

Fostering Accountable Health Care: Moving Forward In Medicare

Real savings to the Medicare program could occur within five years with only modest changes in providers' spending behavior.

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ABSTRACT: To succeed, health care reform must slow spending growth while improving quality. We propose a new approach to help achieve more integrated and efficient care by fostering local organizational accountability for quality and costs through performance measurement and “shared savings” payment reform. The approach is practical and feasible: it is voluntary for providers, builds on current referral patterns, requires no change in benefits or lock-in for beneficiaries, and offers the possibility of sustained provider incomes even as total costs are constrained. We simulate the potential expenditure impact and show that significant Medicare savings are possible. [*Health Affairs* 28, no. 2 (2009): w219–w231 (published online 27 January 2009; 10.1377/hlthaff.28.2.w219)]

A DVANCES IN BIOMEDICAL KNOWLEDGE and technological innovation offer the promise of marked improvements in health; however, growing evidence suggests that the U.S. health care system is not now delivering on that promise. The provision of evidence-based health care is remarkably uneven, and the challenge of coordinating care in an increasingly complex and fragmented delivery system is widely acknowledged.¹ Furthermore, rising health care costs threaten not only the sustainability of the Medicare program but also the affordability of health insurance.² Efforts to slow the growth of Medicare spending, and health care spending more generally, have had limited success, and gaps in the quality of care remain.

At the same time, dramatic differences in spending across both regions and hospitals have highlighted potential opportunities to improve efficiency by providing

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better care at lower cost. Regions with lower per beneficiary spending in Medicare have been shown, on average, to provide higher-quality care in many dimensions and to achieve equal or better health outcomes, patient satisfaction, and physician-reported quality.³ Critical to improving the efficiency of care is the insight provided by the work of John Wennberg and others showing that the additional spending in higher-cost regions and systems is largely devoted to greater use of discretionary “supply-sensitive” services, including greater use of the hospital, more frequent physician visits and referrals to specialists, and greater use of diagnostic testing and minor procedures.⁴ However, our improved understanding of both the causes of inefficiency and the magnitude of the opportunity has yet to be transformed into policy reforms that can slow the growth of spending while achieving real improvements in care.⁵

In this paper we propose a realignment of payment incentives to better support the most important drivers of improvement in care: health care providers. We first review important causes of inefficiency and key principles to guide reform. We then present a specific payment reform proposal for Medicare designed to foster the development of accountable care organizations (ACOs) and provide empirical evidence of the potential impact of this approach.⁶ We conclude by focusing on the challenges of implementation and other issues that need to be addressed as policy efforts are aligned to support greater accountability for value.

Principles And Approaches To Payment Reform

Successful reform will require addressing three barriers to improving the value of care (Exhibit 1): lack of accountability for the overall quality and cost of care—and for decisions about local capacity; a payment system that rewards volume, growth, and intensity, regardless of value (and that penalizes providers who adopt cost-saving innovations); and the widespread belief—often in the face of relevant evidence to the contrary—that *more* medical care means *better* medical care. Other characteristics of U.S. health care are clearly important, such as the lack of adequate scientific evidence on the actual risks and benefits of clinical therapies; failure to align treatments with patients’ well-informed preferences; and tax structures and health insurance benefit designs that lead consumers to choose more-generous health plans and higher-cost services. But these are nearly universal attributes of our current system and thus unlikely to explain the inefficiency revealed in the regional variations in spending.

■ **Principles.** Improving efficiency will thus require addressing the three “diagnoses.” These point to the following three principles that should guide delivery system reform:

(1) To overcome the current system’s perverse incentives and fragmentation, providers need to become accountable for the overall quality and cost of care for the populations they serve. Under current fee-for-service (FFS) payment, the local capacity of the delivery system is an important determinant of cost and quality,

EXHIBIT 1
Addressing The Problem Of “Supply-Sensitive” Care: Barriers To Improved Value And Principles To Guide Reform

Barriers to improved value	Principles to guide reform
Fragmented payment and delivery system provides little support for coherent local decision making on local capacity and lacks accountability for quality and efficiency	Foster local organizational accountability for the continuum of patients' care—outcomes, quality, and costs—and for the efficient management of current and future health system capacity
Providers' incomes are linked directly to the volume and intensity of services, rewarding growth and penalizing efficient providers who reduce costs	Decouple provider incomes from volume and intensity; pay for better value: improved health and outcomes, better quality, reduced costs
Presumption that more medical care is better and that any reduction in services is equivalent to rationing	Balanced information on risks and benefits of treatments to support informed patient choice; comprehensive and transparent measures of system performance: outcomes, quality, and costs

SOURCE: Authors' analysis.

NOTES: Up to 30 percent of U.S. health care spending is wasted on discretionary “supply-sensitive” services, such as greater use of the hospital as a site of care and more frequent specialist referrals and tests. Eliminating unnecessary care and slowing spending growth will require overcoming these three barriers.

and there are few incentives to provide low-cost, high-quality care or to make local capacity decisions that support efficient care. Thus, accountability should encourage wise decision making on how best to align current resources and future investments with the needs of the population, whether through health information technology (IT), care coordination, or new care management strategies.

(2) With accountability for overall costs and quality, providers' incomes can begin to be decoupled from the volume and intensity of services they provide. Innovations that improve quality while reducing overall utilization (and costs) can be rewarded or at least not penalized. The win-win scenario for providers, beneficiaries, and the Medicare program is to reduce overall spending by improving quality and reducing waste while ensuring appropriate incomes for providers.

(3) Finally, successful reform will require the adoption of fully transparent and meaningful performance measures on both quality and cost. Without persuasive measures, patients will not have confidence that new alternatives to volume- and intensity-based payment are really giving them greater value, rather than just providing new pressures to withhold potentially valuable care. Similarly, without reliable, risk-adjusted measures of overall cost, it will be difficult to measure the impact at the local level of how changes in delivery affect both cost and cost growth.

Several payment and delivery system reforms could in theory incorporate all three principles. First, insurers with accountability for overall costs and quality could compete for enrollees on this basis. But those with the strongest organizational accountability—such as closed-panel HMOs that employ their own providers—currently account for a limited share of most markets, and many Medicare beneficiaries prefer to remain in a fee-for-service plan that does not restrict their

coverage. Second, state governments or regional public-private authorities could be accountable for establishing budgets, overseeing payments, and monitoring performance across all providers. An early example in the United States was the Rochester Hospital Experimental Payments Program in the 1980s, but this approach has generally not been adopted in this country.⁷ A third approach is to enable providers to become accountable for the overall costs and quality of care for the population they serve and to share in the savings created by improving quality and slowing spending growth. Our proposal builds on this approach.

We propose a voluntary and incremental program that would foster the development of ACOs. Our proposal builds on the current Physician Group Practice (PGP) Demonstration, a program in which large group practices are rewarded with a share of the savings they achieve in caring for their Medicare patients if they also achieve documented quality improvement. During the first two years of the program, the participating groups achieved major gains in quality and savings for the Medicare program overall.

Several barriers to more widespread implementation of this model must be addressed. Some challenges are political—and are discussed in detail in the final section of this paper. But several of the barriers are more technical and can be informed by empirical studies. These include the following: What proportion of current physicians and Medicare beneficiaries are in settings amenable to the formation of an ACO? Can a more general payment model be developed, one that is not dependent—as is the PGP demonstration—on a local “control” population who remains covered by the conventional FFS Medicare program? Finally, what might be the impact on spending of a voluntary ACO program?

Shared Savings Through ACOs

The design of a shared savings program needs to balance two major competing interests. First, participation must be attractive to providers. The program must offer a realistic and achievable opportunity to share in the savings created from delivering higher-value care without exposing providers to new risks that they regard as creating too much uncertainty. Without this feature, ACOs will not be formed widely or effectively. Second, the new shared savings payments should reward improved efficiency rather than rewarding current practice or random fluctuations in spending. This latter point is particularly important given the goal of slowing the growth of Medicare spending: “windfall” payments to providers for more-efficient care that they would have delivered anyway will attenuate any real reductions in cost achieved through providers’ improvements in care.

■ **Key design elements for a population-based shared savings program.** The key design elements and the approach that we propose are summarized here, with additional detail on the empirical approach for our analysis.

Eligible organizations. To be eligible, organizations of providers would have to establish a formal legal structure capable of receiving shared savings, and their pri-

mary care physicians (PCPs), who could only be affiliated with a single ACO, would have to be the predominant ambulatory care providers for a sufficient number of Medicare beneficiaries. In our empirical simulations we settled on a minimum of 5,000 beneficiaries per ACO, in part because this is a large enough pool to generate statistically stable results. As a requirement, the ACO would provide the Centers for Medicare and Medicaid Services (CMS) with a list of its participating primary care and specialist physicians and be willing to participate fully in the required quality measurement program.⁸

Determining the Medicare beneficiaries served by the ACO. The beneficiaries cared for by the ACO for purposes of both shared savings and quality measurement would be determined empirically. From the beneficiary's standpoint, this creates the major advantage that there is no requirement to select or "lock in" a given provider (although they may) and no change in their Medicare benefits. For the spending growth analysis in this paper, we assigned beneficiaries to their predominant provider based on plurality of non-inpatient claims for evaluation and management services, excluding consultations, over a two-year period centered on the current year.⁹

Setting spending benchmarks and cost performance for ACOs. Our proposal provides a clear and specific spending benchmark for each ACO. Based on empirical analysis of the likely stability of per beneficiary Medicare spending at the ACO level (see below), we propose using the most recent three years of per beneficiary total Parts A and B spending for beneficiaries assigned to the ACO to estimate the current level of per beneficiary spending for each ACO.¹⁰ Projected spending growth rates are then applied to this baseline to estimate next year's spending "benchmark" for each ACO.¹¹ Their risk-adjusted, per beneficiary spending is then compared to the benchmark to determine whether they achieved savings.

Performance measurement to promote accountability. ACOs would participate in public reporting for a set of performance measures related to the care of the patients attributed to the ACO. As discussed below in more detail, we believe that these measures should rapidly move from the current generation of technical quality measures to focus on patient-level health outcome and experience measures that reflect ACOs' ability to deliver patient-centered care that is well coordinated across providers and improves outcomes for patients.

Distributing shared savings. ACOs would be eligible to receive shared savings payments if their actual risk-adjusted, per beneficiary spending levels were below their benchmark. In the current analysis we assumed that all ACOs met 100 percent of the required quality standards and were thus eligible for shared savings payments. The shared savings bonus was assumed in our simulations to be 80 percent of savings below the benchmark.

■ **Technical feasibility and implications for Medicare spending.** We analyzed Medicare claims data to address three major empirical questions: How feasible would it be for physicians and other providers throughout the country to establish local networks that could meet the eligibility criteria? Is it feasible to develop a

more general shared savings model? What might be the potential implications for Medicare spending of establishing such a voluntary shared savings program?

Feasibility of meeting eligibility requirements. Large integrated multispecialty group practices could clearly participate in the ACO program. They are already undertaking coordinated care services; they generally employ the physicians within the group practice; and their information systems should make reporting on quality measures relatively straightforward. But only a small proportion of physicians are members of traditional, large multispecialty group practices.

The analyses presented in Exhibit 2 are based on assignment of beneficiaries to their predominant PCP and assignment of physicians to the hospital where they do most of their inpatient work or where most of their patients are hospitalized.¹² More than 75 percent of Medicare beneficiaries (treated by a comparable proportion of physicians) are receiving care in local physician-hospital networks serving 5,000 or more beneficiaries. The networks are quite stable from year to year: 83 percent of beneficiaries are in the same network in the following year. And most importantly, about 75 percent of the care beneficiaries receive is provided by physicians within either the primary physician-hospital network or the next most fre-

EXHIBIT 2
Coherence And Stability Of Local Physician-Hospital Networks Defined Based Upon Local Physician Practice Patterns

	No. of networks	Average no. of beneficiaries in network	Percent of all beneficiaries	Beneficiaries assigned to same network in prior year	Percent of all MD visits provided by network physicians in 2005	
					Primary network	Primary and secondary
Overall	4,658	5,492	100.0%	83.2%	73.5%	77.1%
Stratified by size (no. of beneficiaries)						
<5,000	2,922	1,896	21.7	75.2	64.3	69.9
5,000–10,000	937	7,175	26.3	84.8	73.5	77.0
10,001–15,000	428	12,237	20.5	85.1	76.0	79.2
>15,000	371	21,784	31.6	85.9	78.2	80.9
Teaching status						
Integrated AMC	114	8,344	3.7	80.9	72.4	75.2
Other teaching	1,231	8,549	41.1	84.0	74.2	77.5
Nonteaching	3,313	4,258	55.1	82.8	73.1	77.0
Urban-rural location						
Urban core	2,044	9,091	72.6	83.7	74.2	77.5
Suburban	230	3,029	2.7	81.0	69.1	73.9
Large town	632	4,807	11.9	87.4	78.0	81.1
Small town/isolated	1,752	1,864	12.8	76.7	66.4	71.9

SOURCE: Centers for Medicare and Medicaid Services, 20 percent sample of beneficiaries assigned to a physician-hospital network in 2005.

NOTES: Number of beneficiaries in network was determined by inflating the 20 percent sample. Academic medical centers (AMCs) were defined based on Council of Teaching Hospitals (COH) membership from the *AHA Guide*. “Primary network” refers to physicians within the network to which the beneficiary was assigned. “Primary and secondary” refers to physicians within the primary network and the next most frequently used network by patients at the primary network.

“Shared savings bonuses are distributed only if an ACO’s performance is below its benchmark.”

quently used physician-hospital network, usually a referral hospital. These data suggest that integration and coordination by the physicians within local markets should be feasible and could build upon current practice patterns.¹³

Feasibility of developing a general approach. Subsequent analyses used Medicare claims data for a 20 percent random sample of FFS beneficiaries age sixty-five and older who were eligible for Parts A and B. Beneficiaries and physicians were assigned to their empirically defined physician-hospital networks—our empirically defined ACOs—for each year from 1999 through 2005. We calculated age-, race-, and sex-adjusted spending for each calendar year for each ACO.

To determine how accurately the CMS would be able to estimate baseline spending for each ACO, we used data for three preceding years to estimate the next year’s per beneficiary spending, using the national average growth rate for all ACOs in the data set. Across ACOs, estimated ACO-specific per beneficiary spending varied dramatically, as would be expected, given the widely recognized regional and hospital-specific variations in total spending. Within ACOs, estimated spending predicted actual spending with a high degree of accuracy (for example, the R^2 was 0.94 for very large ACOs in our data set).

We analyzed three different methods to determine projected growth at each ACO and establish their spending benchmarks: national growth rate, national growth amount, and ACO-specific growth rate. In the first two methods, the CMS actuary would predict overall growth in Medicare spending, as is currently done at the county level, but using multiple years of data to improve the accuracy of predictions. Depending on the alternative, the increase would be applied to the ACO-specific estimated current-year spending level, either by multiplying spending by the national growth rate (a 5 percent growth rate would allow a greater absolute increase in costs for ACOs with higher spending) or by adding to each ACO’s per beneficiary spending the same dollar amount. The ACO-specific growth rate approach uses each ACO’s estimated current growth rate to predict the next year’s growth rate for that ACO. In all cases, shared savings bonuses are distributed only if an ACO’s performance is below its benchmark.

Potential savings to Medicare. Exhibit 3 presents the simulation results of several different scenarios. If all ACOs with more than 5,000 beneficiaries participate, all meet the quality standards, and there is no change in providers’ behavior with respect to spending, bonuses are paid to any ACO that just happened to have actual growth in spending below its benchmark. The total bonus payments paid under this scenario provide an estimate of the behavioral response required to generate net savings in the program. For each of the three different approaches to setting the benchmark, bonus payments in the absence of any behavior change ranged be-

EXHIBIT 3
Estimated Impact Of Shared Savings Program Under Different Scenarios, Billions Of Dollars, 2003–2005

All achieve 1% savings								
Year	Total Medicare spending ^a		National growth rate		ACO-specific growth rate		National growth amount	
	No behavior	With behavior	Bonus paid	Budget impact	Bonus paid	Budget impact	Bonus paid	Budget impact
2003	197.5	196.0	4.0	2.5	4.7	3.2	3.9	2.4
2004	217.3	214.1	3.7	0.5	4.1	0.9	3.4	0.2
2005	233.0	227.9	3.1	-2.0	3.3	-1.8	3.0	-2.1
Half achieve 1% savings								
2003	197.5	196.8	3.7	3.0	4.4	3.6	3.5	2.8
2004	217.3	215.7	3.3	1.7	3.8	2.2	3.0	1.4
2005	233.0	230.5	2.7	0.2	3.1	0.6	2.6	0.1

SOURCE: Authors' analyses of Medicare claims data.

NOTES: The upper panel presents the results of a simulation where all large accountable care organizations (ACOs) (those with 5,000 or more beneficiaries) both participated and achieved a 1 percent average reduction in spending in each year. The lower panel presents results assuming that all large ACOs participated but that only half achieved the average 1 percent reduction.

^a Exclusive of the bonus payments.

tween \$2.4 billion and \$4.1 billion, or about 1–2 percent of FFS spending (data not shown).

If all ACOs with at least 5,000 beneficiaries achieved an average of 1 percent savings each year over three years as a result of the ACO program, the resulting FFS payments (in the “with behavior” column of Exhibit 3) would gradually decline to below projected levels (for example, \$227.9 versus \$233.0 billion in 2005). Under a policy scenario using the national growth rate, \$4.0 billion, \$3.7 billion, and \$3.1 billion was paid out as bonuses in each year. Under this scenario, the budget impact is to increase spending by \$2.5 billion in 2003, but by the third year (2005), total Medicare spending (FFS payments plus bonuses) is less than projected, for a savings of \$2.0 billion. (Substituting a scenario using ACO-specific growth rates results in a similar pattern.) The national growth amount results in lower total payments (and greater savings) because payments are made, on average, to ACOs with lower spending levels. The scenarios that assume a more modest behavioral response show a similar, but more gradual, decline in total Medicare spending, with slightly smaller bonus payments (fewer ACOs qualify), and net Medicare savings occurring after three years.

Other findings include the following (data not shown): average bonuses to an ACO that qualified were on the order of \$300–\$400 per beneficiary per year. A two-year performance period reduces the number of ACOs that receive bonuses but increases their average annual per beneficiary payment by about \$100. (Fewer ACOs receive a bonus by chance because of the greater predictive accuracy of the

two-year average.) Finally, cost savings were much larger when considered over a longer time horizon or with a more modest share of savings distributed to ACOs.

Moving Toward Accountable Care

Consensus is emerging on the need for greater integration and coordination within the delivery system and on the importance of shifting the payment system from a focus on volume and intensity to a focus on value and performance.

The results of our empirical analyses show that most physicians already practice within natural referral networks that provide a substantial amount of care for at least 5,000 Medicare beneficiaries. Under the current payment system, providers get no financial support (and may face losses) if they coordinate care or provide care more efficiently. The results of the simulations show that it is feasible to provide clear and specific spending benchmarks for provider groups willing to integrate, that the potential shared savings payments to ACOs that perform well could be sizable, and that real savings to the Medicare program would occur within five years with only modest changes in providers' spending behavior. The analyses also suggest limited downside risk arising from the potential for large "windfalls" paid to ACOs because of random (or planned) drops in spending that might have occurred even in the absence of the program.

■ **Limitations.** Our analyses have several limitations. First, we are uncertain about how much participating providers would actually change their behavior and reduce spending growth. On the one hand, evidence suggests that augmenting existing FFS health care delivery with care management programs unrelated to physicians' practices has not led to consistent savings. On the other hand, specific interventions to improve care coordination, particularly those focused on reducing hospital readmissions, have achieved significant savings, and evidence that organized systems can provide care at lower cost is growing.¹⁴ Examples include HealthCare Partners' expansion from Southern California and Tampa, Florida, into Nevada, where physician management was able to achieve substantial savings within the first eighteen months, and the PGP demonstration, which documented increasing savings to the Medicare program over the first two years.¹⁵

A second limitation of our analysis is that we were unable to estimate the longer-term fiscal impact of the program. Any savings achieved by reducing either the level of or annual growth rates in spending—even modestly—would have their greatest impact through the effects of compounding over time. Indeed, ten-year simulations (not reported) suggest that there might be substantial long-term savings for the Medicare program under the assumption that the behavioral effects during the first few years are maintained even modestly. Even greater savings would be likely to occur if ACOs responded with more substantial organizational changes, such as reductions in acute care capacity.

■ **Political and social challenges.** We do not underestimate the complexity of the political and social challenges that remain. Most physicians still practice in

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small group settings, hospital and physician relationships are often more competitive than collaborative, and the size of the financial rewards from ACO membership for physician groups might not be sufficient in some settings. Also, both providers and the public could have concerns about moving to value-based payment. Providers might fear the reporting burdens related to quality measures; difficulties in coordinating care across small, independent practices; and ensuring performance measures that adequately adjust for differences in health status across patients. Patients may of course worry about the withholding of truly valuable care.

But other approaches to reducing the growth of health care spending and fostering integration face serious constraints and even stronger resistance. The political opposition to requiring all beneficiaries to join capitated health plans would likely be fierce. Bundled payments reinforce the principle of shared accountability and encourage collaboration and coordination among providers but are unlikely to have much impact on the overall costs of care.¹⁶ Bundled payments will not discourage the provision of unnecessary services outside the context of the episode; nor do they necessarily reduce the provision of unnecessary or questionable episodes of care. And cuts in payment rates will be vigorously opposed as threats to providers' ability to provide care to Medicare beneficiaries. The tensions that have to be managed include the difficult physician-hospital relationships pervading some markets, the increasing need to slow spending growth, and the widely held perception that cost containment requires income loss for some providers.

■ **A promising middle ground.** In this difficult environment, we believe that a voluntary payment reform designed around ACOs and shared savings offers an incremental and promising middle ground that could meet the interests of providers, beneficiaries, and taxpayers better than the competing alternatives. And interest in the approach is growing.¹⁷ Because it can be built on the current FFS payment system, early implementation is possible. Because it would be a voluntary program, providers could choose to wait and learn from early adopters' experience. Because there is no need to lock in beneficiaries, they would have less to fear. For the first time, the approach offers a mechanism to support providers' efforts to slow overall spending growth while allowing their incomes to be preserved (through the shared savings payments). Finally, our proposal offers a path toward the integration widely acknowledged to be important to improving the quality of care and, as noted by David Mechanic, to realigning care with core professional values.¹⁸

■ **Barriers to implementation.** Several practical barriers to implementation of the ACO approach deserve consideration. The specific design features of an ACO program will need to be refined through further empirical work and further evaluation of regulatory and legal barriers to the kinds of shared savings that we propose.¹⁹

Numerous other Medicare and private-sector reforms are being considered or implemented that share the goals of improving integration and accountability for quality and costs, including pay-for-performance (P4P) programs, payment updates tied to the adoption of health IT (such as registries or electronic prescribing), and pilots to evaluate payments to support “medical homes.” And payers and providers are engaged in so many different, often competing initiatives that successful implementation or evaluation of any single reform is increasingly challenging.

All of these obstacles could best be addressed by aligning current and proposed reform initiatives with the long-term goals of accountability, high-leverage performance measurement, and better value for our money. The key is to ensure that any interim reforms are well aligned with those long-term goals. Exhibit 4 provides a hypothetical example for how such a “road map” could help restructure and realign performance measurement and payment reform toward integration, accountability, and efficiency. For example, if consensus were established that providers should, within five years, adopt electronic health records (EHRs) that are interoperable across the providers within their local referral network, then interim policy steps, payment updates, and performance measures could be aligned with that goal. Similarly, instead of having P4P programs continue to focus on a

EXHIBIT 4
Hypothetical Road Map For Payment Updates, Performance Measures, And Shared Savings

	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
Support local physician network integration					
Provide list of MDs within referral network	→				
Communication compacts established in network	→				
Reporting on network measures (instead of PQRI)		Quality Alliance measures	→		
Reporting on network measures (instead of PQRI)		CAHPS (patient experience) measures	→		
Partial electronic health records, registries				→	
Interoperable electronic health record in network					→
Performance measurement pathway					
Registries for expanding list of conditions		→			
Health outcome measures for specific conditions				→	
Cost measures for specific conditions					→
“Medical home” payments					
Medical home payment (based on NCQA)	→				
Payment only if above integration steps taken		→			
Shared savings—ACOs					
Eligibility based on key criteria	→		→		
Public reporting of performance		→			
Shared savings to all providers within ACO			→		

SOURCE: Authors’ analysis.

NOTES: PQRI is the Physician Quality Reporting Initiative, which requires individual physician reporting of quality measures. “Quality Alliance measures” refers to efforts by the Hospital Quality Alliance, the AQA Alliance, and the Pharmacy Quality Alliance to implement a growing set of National Quality Forum (NQF)-endorsed performance measures that can be ascertained through Medicare claims, clinical data sources, and (potentially) clinically enriched claims data in the near future. The Consumer Assessment of Healthcare Providers and Systems (CAHPS) refers to a set of survey measures of Medicare beneficiaries that characterize patients’ experiences with care. NCQA is National Committee for Quality Assurance. ACOs are accountable care organizations.

narrow set of physician- or group-specific process measures, providers could be expected to develop registries for specific conditions (such as diabetes or heart failure) that would support more effective care management. Knowing that registries would soon be required would encourage developers of EHRs to incorporate them (improving provider efficiency). Also, aligning the medical home model with reforms intended to strengthen local physician-hospital networks could improve the effectiveness of each approach to reform.²⁰

As part of this process, implementation of ACO reforms could proceed through an initial pilot phase that would have little risk of increasing Medicare costs (given the results of the simulations) but that would provide further evidence on how to implement shared savings reforms effectively on a larger scale. If incorporated into such a comprehensive framework, providers would be supported and encouraged to form the local integrated delivery systems required for the ACO model to succeed. And, if broadly implemented, such a shared savings program appears to offer a feasible path toward achieving higher-quality, more efficient care that meets the interests of payers, patients, and providers.

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4. Congressional Budget Office, "Geographic Variation in Health Care Spending" (2008); and J.E. Wennberg, E.S. Fisher, and J.S. Skinner, "Geography and the Debate over Medicare Reform," *Health Affairs* 21 (2002): w96–w114 (published online 13 February 2002; 10.1377/hlthaff.w2.96).
5. In its recent reports, the Medicare Payment Advisory Commission (MedPAC) has also focused on these questions and has made major contributions to our thinking. The term *accountable care organizations* emerged in a discussion between Elliott Fisher and Glenn Hackbarth, the MedPAC chair at the time.
6. Stephen Shortell and Lawrence Casalino use the term *accountable care systems* to refer to "entities" that can implement organized processes for improving quality and be held accountable for quality and costs. S.M.

- Shortell and L.P. Casalino, "Health Care Reform Requires Accountable Care Systems," *Journal of the American Medical Association* 300, no. 1 (2008): 95–97. Our ACOs would satisfy their definition. Any of the specific organizational forms they describe could clearly become ACOs under our proposed payment reform model. Our paper is intended to advance thinking on a specific payment reform and performance measurement pathway toward the system-level (or organizational) accountability we and they support.
7. J.A. Block, D.I. Regenstreif, and P.F. Griner, "A Community Hospital Payment Experiment Outperforms National Experience: The Hospital Experimental Payment Program in Rochester, NY," *Journal of the American Medical Association* 257, no. 2 (1987): 193–197.
 8. Determination of whether the ACO meets the minimum size criterion will be based upon CMS analysis of the list of physicians voluntarily choosing to participate. The participation and selection process could be facilitated by the CMS through the provision of lists of empirically defined physician-hospital networks within a given region, helping physicians identify natural networks based on existing practice patterns within their areas.
 9. The spending growth analyses are based on the same patient assignment method used by Julie Bynum; see J.P. Bynum et al., "Assigning Ambulatory Patients and Their Physicians to Hospitals: A Method for Obtaining Population-Based Provider Performance Measurements," *Health Services Research* 42, no. 1, Part 1 (2007): 45–62. The analyses of coherence and stability (Exhibit 3) are based on a slight modification, which assigns patients to their predominant PCP. The results are very similar, but the primary care assignment method offers the potential advantage of allowing specialists to serve multiple ACOs.
 10. We chose to use this approach for three reasons. *Timeliness*: if actual index-year data were used to set the benchmark, the CMS and ACOs would have to wait until complete Parts A and B spending data were available, which could entail waiting until six months or more after the end of the calendar year. *Accuracy*: using three years of ACO-specific spending allows more accurate estimates of per beneficiary spending, especially for smaller ACOs. *Continual recalibration*: using a three-year rolling average of ACO-specific performance to estimate index- (that is, current-) year spending would ensure that ACOs would be rewarded only for continuing to achieve growth rates below those used to set the benchmarks.
 11. We propose, as in the Physician Group Practice demonstration, that the benchmark be defined to include a 2 percent performance threshold. ACOs are eligible for savings only if their spending is 2 percent or more below their predicted, risk-adjusted, per beneficiary spending levels. This markedly reduces the likelihood that shared savings payments are made to ACOs whose spending was better than predicted as a result of random fluctuations in spending.
 12. Only if a beneficiary had no visits to PCPs was he or she assigned to a medical specialist (next in order in the priority) or, if no medical specialists were seen, to another patient care physician (for example, a surgeon).
 13. Note that the "extended hospital medical staff" described here does not imply that any ACO associated with these patterns would have to be organized through the hospital. It is simply that physicians who frequently end up caring jointly for patients refer those patients to the same hospital.
 14. The Medicare Health Support program, which relied on care management companies unrelated to local physician practices to attempt to improve care, has failed to reduce overall costs; the integration of nurses within clinical systems appears more promising. D. Glendenning, "Medicare Disease Management Pilot Faces Closure over Costs," *American Medical News* (28 April 2008); and M.D. Naylor, "Transitional Care for Older Adults: A Cost-Effective Model," Issue Brief 9, no. 6 (Philadelphia: Leonard Davis Institute, 2004).
 15. Centers for Medicare and Medicaid Services, "Physician Groups Earn Performance Payments for Improving Quality of Care for Patients with Chronic Illnesses," Press Release (Baltimore: CMS, 14 August 2008).
 16. G. Hackbarth, R. Reischauer, and A. Mutti, "Collective Accountability for Medical Care—Toward Bundled Medicare Payments," *New England Journal of Medicine* 359, no. 1 (2008): 3–5.
 17. M.B. Rosenthal, "Beyond Pay for Performance—Emerging Models of Provider-Payment Reform," *New England Journal of Medicine* 359, no. 12 (2008): 1197–1200; and J.F. Wilson, "Vermont Health Care Reform Aims for More Coverage, Less Expense, and Better Care," *Annals of Internal Medicine* 148, no. 10 (2008): 797–800.
 18. D. Mechanic, "Rethinking Medical Professionalism: The Role of Information Technology and Practice Innovations," *Milbank Quarterly* 86, no. 2 (2008): 327–258; and Shortell and Casalino, "Health Care Reform Requires Accountable Care Systems."
 19. See chap. 3 in MedPAC, *Report to the Congress: Reforming the Delivery System* (Washington: MedPAC, 2008).
 20. E.S. Fisher, "Building a Medical Neighborhood for the Medical Home," *New England Journal of Medicine* 359, no. 12 (2008): 1202–1205.