial. Its utility has yet to be demonstrated (54), and several practical concerns deserve close attention. Imperfect information regarding beneficiaries' general health status and a lack of well-developed measures to ascertain the quality of complex care make the technique vulnerable to unintended consequences. For example, adjusting payments on the basis of quality measures that fail to account for beneficiaries' underlying health status could discourage physicians from treating patients with more complex needs, thus jeopardizing access to care for these individuals (56, 57). Likewise, calculating payments primarily on the basis of quality standards that are convenient to measure (for example, monitoring the glycemic status of diabetic patients) is likely to increase orders for specific tests and medications but also decrease a physician's attention to coordination of care, health education, and clarification of complex plans and end-of-life treatment preferences. Reliance on measurable rather than meaningful measures could cause quality of care to decline rather than improve (58, 59). Last, adopt-

Table 2. Prominent Ongoing and Planned Medicare Chronic Care Initiatives*

Demonstration	Stage of Development	Project Duration, y	Expected Sample	Target of Intervention
Senior risk reduction program	Planning phase	Not specified	Not specified	Beneficiary
Lifestyle modification program	Enrolling participants	7	1800/site	Beneficiary
ESRD disease management	Awards to be announced	4	Not specified	Contracting entity
Capitated disease management	Expected to begin 2005	3	30 sites	Contracting entity
Care management for high-cost beneficiaries	Expected to begin 2005	3	6 sites	Provider groups
Coordinated care, BBA (Section 4016)	2002 startup, ongoing	4	14 500	15 sites
Disease management, BIPA (Section 121)	Enrolling participants	3	30 000 (3 sites)	Disease management organizations
Physician group practice, BIPA (Section 412)	Begins April 2005	3	10 sites (5000 MDs)	Large physician groups
Health care quality, MMA (Section 646)	Planning	5	10–15 groups	Health care group
Consumer-directed chronic outpatient services, MMA (Section 648a)	Planning	Not specified	At least 3 sites	Beneficiary
Care management performance, MMA (Section 649)	Planning	3	4 states	Small or medium physician groups
Home health independence, MMA (Section 702)	Enrolling participants	2	15 000 (3 states)	Home health agencies
Chronic care improvement program, MMA (Section 721)	Expected to begin 2005	3	180 000 (9 sites)	Contracting entity

* Adapted from a June 2004 report to the U.S. Congress from the Medicare Payment Advisory Commission (53) and from information available at the Centers for Medicare & Medicaid Services Web site (www.cms.gov). ADLs = activities of daily living; BBA = Balanced Budget Act of 1997; BIPA = Medicare, Medicaid, and State Children's Health Insurance Program Benefits Improvement and Protection Act of 2000; CHF = congestive heart failure; CMS = Centers for Medicare & Medicaid Services; COPD = chronic obstructive pulmonary disease; ESRD = end-stage renal disease; MMA = Medicare Modernization Act of 2003; QOL = quality of life.

ing a complex payment strategy will impose new program costs related to its implementation, regulation, and monitoring.

LOOKING AHEAD

In the absence of a solid evidence base to support any single course of action, CMS's adoption of incremental rather than sweeping change is understandable. However, demonstration programs have a less than optimal record of achieving their intended objectives (60). For example, previous Medicare demonstrations, such as the Case Management (Early Coordinated Care) Demonstration and the Social Health Maintenance Organizations, failed to improve beneficiary outcomes or facilitate program savings, and widespread program change was not actively pursued. Researchers have posited that demonstrations commonly have unrealistic goals, diffuse targeting, a lack of dedicated resources and time for program implementation, and a reliance on quasi-experimental study designs, which limit their effectiveness and the lessons they provide (60). It remains to be seen whether more recent CMS initiatives will surpass earlier endeavors.

As previously discussed, several innovations have dem-

onstrated some level of success among older adults with chronic conditions, but few have achieved both substantial cost savings and improvements in health outcomes. Most address only a subset of the challenges encountered by older adults with chronic conditions. Nevertheless, a growing body of evidence is demonstrating that more comprehensive, multifaceted innovations that simultaneously address health care provider practice, patient education, and patient self-management tend to have more compelling results (33, 34, 61–64). Future initiatives should build on existing evidence to conduct widespread tests of practical, comprehensive chronic care models that operate in concert with, rather than outside of, primary care.

Given the well-established influence of reimbursement on physician behavior, payment strategies should be restructured to facilitate translation of chronic care principles to the health care delivery system. While the existing Medicare fee schedule could be retooled to deemphasize technical procedures and to value "cognitive" services more highly, the very nature of the fee-for-service payment structure itself may be part of the problem (7–9, 21, 64). One alternative would be for CMS to pay physician practices a risk-adjusted monthly fee in exchange for serving as a

Table 2—Continued

Concept Tested	Eligibility Criteria	Key End Points of Interest	Provider Pay for Performance
Promote healthy behaviors	Not yet specified	Not yet specified	No
Promote healthy behaviors	Age 65 years or older; coronary artery disease	Quality of care, satisfaction, savings	No
Disease management	ESRD	Clinical protocols, care coordination, quality, savings	Yes
Disease management with capitation	Chronic diseases, patients dually eligible for both Medicare and Medicaid, frail elderly	Quality of care, satisfaction, savings	No
Case management, variable models	High cost criteria defined by CMS	Quality of care, satisfaction, savings	Yes
Care coordination (disease or case management)	Disease specific, varies by site	Quality of care, satisfaction, savings	No
Disease management with prescription benefit	CHF, diabetes, or coronary heart disease	Quality of care, QOL, satisfaction, costs	Yes
Pay for performance with flexible care management strategies	Disease specific, varies by site	Disease-specific quality measures, costs	Yes
Factors to improve patient care	Not specified	Quality of care, savings	Yes
Consumer-directed personal care	Not yet specified, ≥ 1 chronic condition	Quality of care, satisfaction, savings	No
Pay for performance with information technology and care coordination	Not yet specified	Continuity of care, quality of care, clinical outcomes	Yes
Expansion of homebound criteria	Permanent disability, 3–5 ADLs, skilled care	Efficacy and cost of revised eligibility criteria	No
Disease management	CHF and/or diabetes, or COPD	Quality of care, satisfaction, savings	Yes

“medical home.” Each chronically ill beneficiary would designate a provider practice as his or her “medical home” responsible for delivering medical care, care coordination, health education, and family support. Health care professionals at this location would practice shared decision making to develop and implement comprehensive evidence-based treatment plans. The flexibility of capitation would afford viable opportunities for incorporating nonphysician health professionals into chronic care, experimentation with group education and alternatives to face-to-face interactions (such as the telephone or Internet), and the adoption of more advanced information technology—all essential elements set forth in the chronic care model (2–5).

For Medicare beneficiaries with the most complex medical needs, such an approach would facilitate greater simplicity and accountability in health care. Presently, the coordination of benefits among traditional Medicare, supplemental health insurance, and (beginning in January 2006) the optional Medicare prescription drug plan occurs within the context of a highly fragmented health care delivery system. Beneficiaries with 5 or more chronic conditions encounter, on average, 14 different physicians over the course of 37 physician visits and fill 49 prescriptions

per year (40). Designation of a medical home accountable to beneficiaries, their families, and other practitioners is critical to stimulating more informed, coordinated, productive encounters and could help bridge the gap between conceptual models of care and existing provider practice. Wise reform of Medicare ideally would facilitate both quality improvements and cost reductions. However, randomized, controlled trials of chronic care innovations have demonstrated that more coordinated, comprehensive, and sustained efforts to improve chronic care bring no guarantee of cost savings.

Improving the chronic care expertise of the U.S. health care work force is another critical concern (7, 65) and an area in which CMS plays a prominent role. The Centers for Medicare & Medicaid Services should require primary care and specialty graduate medical education programs that receive financial support to develop and implement rigorous mandatory training in the principles of effective community-based chronic care. The approximately \$8 billion that CMS expends annually on graduate medical education (66) could provide U.S. residency and fellowship programs with a powerful incentive to prepare the physician work force of tomorrow to care for Medicare beneficiaries in the coming decades.

CONCLUSION

There is a pressing need to reform Medicare's benefit structure and reimbursement policies to support the delivery of high-quality chronic care. Considering Medicare's size and financial influence, widespread provider participation, and role in financing graduate medical education, CMS has a tremendous opportunity to facilitate improvements in the care provided to beneficiaries living with chronic disease. Critical issues relating to Medicare and chronic care are nested within the context of mounting concern over longer-term demographic shifts and budgetary projections. The wisdom with which CMS guides chronic care toward higher quality, better outcomes, and greater efficiency will have a significant influence on Medicare's long-term sustainability.

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