

FRESH-Thinking

Focused Research on Efficient, Secure Healthcare



Robert Wood Johnson Foundation

Accountable Care Systems For Comprehensive Health Care Reform



**by Stephen M. Shortell, PhD, M.B.A., M.P.H
and Lawrence P. Casalino, MD, PHD**

ACCOUNTABLE CARE SYSTEMS FOR COMPREHENSIVE HEALTH CARE
REFORM

Stephen M. Shortell, PhD, M.B.A., M.P.H

Blue Cross of California Distinguished Professor of Health Policy and Management

Dean, School of Public Health,

UC-Berkeley

shortell@berkeley.edu

(510)643-5346

Lawrence P. Casalino, MD, PHD

Associate Professor

Department of Health Studies

Biological Sciences Division

University of Chicago

Prepared for a workshop on “Organization and Delivery of Care and Payment to
Providers”

Center for Advanced Study in the Behavioral Sciences, Stanford University

March 1 and 2, 2007

Acknowledgements

This paper has benefited from comments and discussion provided by Zeke Emmanuel, Vic Fuchs and the participants at the Fresh Thinking Workshop on “Organization and Delivery of Care and Payment to Providers” held at the Center for Advanced Study in the Behavioral Sciences, Stanford University on March 1 and 2, 2007. Professor Shortell acknowledges the fellowship support of the Center for Advanced Study in the Behavioral Sciences.

Abstract

Healthcare reform involves more than extending health insurance coverage or changing payment for care. It also requires changes in how care is delivered. We suggest five different models of “Accountable Care Systems” (ACS’s) with the capability to improve the quality of care and lower the cost of care and that can be held accountable for results. We discuss the advantages and limitations of each model and the approximate number and percent of physicians that might find each model attractive. We recommend development of a National Center for Evidence-based Medicine and Management, a national system of performance measurement and accountability, fundamental changes in Medicare payment policy and related policy proposals to encourage the development of Accountable Care Systems.

Introduction

Proposals to reform the US Healthcare System are more likely to succeed if they focus not only on the financing of care but also on the delivery of care – and on the interactions between the two. Policy changes in financing, payment, benefit design, technology assessment, outcome assessment, and public reporting all must work through one common pathway: the delivery system – the hospitals, physician practices, and other entities that provide care to patients. We may do little good and potentially much harm to expand insurance coverage to all Americans without changing the delivery system’s ability to deliver high quality care at the lowest possible cost.

Given the above, we face a major public policy conundrum. In brief we essentially have a 19th century craft-oriented delivery system trying to provide 21st century medical science and technology. This “disconnect” will make it difficult to implement any changes in the other elements of healthcare reform. The “architecture” of health care reform must, somehow, build a foundation of brick or stone out of the gravel that constitutes the current delivery system.

If comprehensive health care reform is to succeed, the U.S. will need accountable care system (ACSs). By “accountable care system,” we mean an entity that is able and willing to do two things: first, implement organized processes for improving the quality and controlling the costs of medical care; second, be held accountable for results.

While the optimal form of delivery organization is unknown, we discuss seven capabilities that any accountable care system (ACS) should have to improve quality and control costs. We suggest five different models of ACS’s and their advantages and disadvantages relative to achieving the desired capabilities. We focus on models of

physician organization, but include models that involve affiliation between the physician organization and hospitals and/or health insurance plans. We consider the relative “robustness” of these models to differences in payment method and to treating different types of medical conditions. We conclude with some recommendations on how comprehensive healthcare reform might deal with the barriers to creating ACS’s.

DESIRED CAPABILITIES

The Institute of Medicine, in Crossing the Quality Chasm,⁽¹⁾ states that health care organizations should have the capability to: 1) redesign care processes; 2) make effective use of information technologies; 3) manage clinical knowledge and skills; 4) develop effective teams; 5) coordinate care across patient conditions, services, and settings over time and; and 6) incorporate performance and outcome measurements for improvements and accountability. We add a seventh capability, the ability to adapt to change.

Ability to Redesign Care Processes

Redesigning care processes means examining the processes an organization uses to provide care and changing them to provide higher quality care at the same or a lower cost. For example, a group might use organized care management processes (CMPs) such as maintaining registries listing patients with certain chronic diseases, providing reminders of needed services to physicians at the point of care, providing data-based feedback to physicians, providing self-management education to patients with chronic

diseases, and providing a nurse care manager for the sickest and most vulnerable patients.^{2,3}

Ability to Effectively Use Information Technologies

Clinical information technologies such as electronic medical / health records, electronic interchange of information among physicians, hospitals, laboratories, and pharmacies, e-mail between patients and physicians, and Web-based tools to assist patients in self-management provide the needed infrastructure for providers and patients to learn from each other and to provide data for measuring and improving quality. This requires a well-designed electronic medical record, the ability to communicate electronically across sites of care, adequate privacy safeguards, and staff with the training and time to make good use of the data provided to improve care.

Ability to Manage Clinical Knowledge and Skills

An effective organization determines the skills and quality standards required to provide outstanding care and then works to match the skills of its staff to these requirements. In addition, because the flood of new information is too great to be managed adequately by individual clinicians, the organization needs ways to make this information available to physicians and other caregivers - where and when it is needed. Further, as better practices are identified they should be readily shared with others in the organization.

Ability to Work in Teams

It has long been obvious that inpatient care is provided by teams of physicians and other staff, though these teams have not necessarily functioned effectively or even thought of themselves as teams. Outpatient care has been dominated by the “visit

model,” in which medical care is taken to be whatever happens between an individual patient and physician during the patient’s visit. This model is not ideal for making sure that patients receive all indicated preventive care, for helping patients with chronic diseases learn to manage their illness, or providing assistance to patients between office visits. The team or “micro-system” - the *organizing* principle for the delivery of healthcare in the 20th century – can serve as the tool for implementing organized care processes to improve care that go far beyond the patient visit model.^{4,5} This includes the need to identify someone who is the overall coordinator of the patients’s care. There is a growing evidence based management literature on the characteristics of effective teams.^{6,7,8}

Ability to coordinate care across providers, services, and settings over time

As the percentage of Americans with chronic illness and multiple chronic illnesses grows, the need for the delivery system to manage patient care across multiple settings and providers over time increases. The central function missing is that the information and knowledge about the patient’s condition is not shared among those caring for the patient. Relevant information is frequently incomplete, late or missing altogether resulting in delays in care, repetition of tests and procedures, and overall waste and inconvenience. Implementation of Electronic Health Records (EHR’S) and Electronic Medical Records (EMR’s), in physician practices is a necessary but insufficient condition for care coordination. Also needed are informed “receptors” of the information; that is, healthcare teams that know how to use the information as part of an overall organized system of care for the patient. In addition, effective partnerships are

necessary with other provider organizations who may become involved in the patient's care.

Ability to incorporate performance and outcome measurements for improvements and accountability

Provider organizations should be “learning organizations”⁹ that measure their performance, experiment with ways to improve, and modify their processes based on their experience. Small-scale, rapid cycle testing, modifying, and retesting can be effectively used in large and small provider organizations.¹⁰ The ability to improve requires the ability to measure performance as well as leaders and staff with skills and time to manage improvement efforts.

There is growing demand that the evidence of improvement be made public and transparent. ACS's will be expected to be accountable for the care of the population of patients for which they are responsible. They need to provide reliable and valid information on quality and cost of care to be used for the purposes of public reporting to inform choice as well as a basis for differential payment based on performance. Further, an accountable care system must have enough patients to ensure that the medical process or outcomes being measured are statistically reliable and valid.

Adapt to Change

In addition, delivery organizations must be able to develop to adapt to change. There is a vast literature both inside and outside of the health sector on managing change with emphasis on the importance of leadership and culture.¹¹ They are particularly relevant in a highly decentralized system such as the U.S. where the ability to provide more cost/effective care (i.e. high value) depends on the leadership of thousands of individuals

and organizations and a culture that emphasizes teamwork over individual autonomy, admits and learns from mistakes, is data driven, is willing to be held accountable, and values working in partnership with others.

ACCOUNTABLE CARE SYSTEM MODELS

One way to provide greater value in healthcare delivery would be for all physicians, hospitals and other care-giving entities to be part of Accountable Care Systems (ACS) that are responsible for the entire continuum of care – outpatient, in-patient, home health, rehabilitation, and long-term care. This does not mean that all entities would be commonly owned. A variety of ownership, contractual arrangements and alliances could exist but each would be held accountable for their portion of the care provided. The ACS is, thus, an umbrella concept under which a number of specific models might prove viable. We discuss five – the Multi-Specialty Group Practice (MSGP); the Hospital Medical Staff Organization (HMSO); the Physician-Hospital Organization (PHO); the Interdependent Physician Organization (IPO); and the Health Plan Provider Organization or Network (HPPO/HPPN).

Two important caveats should be noted. First, most physicians work in very small practices that would likely not have the resources to develop the capabilities to be an ACS. In an ACS-based health care system, these small practices would either be merged into large (new or already existing) multi-specialty group practices, or would participate in an ACS that facilitates clinical integration among small practices without merging them into a single group. We recognize that many physicians may prefer smaller practices and under comprehensive healthcare reform could continue to exist. In a system in which ACSs compete based on the quality and cost of their care, “ the market

would decide” whether “virtually integrated” systems including small physicians practices could succeed in competition with systems in which physicians are merged into large group practices. Second, specialist physicians are increasingly creating medium-sized and even quite large single specialty groups. A single specialty group obviously could not serve as an ACS taking accountability for the full spectrum of patients’ care, but could be important components of an ACS or, alternatively, could be important sources of care to which an ACS would frequently refer.

The Multi-Specialty Group Practice (MSGP)

Between 17 and 26 percent of approximately 718,000 practicing physicians in the US are associated with a multi-specialty group practice of 100 physicians or more – including institutionally employed physicians.¹² This figure increases to 35 percent if groups of 20 or more physicians are included.

The potential advantages of the MSGP model was recognized as early as 1932 when it was suggested by the Committee on the Cost of Medical Care.¹³ They vary in size and form ranging from independent MSGP’s that work with several hospitals and health plans in a given area to those that have an exclusive relationship with a hospital system but may still accept patients from multiple health plans (e.g. The Henry Ford Medical Group, the Mayo Clinic, Intermountain Healthcare, and the Geisinger Clinic) to those that are exclusive with both hospitals and a health plan such as Kaiser-Permanente. A multi-specialty group that is linked to a hospital/health system that also owns a health plan is commonly referred to as an integrated or organized delivery system¹⁴ MSGP’s have the potential to add value because of the opportunity they have to deliver coordinated care to a defined group of patients. They typically have the resources to

redesign care processes, take advantage of economies of scale to implement electronic medical records, form healthcare teams, obtain data based feedback on performance gaps, and make the changes needed to improve care.^{15,16} There is a small but growing body of evidence that MSGP's do make greater use of recommended care management processes and electronic information technology^{17,18}; and provide higher quality of care on selected preventive and process measures involving recommended screening tests and diabetes and asthma management than smaller, looser forms of practice^{19,20} The MSGP would appear to have particular advantages in caring for patients that require care over time and for payment based on entire episodes of illness, related bundled payment arrangements, and capitation.

MSGP's also have some potential disadvantages. Their size and bureaucracy can make them difficult for patients to negotiate and can make it difficult for patients and staff to feel that their environment is "human scale."^{21,22} They are very difficult and expensive to create. Though they can afford to employ highly skilled leadership, their governance may be complex and time-consuming due to their size and to possible conflict among multiple specialties and parts of the organization. With financial incentives and the demand for greater external accountability it is likely that the MSGP model will grow to some extent as some existing small practice units aggregate into larger groups. But it is unrealistic to expect that this will reach a scale sufficient to have a marked impact. Instead the relevant question becomes how some of the valued characteristics and capabilities of MSGP's – use of teams, ability to generate data on performance etc. – can be adapted for use by other practice models? In brief, how might other models "mimic" MSGP's? We suggest four possibilities.

Hospital Medical Staff Organization (HMSO)

Nearly all of the 718,000 practicing physicians in the US are members of hospital medical staffs, although with varying degrees of involvement. The Medical Staff Organization model has been based on an exchange relationship in which in return for hospital admitting privileges, physicians agree to serve on hospital committees and review the quality of care provided through the creation of a self governing medical staff organization structure. This arrangement has been fraught with conflict and challenges because of divergent cultures and incentives among hospitals and physicians.. Many physicians and hospitals view each other as competitors particularly with the growth of specialty hospitals.²³ In addition, most physicians have historically viewed the hospital as their “workshop”²⁴⁻²⁶ and have a general disdain for becoming involved in such a large bureaucratic organization. Nevertheless, outside of the local county medical society, the hospital medical staff is the one setting in which largely fee-for-service physicians come together, exchange information, and form referral relationships. Recent data suggest that most physicians have primary relationships with a single hospital thus making it possible to form a stronger partnership entity between physicians and their primary admitting hospital.²⁷ Further, hospitals have the capital to support adoption of EMR’s and EHR’s, generate performance and accountability data, and assist with providing quality improvement support. Thus, if payment policies were implemented based on bundled payments for specific medical conditions (e.g. CABG, Stroke, Diabetic care, Asthma care) for given episodes of illness that included both inpatient care and outpatient care, there would be incentives for hospitals and physicians to work together. The accountable entity for payment would be the hospital medical staff organization. Others have

proposed this but for inpatient care only.²⁸ If annual Medicare payment updates were based on Medicare costs for the patients of physicians on their primary hospital medical staff, rather than on national Medicare costs, the medical staff would have an added incentive to work together.

This model would have potential advantages for both chronic illnesses with acute episodic “flare ups” as well as acute episodes of hospitalization that require some degree of follow-up care before the patient’s return to health. However, the HMSO faces challenges including reconciling the diverse interests of physicians who seldom speak with a common voice; a long standing conflicting relationship between many hospitals and their physicians; and legal obstacles to gainsharing that would need to be addressed. Even if the “aligned” payment mechanisms were in place, this model would make heavy demands on the persuasive powers and conflict management skills of hospital and physician leaders.

The Physician Hospital Organization (PHO)

A variation of the MSGP model is the PHO. There are approximately one thousand PHO’s in the US.²⁹ Assuming an average hospital medical staff size of 350, and that approximately three-quarters of these physicians would qualify for PHO membership, then approximately 37% ($262 \times 1,000 / 718,000$) of physicians in the US potentially belong to a PHO. They typically involve those members of the medical staff whose economic interests are most aligned with the hospital’s; who can provide the hospital with the needed geographic network coverage for contracting purposes and who are more cost-effective providers. Under comprehensive healthcare reform, the “contracting” PHO model could evolve into an entity that would actually manage the

quality and cost of care.³⁰ Hospitals would establish cost and quality criteria as standards of eligibility for membership and evaluate performance for continued membership on an annual basis. Payment would flow to the PHO based on its collective performance. This model has the advantage of not needing to have all physicians involved and also creates incentives for those physicians not eligible one year to become eligible in future years as they improve their performance. In effect this represents an “internal tiering” of the delivery system but exercised by hospital and doctors themselves rather than by health plans and purchasers. Also, because it is not open to everyone, the PHO might be better able to transfer knowledge and manage change than the open ended HMSO model.

PHO’s, however, also face many of the same challenges as the HSMO described above. Many of the first generation PHO’s failed. Further, state or federal “any willing provider” laws would pose challenges to the PHO model. Also, PHOs must be significantly clinically integrated to avoid running afoul of anti-trust law. The FTC³¹ has successfully conducted numerous cases against PHOs that did not appear to be clinically integrated yet were attempting to negotiate contracts with health plans that did not involve the physicians and the hospital sharing financial risk.

The Interdependent Practice Organization (IPO)

A fourth model is proposed for those physicians who for practice in smaller settings or who do not wish to be a part of larger organizations for delivering care. It is estimated that 48 percent of all office-based practicing physicians are in solo or two person partnerships and 89 percent of all office-based physicians are in practice arrangement of 10 physicians or less.³² Thirty eight percent are members of an IPA. We call this model the *Interdependent* Practice Organization to distinguish it from the

Independent Practice Associations (IPA) that exist today. Most of the existing IPAs are in California and were formed to bear risk and negotiate commercial capitation contracts. They are, for the most part, loosely organized collections of relatively small physician practices.

The proposed IPO model would have strong leadership, and governance, and enough patients collectively across individual practices to support investments in the seven capabilities discussed above. The IPO model might be particularly attractive to physicians practicing in rural areas. Given sufficient incentives, some existing IPAs might become IPOs by strengthening their governance structure, developing a stronger shared culture and leadership, and working to create the needed capabilities. These are difficult goals, however, for organizations composed of many small practices.

Health Plan-Provider Organization / Network (HPPO/HPPN)

The fifth model is similar to the IPO but based on partnerships between health plans and physician practices. As in the case of the IPO, 38 percent of office-based private practitioners currently associated with IPAs might be the maximum number that would find this model potentially attractive. Purchasers, policy makers, and providers alike realize that insurance plans have accumulated considerable cost, quality, and utilization data on millions of patients over many years. As a result, they have the incentive to bring pressure from employers to analyze the data not only for developing insurance products but to encourage more cost effective healthcare delivery on the part of their provider networks. Indeed, the over 100 current private sector pay-for-performance demonstrations are based largely on health plan use of administrative claims data even with all of its limitations. In addition, health plans such as United Health Care,

Wellpoint-Anthem, Aetna, and Cigna have developed capabilities in disease management, electronic information technology implementation, and quality improvement systems that could potentially be used effectively in collaboration with providers. Also, some health plans have even “deeper pockets” than many hospitals. As a result, some physicians and physician practices may partner with health plans rather than their local hospital in assuming risks under various payment mechanisms and external reporting requirements. Health plans can become “aggregators” of smaller physician practices and become the unit of accountability for performance.

But, while health plans can marshal data and provide technical assistance to providers they cannot actually manage the care or make the necessary organizational changes in physician practices needed to improve performance. The necessary leadership is not likely to be provided by the health plan’s medical directors located at the central headquarters, or even regional offices. So the likely success of this model will depend on local physician leadership within the small practices and such leadership is likely to be highly variable.

Table 1 provides a preliminary assessment of each model in relation to the seven core capabilities.

Accountable Care System Models and Payment Methods

Table 2 provides a summary of the extent to which the Accountable Care System models might align with episode-based and capitation-based payments. Payment should aim at providing incentives for the ACS’s to continually improve the coordination and quality of care and to control costs across the full spectrum of services, even if there is no common ownership. For example, an ACS owned by a MSGP may not own a nursing

home but by contracting with certain nursing homes that provide high quality cost-efficient care the incentives contained in episode-based payment can be met. The HMSO, PHO, and organized delivery system MSGP models are well-structured to accept episode-based and capitation-based payment. The IPO model is less well structured to accommodate these forms of payment. But assuming that the IPOs are large enough to generate statically reliable performance data and with necessary leadership they too could negotiate episode-based and capitated arrangements whereby the payments would be divided contractually between the physicians, hospitals, and other entities providing care. In the HPPO / HPPN model the health plan itself becomes the payer and could use episode-based and capitation-based payment to incent its network of hospitals and physicians to work together to meet cost / quality targets.

Episode-based payment, and capitation payment under various combinations are based on the premise that there is an *entity* that can be held *accountable* for the care delivered to an identifiable group of patients. While this will be relatively easy to determine for patients with acute illness and for those who have been with a particular practice or delivery system for several years, it will be more difficult to assess for those with chronic illness seeing many different providers or for those who frequently switch providers. While various algorithms can be developed for assigning specific portions of patient care to specific providers, recent evidence suggests that such assignment is often inaccurate.³³

Accountable Care System Models and Different Medical Conditions

Ideally, the ACS models would have the ability to treat a wide range of medical conditions including single chronic illness, multiple chronic illness, major acute care,

minor acute care, preventive care, and palliative care. While the MSGP model might be best able to treat patients with multiple chronic illness, it is not clear that any of the models (including the MSGP) are necessarily superior across the board in treating patients with different types of medical conditions. This is a major area for further research, particularly in regard to developing and testing new “care platforms” and micro-system models that can be adapted to fit different medical conditions. Episode-based payment and capitation could create the necessary incentives for all models to perform well in treating chronically ill patients, although managing patients with multiple chronic illness would remain challenging for IPO’s.

BARRIERS AND RECOMMENDATIONS

Accountable Care Systems of whatever form require three “I’s” to succeed – *information* for purposes of improving performance in comparison with standards and benchmarks; *infrastructure* that provides the capabilities to act on the data and information; and *incentives* to do so.³⁴ From the delivery system perspective, comprehensive healthcare reform must address the barriers to these three requirements and go beyond them to create “facilitators” for their achievement.

Providing the Information

Consistent with the recent recommendations of the Institute of Medicine, we recommend the creation of a national performance measurement system encompassing a portfolio of quality and cost measures that cover the continuum of care.³⁵ CMS and other payers would use this measurement system in developing their value-based payment system. Such a system could be overseen by the Agency for Health Research

and Quality (AHRQ), the National Quality Forum or a newly and separately created entity. These measures would be used for both public reporting of quality and cost data and for payment based on performance at a given point in time and for improvement over time. The measurement set would be updated periodically consistent with the advances in quality and cost measurement and the development of new technology and treatment modalities.

We also recommend creation of a National Center for Evidence-based Medicine and Management that provides the best available evidence on clinical and managerial practices to improve quality and cost performance.^{37,38} AHRQ or a similar organization would conduct and disseminate on a quarterly basis meta analyses and synthesis reports on both the EBMed and EBMgt literatures for use by ACS's. This would be an extension of AHRQ's current Evidence-based Practice Center reports. At the same time, as recommended by the National Academy of Engineering / Institute of Medicine report on "Building a Better Delivery System", Congress should provide funding to create a network of evidence-based medicine / management centers.³⁹ These centers would bring together a multidisciplinary group of clinicians, engineers, researchers, and managers to continually identify better practices that improve value and rapidly spread these to ACS's throughout the country.

Building the Infrastructure

Most physicians and physician organizations today lack the "system" capabilities needed by patients, particularly those with chronic illness. The culture of individual physician autonomy, in addition to lack of incentives, hinders the development of these capabilities. This is particularly true for physicians practicing in solo,

partnerships, and small group practice settings and this will not change any time soon. Most large ACS's have been built over a long period of time.

Currently, only 25% of physician office practices have some components of the electronic medical record or electronic health record and about 9% of hospitals have computerized patient order entry of drugs.³⁶ Reform proposals could include incentives for electronic information technology adoption through expanding the CMS' Quality Improvement Organization's (QIO's) ability to provide information technology implementation assistance; providing either direct grants and/or low interest loans; or, CMS and commercial payers could consider directly rewarding providers for using electronic information technology in caring for their patients and in public reporting.

We also recommend investment in the future by creating incentives for health professional schools to incorporate required content in systems engineering, process improvement methods, communication and conflict management skills, leadership development, change management, and teamwork. Brief, focused experiential modules can be implemented in the clinical years of medical and other health professional education and then reinforced in the residency experiences. We recommend that CMS provide payment incentives for schools to incorporate such content into their curriculum and field experiences, or, alternatively, withhold a portion of payment for those who do not. The AAMC could also require evidence of such content in their accreditation process. The reformed value-added 21st century health delivery system will require a very different type of clinical and managerial leadership to succeed. We need to begin investing in that leadership now.

Providing the Incentives

Currently there is no or little reward for physician to improve the quality or control the cost of care in that payment is divorced from performance or results. Further, there is little incentive for physicians to join organizations that can help them produce better patient outcomes at the same or lower cost.

Consistent with the recent MEDPAC testimony to Congress we recommend that Medicare make fundamental changes in payment to reward providers based on the value (outcomes achieved / cost) of care delivered.⁴⁰ Whether or not overall expenditure targets are set for the sustainable growth rate (SGR), CMS should be given the authority to reward providers differently based on the results achieved. Under budget neutrality, money would be initially redistributed from those doing less well to those doing better. But future payment should also allow for *improvement in performance* such that those who do less well initially still have opportunities to be rewarded for improving their results. Much remains to be learned about “pay for performance.”⁴¹⁻⁴⁴ In particular, the conditions for which such payments would be made need to be carefully selected to include those where reliable, valid, risk adjusted measures exist. As progress in outcome and risk adjustment measurement grows, the list of conditions for result based payment should also increase. In addition to additional payment, consideration should be given to non-financial incentives such as recognizing outstanding performers with awards and media coverage.

In addition to paying for better results, we recommend experimentation with bundled payments for hospital and physician services for selected conditions (e.g. CABG, hip and knee replacements) which require inputs from both physicians and hospitals, and

for which outcomes are visible, well measured, and risk adjusted.⁴⁵ Bundled payment will create incentives for hospitals and physicians to work together and encourage the development of ACS's such as the HMSO and PHO models. Higher bundled payments should go to those hospitals and physicians treating more severely ill patients; as indicated by the existence of comorbidities and related risk adjusters.

We also suggest that incentives be created for consumers to select the highest value added ACS's for care based on available data. For example, consumers might have no co-insurance or deductibles for selecting providers in the top tier across cost and quality performance metrics; moderate deductibles and co-insurance for those in the middle; and higher deductibles and co-insurance for those in the lowest third. Alternatively, premium rates could be adjusted to take into account the selection of higher value added ACS's.

CMS should also expand its initiatives on reporting hospital and nursing home quality data to reporting quality and cost data for physician practices. This could be phased in over time moving from voluntary reporting to eventual mandatory reporting as use of EMR spreads throughout the physician practice community. Common standardized reporting definitions and formats and measures must be implemented to make this feasible. Over time, private plans should follow CMS's data reporting methodology. The independent entity noted above should ensure the accuracy and reliability of the data. It could then oversee the development of an annual National Value Scorecard (NVS) with regional and local disaggregated scores for hospitals, physician practices, nursing homes and home health agencies. The impact of the previously discussed payment reforms and incentives is likely to be stronger when combined with

external reporting of quality and cost performance data.⁴⁶ Development of such a scorecard will create incentives for solo physicians and those in small partnerships and small groups to come together to share the cost of data collection and reporting.

CONCLUSION

The barriers to creating organizations that can deliver on the promises of comprehensive health care reform are formidable. It will not be easy to get from where we are to where we want to go. But we foresee a co-evolution in which payment systems that move away from fee-for-service toward rewarding improved value for populations of patients coupled with greater availability and transparency of cost and quality performance data will encourage the development of ACS's which, in turn, will be better positioned to accept results-based payment to the benefit of all involved.

The diagnosis of what is wrong with the U.S. health system has been known for decades. It is chronic fragmentation. We have assumed for decades that this condition is treatable; that it is reversible; and is not a terminal illness. But we have yet to come up with a treatment plan. In this paper we have suggested some key elements of such a treatment plan highlighting the importance of delivery system reform. The question is whether the patient (i.e. U.S. Health System) is yet sick enough to take the medicine?

Exhibit 1. Accountable Care System Models and Core Capabilities

<u>Accountable Care System Models</u>	Redesign Care Processes	Teamwork	Care Coordination	<u>Core Capabilities</u>			
				Performance Accountability	Information Technology	Knowledge Management	Change Management
(1) Multi-Specialty Group Practice (MSGP) ^a	High	High	High	High	High	High	Medium
(2) Hospital Medical Staff Organization (HMSO) ^b	Medium	Medium	High	High	High	Low to Medium	Low to Medium
(3) Physician Hospital Organization (PHO) ^c	Medium	Medium	Medium	High	High	Medium	Medium
(4) Interdependent Provider Organization (IPO) ^d	Low	Low	Low to Medium	Medium	Low	Low	Low
(5) Health Plan Provider Organization / Network (HPPO/HPPN) ^e	Medium	Low to Medium	Low to Medium	Medium to High	Low to Medium	Low to Medium	Low to Medium

^a 17-26 percent of practicing physicians in groups of 100 plus including institutionally based; 35 percent in groups of 20 plus

^b Almost all 718,000 practicing physicians

^c Estimated 37 percent of practicing physicians; see text

^d 48% of office-based in solo or 2 person partnership; 89% in arrangements of 10 physicians or less; 38% members of IPA's

^e 38% members of IPA's

Exhibit 2. Accountable Care System Models and Alignment with Method of Payment to the System to Encourage Cost/Effective Care

<u>Delivery System Models</u>	<u>Payment Methods</u>	
	Episode-Based Payment	Capitation
(1) Multi-Specialty Group Practice (MSGP)	Aligned if there is close relationship with a hospital	Potentially Aligned
(2) Hospital Medical Staff Organization (HMSO)	Highly Aligned	Aligned
(3) Physician Hospital Organization (PHO)	Highly Aligned	Aligned
(4) Interdependent Provider Organization (IPO)	Aligned if there is a close relationship with hospital	Potentially Aligned ¹
(5) Health Plan Provider Organization / Network (HPPO/HPPN)	Aligned if there is agreement between hospital and physician network	Potentially Aligned ¹

¹ Depending on hospital acceptance of the capitated payment

REFERENCES

1. Institute of Medicine. Crossing the Quality Chasm. Washington, DC, National Academy Press, 2001.
2. L Casalino, RR Gillies, SM Shortell, et al. "External Incentives, Information Technology, and Organized Processes to Improve Healthcare Quality for Patients with Chronic Diseases" *Journal of the American Medical Association*, 289,(2003):434-441.
3. Bodenheimer T, Wagner EE, Grumbach K. Improving Care with Patients with Chronic Illness: The Chronic Care Model Part 2. *JAMA*. 2002;288:1909-1914.
4. EC Nelson, et al. "Microsystems in Healthcare: Part 1. Learning from High Performing – Clinical Units", *Joined Commission Journal on Quality Improvement*, 28, 9(2002):472-493.
5. SM Shortell and J Schmittdiel. "Prepaid Groups and Organized Delivery Systems: Promise, Performance and Potential", in *A 21st Century Health System: The Contribution and Promise of Prepaid Group Practice*, Ed. A Enthoven and L Tollen (San Francisco: Jossey-Bass, 2004):6-13.
6. SM Shortell, JA Marsteller, M Lin, et al. "The Role of Perceived Team Effectiveness in Improving Chronic Illness Care", *Medical Care*, 42, (November, 2004):1040-1048.
7. BJ Fried, S Topping, AC Edmondson. "Groups and Teams" in Healthcare Management Organization Design and Behavior, 5th edition, Ed. SM Shortell and AD Kalunzny (New York: Delmar Press, 2006):174-211.
8. L Lemieux-Charles, WL McGuire. "What Do We Know About Healthcare Team Effectiveness? A Review of the Literature", *Medical Care Research and Review*, 63, 3, (June, 2006):263-300.
9. Institute of Medicine. Crossing the Quality Chasm. Ibid, p. 144.
10. Institute of Medicine, Crossing the Quality Chasm, Ibid, p. 145.
11. BJ Weiner, CD Helfrich, SR Hernandez, "Organizational Learning, Innovation, and Change and Ed. SM Shortell, AD Kalunzny, *Healthcare Management: Organizational Design and Behavior*, 5th ed. (New York: Delmar Press, 2006):382-414.

12. LP Casalino. "Physicians and Corporations: A Corporate Transformation of American Medicine?" *Journal of Health Policy, Politics, and Law*, 2004; 29(4-5):869-884.
13. Committee on the Cost of Medical Care, *Medical Care for the American People*, (Chicago: University of Chicago Press, 1932).
14. SM Shortell, RR Gillies, DA Anderson, et al. *Remaking Health Care In America: the Evolution of Organized Delivery Systems*. San Francisco: Jossey-Bass, 2nd Edition, 2000.
15. SM Shortell and J Schmittdiel, *ibid*, 6-13
16. FJ Crosson. "The Delivery System Matters", *Health Affairs*, 24, 6(November/December, 2005):1543-1548.
17. D Rittenhouse, et al. "Physician Organizations and Care Management in California: From Cottage to Kaiser", *Health Affairs*, 23, 6(2004):51-62.
18. RR Gillies, et al. "The Impact of Health Delivery System Organization on Clinical Quality and Patient Satisfaction", *Health Services Research*, 41, 4(August, 2006 Part 1):1181-1199.
19. A Mehrotra, et al. "Do Integrated Medical Groups Provide Higher Quality Medical Quality than Individual Practices Associations", *Annals of Internal Medicine*, 145(2006):826-833.
20. KH Chuang, et al, "The Clinical and Economic Performance of Prepaid Group Practice", and for the 21st Century Health System: The Contributions and Promise of Prepaid Group Practice, ed. AC Enthoven and LA Tollen, (John Riley and Sons, San Francisco, 2004):45-60.
21. L Casalino, et al, "Benefits of and Barriers to Large Medical Practice in the United States", *Archives of Internal Medicine*, 163, 16(2003):1958-1964.
22. JC Robinson. *The Corporate Practice of Medicine: Competition and Innovation in Healthcare*, (Berkeley: University of California Press, 1999).
23. RA Berenson, PB Ginsburg, and JH May. "Hospital-Physician Relations: Cooperation, Competition, or Separation?" *Health Affairs*, (December, 2006); W31-W43.

24. MV Pauly and M Redisch. "The Not-for-Profit Hospital as a Physicians Cooperative", *American Economic Review*, 63, 1, (1973):87-99.
25. P Starr. *The Social Transformation of American Medicine*, New York: Basic Books (1982).
26. R Stevens. *In Sickness and in Wealth; American Hospitals in the Twentieth Century*, New York, Basic Books (1989).
27. ES Fisher, et al. "Creating Accountable Care Organizations: The Extended Medical Staff", *Health Affairs*, online, (December 5, 2006).
28. WP Welch and ME Miller. "Proposals to Control high-Cost Hospital Medical Staffs", *Health Affairs*, 13, 4, (1994): 42-57.
29. AHA Hospital Statistics, Chicago, IL., 2007.
30. D Cortese and R Smoldt. "Taking Steps Towards Integration", *Health Affairs*, (December 5, 2006): W68-W7
31. LP Casalino. "The Federal Trade Commission, Clinical Integration, and the Organization of Physician Practice", *Journal of Health Policy, Politics, and Law*, 31,3,(2006):569-586.
32. E Hing "National Ambulatory Medical Core Survey: 2004 Summary". CDC Advanced Data from Vital and Health Statistics, No. 374 June 23, 2006.
33. HH Pham, D Schrag, AS O'Malley, et al. "Care Patterns in Medicare and Their Implications for Pay for Performance." *New England Journal of Medicine*, 356(2007):1130-1139.
34. VR Fuchs. "Health Care Expenditures Reexamined." *Annals of Internal Medicine*, 2005;143(1):76-78.
35. Institute of Medicine, *Performance Measurement*, (National Academy Press, Washington DC, 2006).
36. AK Jha, T Ferris, and K Donelan et al. " How Common Are Electronic Health Records in the U.S? A Summary of the Evidence", *Health Affairs*, 6, 25 (2006): W496-507.
37. Kovner, TG Rundall. "The Promise of Evidence Based Management: From Guess Work to Best Work." *Frontiers of Health Services Management*, 22, 3(2006):3-22.

38. SM Shortell, TG Rundall, and J Hsu. "Improving Patient Care by Linking Evidence-based Medicine and Evidence-based Management", *JAMA*, forthcoming, 2007.
39. National Academy of Engineering and Institute of Medicine, *Building A Better Delivery System: A New Engineering/Healthcare Partnership*. (National Academy Press, Washington DC, 2005).
40. GM Hackbarth. Assessing Alternatives to the Sustainable Growth Rate System. Committee on Finance, U.S. Senate. Washington, DC. March 1, 2007.
41. MB Rosenthal, RG Frank, Z Li, et al. "Early Experience with Pay For Performance: From Concept of Practice." *JAMA*, 2005;294:1788-1792.
42. MB Rosenthal, RA Dudley. "Pay For Performance: Will the Latest Payment Tread Improve Care?", *JAMA*, February 21, 2007;297:740-744.
43. MB Rosenthal, RG Frank, "What is the Empirical Basis For Paying For Quality in Healthcare?", *Medical Care Research and Review*. 2006;63:135-157.
44. Integrated Health Association, California's Pay For Performance Demonstration. San Ramon, California, 2006.
45. HS Luft, "Mandated Coverage – Not 'Whether but for What': Redesigning Insurance and Payment Incentives Through An Episode-based Model", *Health Affairs*.
46. JH Hibbard, JJ Jewett. "Will Quality Report Cards Help Consumers?", *Health Affairs*, 16, 3(1997):218-228.