

Extending The P4P Agenda, Part 2: How Medicare Can Reduce Waste And Improve The Care Of The Chronically Ill

By targeting Americans with chronic illnesses, Medicare can begin to solidify a strategy of rewarding providers for truly improving care.

by John E. Wennberg, Elliott S. Fisher, Jonathan S. Skinner, and Kristen K. Bronner

ABSTRACT: The care of Americans with severe chronic illnesses is disorganized, unnecessarily costly, and undisciplined by sound clinical science. The federal government should invest in a crash program to improve the scientific basis of managing chronic illness, and the Centers for Medicare and Medicaid Services (CMS) should extend its pay-for-performance (P4P) agenda to ensure that within ten years all Americans with severe chronic illnesses have access to accountable health care organizations providing evidence-based prospective care. This paper recommends a strategy for achieving this goal. [*Health Affairs* 26, no. 6 (2007): 1575–1585; 10.1377/hlthaff.26.6.1575]

MOST PEOPLE AGREE THAT THE U.S. health care system is broken, but few agree on how to fix it. Although presidential candidates and state governors focus on the worthy goal of extending coverage to the uninsured, they are not addressing several major challenges to the viability of the U.S. system. Among these are high costs, the fragmented nature of care, and unwarranted variation.¹

In this paper we propose a strategy for Medicare to address some of the structural flaws in the U.S. health care system, including poor clinical science; poor care coordination; and the overuse of care, particularly in acute care hospitals.

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These flaws will be exacerbated and costs will rise as the baby boomers age and as increasing numbers of them develop the chronic illnesses that in the last two years of life alone currently account for about 33 percent of total Medicare spending.²

Achieving better science and better care coordination and reducing overuse of acute care hospitals will not be easy. It demands investment in a program of clinical research designed to transform the management of chronic illness from its current uncoordinated state to a system where care is based on medical evidence, illness level, and patient preference. In Part 1 of this series of papers, we recommend that pay-for-performance (P4P) initiatives be expanded to improve the quality of patient decision making for discretionary surgery.³ But achieving better care coordination and reducing overuse of acute care hospitals will require new policies and new ways of thinking about how to organize and finance care. We believe that P4P strategies, already in place to reward providers that achieve selected technical process benchmarks, should be extended to reward providers that improve efficiency and become accountable for the coordinated management of chronically ill patient populations in their care.

We first review the nature of the problems we are seeking to address, and we suggest that geographic and provider-specific variations in spending on the chronically ill can be seen as an opportunity for fostering change. We then describe key strategies for addressing poor science, poor care coordination, and overuse of care. We close with a discussion of the challenges and limitations of these ideas and their relationship to current policy at the Centers for Medicare and Medicaid Services (CMS).

The Nature Of The Problem

Medicare spending varies dramatically among the 306 Hospital Referral Regions (HRRs) in the United States. Per capita spending under traditional (Parts A and B) Medicare in 2003 was \$5,278 for beneficiaries living in the Portland, Oregon, HRR and \$5,661 for those in Seattle, while it was \$9,752 for those in Los Angeles and \$11,350 for those in Miami.⁴ These differences in spending represent a substantial transfer of federal dollars that is well recognized by politicians (although perhaps not by the public). The present value of projected lifetime Medicare costs for a sixty-five-year old in Los Angeles is \$84,000 greater than for a sixty-five-year old in Seattle—enough to provide a brand new BMW for every newly retired LA resident had he or she been treated with Seattle-style care. The difference between Portland and Miami is \$125,000—closer to the purchase price of a Maserati.

The majority of these differences in spending are driven by the volume of inpatient care delivered to patients with chronic diseases in different regions, not differences in local prices. Moreover, variation is driven primarily by medical, not surgical, admissions to hospital. Among the 306 HRRs, variation in inpatient days and inpatient physician visits during the last two years of life together account for

about 56 percent of the variation in total Medicare spending (2003 data).⁵ The differences in the use of medical care among regions is often matched and sometimes exceeded by the variation among specific providers within a region. During the last two years of life, the amount of inpatient care provided to patients in the Manhattan, Miami, and Los Angeles HRRs varied 2.7-fold or greater.

Much of health policy is based on the assumption that geographic variation in utilization is driven primarily by the local prevalence and severity of illness. In reality, prevalence of illness doesn't drive spending; only about 4 percent of the variation in Medicare spending among HRRs is associated with the regional variation in the prevalence of severe chronic illness.⁶ When we look at utilization among academic medical centers (AMCs), which care for the sickest of the sick, we see the same pattern: Equally sick patients received very different care depending upon which AMC they routinely used for care.

Higher spending might be justified if more-intensive use of inpatient care resulted in better quality of care or better health outcomes, but it does not appear to do so. At the population level, research has shown that patients with severe chronic illness who live in communities where more intensive use of inpatient care is the norm do not have improved survival, quality of life, or access to care. Indeed, outcomes appear to be worse.⁷ What is clear is that many regions and hospitals around the country are overtreating their chronically ill patients. The care these patients receive costs a lot more per person than the care provided to equally sick people who live where inpatient care is less aggressive, yet the extra care produces no better outcomes.⁸

What drives this overtreatment? If severity and prevalence of illness cannot explain the variation in intensity of care—and spending—what can? The most important community-level factor associated with the overtreatment of its chronically ill is the size of its acute care sector—supply of medical resources—relative to the number of chronically ill patients who need treatment.⁹

The frequency of use of this “supply-sensitive” care is not driven by clinical evidence—the necessary studies simply haven't been done. In the absence of valid evidence, other factors impel clinical decisions. Foremost among them is the widely held assumption that more frequent intervention constitutes better care—and that whatever resources are available should be fully used in managing difficult cases. Under this assumption, clinical decisions are inevitably driven by the availability of resources, which is determined in large measure by local hospitals' decisions to invest in beds, contracts with specialists, and such equipment as intensive care unit (ICU) beds and imaging machines. Hospitals make such decisions in response to local competition and financial considerations. Physicians, whether in the hospital or the surrounding community, adapt their practice style to the resources available.¹⁰ As a consequence, what may appear on the surface to be reasonable individual clinical decisions on the part of doctors, and investment decisions on the part of hospitals, lead in aggregate to higher utilization rates, greater

costs, and, inadvertently, worse quality and worse outcomes.

Obviously, the preferred method of improving the quality and coordination of care and matching it to severity of illness of the chronically ill would be to expand the universe of scientific evidence. But that will take several years. In the meantime, we argue that low-cost, low-use providers with good scores on available quality measures can serve as benchmarks for evaluating performance of less efficient providers, who have overbuilt their acute care sectors relative to the population they serve and consequently overtreat them.

A Proposal To Reform The Treatment Of The Chronically Ill

■ **Overview of the proposal.** Improving the overall efficiency of Medicare can be achieved through four interrelated strategies: (1) Beginning as soon as possible and continuing indefinitely, the federal government should fund a crash research program designed to rapidly build the scientific basis for managing chronic illness. (2) The CMS should at the same time offer a partnership with providers to organize and coordinate the care of their chronically ill patients and participate in a shared savings program to help them redesign their delivery systems to correspond as closely as possible to the benchmarks of relatively efficient providers. The program would be based initially on the retrospective use of Medicare claims data to monitor performance (we suggest over the last two years of life) as a participating provider organization adjusts its care toward the agreed-upon performance benchmark. (3) With the success of the research program and growth in organized care, the CMS should adopt prospective payment for seriously ill Medicare patients based on validated clinical pathways and an actuarially fair (and risk-adjusted) price for such care. (4) To encourage participation in the shared savings program and to further reduce overuse of acute care hospitals, the CMS could eventually impose a nonparticipation penalty on providers not willing to join, with increasing penalties for high-cost, high-use providers. Eventually, the CMS would change its conditions of participation to include only providers capable of such evidence-based care. We suggest that Medicare set a target date for achieving this goal within ten years.

■ **Strategy 1: a research program for chronic care.** We recommend that the federal government fund a program of clinical research designed to transform the management of chronic illness to a system where care is based primarily on illness level, valid science, and patient preference. Rationalizing how much care, what type of care, and who should receive it and when is essential to any effort to organizing care and managing chronic illnesses longitudinally (over time). Detailed specification of the clinical pathways for caring for the chronically ill—for instance, when to hospitalize a patient with congestive heart failure (CHF), which patients with chronic obstructive pulmonary disease (COPD) will benefit from steroids, when to schedule a patient for a revisit, and when to refer to a specialist or for additional diagnostic testing—and their validation through outcomes research is necessary before it will be feasible to manage care effectively and to pay for performance based on

the efficient delivery of evidence-based care.

Other improvements in clinical science are specifically required for the prospective management of chronic illness. The coordination and monitoring of care requires supporting information technology (IT) systems that integrate care management protocols, patient registries, and performance measures into electronic medical records (EMRs). Payment based on longitudinal care management will require new payment models that reward providers who deliver coordinated, high-quality, risk-adjusted care efficiently.¹¹

■ **Strategy 2: shared savings.** A major premise of our proposal is that through P4P incentives, the CMS can motivate providers to move away from today's fragmented and disorganized care toward organized systems that are accountable for the quality and efficiency of the care they provide to patients with serious chronic illnesses. A phased approach is necessary, beginning with a voluntary shared savings program. Participating providers would seek to integrate the various components of care involved in the management of chronic disease patients, including acute hospital care, ambulatory and home health care services, chronic institutional care, and hospice care. They would also agree to redesign their inpatient sectors to correspond as closely as possible to the resource input and care intensity benchmarks established by low-cost, low-use providers with good scores on available quality measures. Using Medicare claims data, relatively efficient providers can be identified and their spending levels, resources, and utilization patterns used to evaluate overuse. Benchmarks would be selected among peers: Community hospitals' benchmarks would be more efficient community hospitals, while AMC benchmarks would be the most highly efficient AMCs.

Savings realized by the CMS through the reduction in overuse of care would be shared with providers. Part of the savings would be earmarked to help individual providers manage the financial consequences of downsizing the inpatient component of their emerging coordinated care system, such as the amortization of debts to bondholders and employee buy-outs. A second part would be pooled into a national fund to be shared by all participants to offset the costs of creating the infrastructure required for organized care, including IT systems and nurse counseling and other community-based patient management services, which are not currently supported by Medicare Part A and Part B. (Indeed, providers that have attempted to build such infrastructure have found themselves penalized by the current payment system.)¹² A final portion would be used to reward providers who build more-efficient coordinated care systems for managing chronic illness.

The shared savings program we envision is similar to shared savings programs that the CMS is already conducting under its demonstration authority. In these projects, Medicare claims data provide the information essential for identifying retrospectively the population of "loyal" patients a given provider serves and monitoring the efficiency of care compared to other providers serving the same region. The principal differences are that our proposal is much more focused: It concen-

trates on a limited number of Medicare enrollees (those with severe chronic illnesses); it uses benchmarks from high-quality, low-resource, low-spending providers as the performance target (as opposed to other providers in the same region); and it requires that participating providers develop coordinated care for the longitudinal management of chronic illness among the various components of care as a condition of participation.

Dartmouth Atlas research has shown how claims data can be used to identify loyal populations and provide, on a risk- and disease-adjusted basis, per capita measures of resources (beds and physician labor) and utilization rates according to sector of care (for example, inpatient, ambulatory, nursing home, home health care, and hospice). These measures can be used to evaluate relative efficiency, set benchmarks for resource allocation (such as per capita acute care hospital beds or medical specialists), and serve as the basis for estimating a shared savings pool for distribution among providers that reach improvement goals. Because claims can be analyzed on a periodic, nearly real-time basis, trends toward greater relative efficiency can be quickly spotted and used to estimate savings from any reduction in historical utilization patterns.¹³

Who among the provider community might be motivated to enter shared savings partnerships with the CMS? We expect that well established multispecialty group practices such as Kaiser Permanente, the Mayo Clinic, and the Cleveland Clinic would be well situated to take advantage of incentives to expand, particularly in high-resource, high-cost regions where the potential gains from duplicating their efficient styles of practice would be greatest. Physician networks (such as independent practice associations), if of sufficient scale, may offer an alternative physician leadership model for constructing systems of care. (Although most physicians are today in solo practice or very small groups, the potential benefits of the shared savings model would provide incentives to develop such networks.)

Hospitals could also provide a locus for the organization of coordinated care. Elliott Fisher and colleagues have shown that most physicians provide the predominance of care at a single hospital.¹⁴ The challenge for hospitals would be to organize those physicians and other providers who routinely care for their chronically ill patients into a system that would qualify for the shared savings program. Although individual hospitals might not have sufficient resources to respond, multihospital systems may be well positioned to serve as the nucleus for rapid growth of organized care. By 2003, 42 percent of traditional Medicare beneficiaries hospitalized for chronic illness during the last two years of life were treated primarily in hospitals belonging to networks with four or more members.¹⁵

There are striking variations in efficiency among the member hospitals within many multihospital systems. Faced with the prospect of payment reform, managers of hospital networks might be motivated to enter into a shared savings arrangement with the CMS, using as benchmarks their own most efficient hospitals. Exhibit 1 illustrates how the *Dartmouth Atlas* data can be used to identify efficient

providers that might serve as benchmarks for Catholic Healthcare West (CHW) and the savings that might accrue if the network entered into a CMS shared savings program. The data, which cover a five-year period (1999–2003), compare the performance of the five CHW hospitals located in the Sacramento, California, HRR (the relatively efficient hospitals) to the network's six hospitals located in the Los Angeles HRR. Over the five-year period, first, spending under traditional Medicare during the last two years of life was 69 percent greater per capita for CHW's Los Angeles patients than for its Sacramento patients; per person spending was higher for all sectors of care and highest (85 percent greater) for inpatient care, even though Medicare payments in Sacramento reflect higher labor costs. Second, Medicare spent \$199.2 million more on Los Angeles patients than it would have spent if the practice pattern of CHW's Sacramento benchmarks had prevailed in LA. Inpatient spending—the sum of physician reimbursements on

EXHIBIT 1
Benchmarking Catholic Healthcare West (CHW) Hospitals Located In Los Angeles To Those Located In Sacramento: Medicare Spending And Resource Inputs During Last Two Years And Care Intensity During Last Six Months Of Life, 1999–2003

	CHW hospitals		Ratio of CHW LA to CHW Sac. average	Savings (millions)
	Los Angeles	Sacramento		
Medicare spending per decedent ^a				
Total	\$79,002	\$46,866	1.69	\$199.2
Inpatient sector	48,863	26,348	1.85	139.6
Outpatient sector	4,037	3,121	1.29	5.7
SNF/LTC sector	10,758	7,068	1.52	22.9
Home health sector	3,590	2,429	1.48	7.2
Hospice sector	1,186	948	1.25	1.5
Other	10,568	6,951	1.52	22.4
Resource inputs per 1,000 decedents				
Hospital beds	87.6	47.9	1.83	— ^a
ICU beds	35.8	16.9	2.12	— ^a
Full	14.9	5.7	2.62	— ^a
Intermediate	20.9	11.2	1.86	— ^a
FTE physician labor				
All physicians	42.2	21.5	1.96	— ^a
Primary care	13.7	8.5	1.61	— ^a
Medical specialists	20.7	9.0	2.30	— ^a
Care intensity during last 6 months				
Physician visits	62.5	26.9	2.32	— ^a
Hospital days	18.2	10.2	1.78	— ^a
ICU days	8.2	3.8	2.17	— ^a
Full	4.0	1.4	2.82	— ^a
Intermediate	4.2	2.3	1.77	— ^a
Percent of deaths with ICU	32.6	19.7	1.65	— ^a
CMS composite quality score	79.1	86.3	0.92	— ^a

SOURCE: For deaths occurring during 1999–2003, *Dartmouth Atlas of Health Care*.

NOTES: Dates for Medicare spending and resource inputs are for the two-year period prior to death. For Los Angeles hospitals, N = 6. For Sacramento hospitals, N = 5. SNF is skilled nursing facility. LTC is long-term care. ICU is intensive care unit. FTE is full-time-equivalent. MS is medical specialist. PC is primary care. CMS is Centers for Medicare and Medicaid Services.

^a Not applicable.

hospitalized patients and hospital reimbursements—exceeded predicted spending based on the Sacramento benchmark by \$139.6 million. Third, the hospitals in LA had 83 percent more hospital beds per beneficiary, 112 percent more intensive care beds, 96 percent more full-time-equivalent (FTE) physicians of all types, and 130 percent more medical specialist labor. Fourth, care intensity was much greater during the last six months of life among patients served by the LA hospitals. Fifth, quality scores were lower in LA hospitals.

How might CHW's Los Angeles hospitals achieve the efficiency of its Sacramento hospitals? Under our proposal, information on spending, resource inputs, and utilization during the last two years of life, such as presented in Exhibit 1, would serve as the basis for setting targets for improving efficiency and negotiating the cost-sharing agreement with the CMS. As part of the agreement, CHW would be expected to allocate some of the savings anticipated from reducing acute care use to integrate the various components of chronic care management. This could include new roles for providers in managing chronic illness, perhaps with support of disease management companies to provide missing infrastructure or gaps in care management. Special attention should be given to coordinating care between sectors, particularly the hand-offs between primary and specialty care; nursing homes and hospitals; home health and primary care; and acute and hospice/palliative care. Supporting IT systems would need to be specified and a plan for their capitalization developed, based on shared savings.

In the case of CHW, a plan to reduce excess capacity of hospital beds and ICU beds toward the Sacramento benchmarks might begin with a reexamination of existing plans to expand capacity or replace substandard equipment—beds that fail to meet the state of California's new seismic regulations, for example. Even within the Los Angeles region, Dartmouth data show considerable variation among the six CHW sites in resources, a finding that suggests the possibility that the relative efficiency goals could be reached by phasing out inpatient services at certain sites, while sending patients to other nearby CHW hospitals.

■ **Strategy 3: the transition to P4P based on cost-effective care.** The end game is the establishment of prospectively managed, cost-effective, and coordinated care. The enrollment of patients into cohorts for prospective care management requires risk-adjustment methods that account not only for illness level but also socioeconomic status, adherence patterns, and social supports. This care would be supported by an adequate infrastructure, IT systems, and EMRs to provide clinical guidance for care coordination, and a program for monitoring quality and efficiency. As clinical evidence for effective care becomes available through research, P4P would be based increasingly on the actuarial costs of providing such care efficiently. In response to the CMS shared savings incentives and the nonparticipation penalty, the number of health care organizations capable of providing coordinated, accountable care would increase to the point where Medicare enrollees with chronic illness would have access to superior care in all parts of the country. The completion of this

transition would be greatly accelerated if the CMS were to announce that at the end of the transition period, only accountable care organizations capable of providing efficient, evidence-based care would be eligible for reimbursement for prospective management of chronic illness.

■ **Strategy 4: the nonparticipation penalty.** We hope that the voluntary shared savings program will attract providers throughout the country to partner with the CMS. However, a successful transition to a national prospective payment system (PPS) for serious chronic illness will depend on the development of high-quality delivery systems in every community. Moreover, the current payment system, left in place, will continue to reward growth of disorganized care. To provide a “shot across the bow” of high-cost systems and to encourage providers throughout the country to move into the chronic care program, we suggest the eventual implementation (after three to five years) of a graduated financial penalty for nonparticipating providers. There are several approaches. One approach would be to tie hospital payment updates to participation and some combination of absolute level and growth rates in per beneficiary costs of care in the last two years of life. For example, all nonparticipating hospitals might receive a 0.5 percent reduction in their annual payment update, while those in the top half of the per beneficiary cost distribution (or whose increases were above the national average) would receive small additional reductions in payment rates. Given the remarkable hospital response to the CMS’s “voluntary” program of public reporting on quality measures, we suspect that even a small financial penalty would be a strong incentive in addition to the shared savings plan. Another approach would focus on penalties for hospitals with (risk-adjusted) utilization in the top 1 percent or 5 percent of the distribution.

Discussion

The notions of developing integrated delivery systems and improving the scientific basis of care for Medicare beneficiaries with chronic disease are not new, and they have already drawn strong support. The Institute of Medicine has called for increased attention to performance measurement that would foster shared accountability among providers for the longitudinal costs and quality of care provided to beneficiaries.¹⁶ A recent report by the Medicare Payment Advisory Commission recommended that Congress increase CMS funding to provide a stronger scientific basis for chronic care and the development of accountable care organizations.¹⁷ Moreover, the conceptual and even perhaps the legislative framework for this reform may have been already granted by Congress (to the CMS) under the Group Practice Demonstration Program and Section 646 of the Medicare Prescription Drug, Improvement, and Modernization Act (MMA) of 2003.

There are obvious limitations to this plan. Special attention will be needed to assure that coordinated care is available in small communities and rural settings. Nor have we addressed how other payers might participate. Medicaid covers long-term care costs for the poor, disabled, and chronically ill, many of whom are also

enrolled in Medicare. Including Medicaid enrollees and spending would provide an even stronger incentive for providers to more effectively manage long-term care costs and develop cost-effective alternatives to institutionalization. Many private health plans and purchasers are also deeply concerned about the costs and consequences of poorly coordinated chronic disease care. Employers with large numbers of aging or retired workers (such as in the auto industry) should be particularly motivated to seek similar arrangements with providers.

In this broad-stroke proposal, we have by necessity left unresolved several issues concerning its practical implementation. We are confident that the Medicare claims data measures of performance during the last two years of life are sufficiently robust to provide reasonable benchmarks for relative efficiency. However, the shared savings model and the supporting use of claims data are merely the bridge in the transition to P4P based on validated clinical pathways and knowledge of the real costs of providing effective care. The transition to prospective P4P depends on the successful completion of several additional tasks to better measure risk-adjusted outcomes and costs. The criteria concerning who is included in the eligible population and how they are identified on a risk-adjusted basis will need special attention.

Why focus on the chronically ill? About a third of Medicare spending is for care provided to chronically ill patients during the last two years of life, with most of the money going to pay for inpatient care during acute exacerbations of the underlying disease. Medicare covers a majority of the chronically ill. Thus, meaningful reform can be achieved by the largest single U.S. purchaser of health care without the political pitfalls of trying to restructure a \$2 trillion industry all at once. Patients with severe chronic illnesses represent just a small fraction of the total Medicare population (only 10.8 percent are in their last two years of life), so this would limit the administrative and organizational burden for becoming an accountable provider. Expanding the enrollment criteria to those with less severe illnesses is more challenging because the line between good health and chronic illness is far from precisely defined. An expansive definition (all Medicare beneficiaries) would result in much larger populations for which providers would be directly or indirectly responsible, widening the focus to include health promotion and disease prevention. The key to success may well be flexibility and experimentation; out of the research agenda, several enrollment and P4P options should emerge. How well they work (and in which settings) will need to be determined empirically.

Ultimately, the feasibility of reform will depend on having enough medical leaders and members of Congress support policies under which hospitals and provider groups could lose real money by failing to implement needed reforms. As we have said, achieving better science and care coordination and reducing overuse of acute care hospitals will not be easy. But the penalty for failure is unsustainable costs and the possibility of significant harm to patients. Our hope is that the needed re-

forms can occur within ten years, just in time to accommodate the surge in demand as baby boomers enter the chronic illness phase of life.

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