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Prologue: In anticipation of reforms at either the state or the national level and in response to rising costs, health care organizations are changing rapidly. “Managed care” has taken on new meanings as the lines traditionally separating hospitals, physicians, and insurers begin to blur. Policymakers struggle to define this new concept of managed care, sometimes referred to us “integrated service networks” or “organized delivery systems.” These entities combine the organization, financing, and delivery of health care in ways that respond to the demographics and economics that prevail in different regions of the country. Ultimately, the system should provide appropriate care in a seamless continuum that uses limited resources most effectively. The way these new organizational hybrids grow and develop in their early years has important implications for the health and health care of Americans for years to come. In this paper Stephen Shortell and colleagues outline their research on organized delivery systems, describe the barriers such systems face, and raise key policy questions that must be answered. Shortell is the A.C. Buehler Distinguished Professor of Health Services Management and professor of organization behavior at Northwestern University’s J.L. Kellogg Graduate School of Management. He has been described by one of his peers as “the premier health services researcher” in the area of health services management and organization. He holds a doctorate in behavioral science from the University of Chicago Graduate School of Business. Robin Gillies is a research assistant professor at the Center for Health Services and Policy Research at Northwestern; she holds a doctorate in political science from Northwestern. David Anderson is partner in charge of National Health Systems Integration Practice for KPMG Peat Marwick.
Abstract: In response to managed care pressures and imminent legislative reforms, provider organizations across the United States are coming together to form organized or integrated delivery systems. This paper describes various approaches to developing such systems and, drawing on ongoing research, examines what is known about the performance of such systems, the barriers they face, and the key factors likely to be associated with their success. The paper also addresses important policy questions related to the extent to which organized delivery systems should be actively encouraged by health reform legislation and how such systems should be held accountable.

Clearly, the organizational landscape of health care delivery is being rearranged. The nation’s hospitals are merging, consolidating, and aligning at a dizzying pace; more than 40 percent of physicians are practicing in groups, and existing physician groups are beginning to consolidate; physicians and hospitals are forging new strategic alliances; and formerly hospital-based systems are reinventing themselves as broad-based, vertically integrated delivery systems embracing primary care, wellness, home health, long-term care, hospice care, and related components of the continuum of care. An emerging organizational model that incorporates many of these factors is known as organized or integrated delivery systems, also referred to as integrated delivery networks.¹

We define an organized delivery system as a network of organizations that provides or arranges to provide a coordinated continuum of services to a defined population and is willing to be held clinically and fiscally accountable for the outcomes and the health status of the population served.² Most such systems own or are closely aligned with an insurance product. It is important to note, however, that the definition does not require that all entities have a common ownership. Rather, it allows for a variety of contractual arrangements and strategic alliances.³ What ties the system or network together is its clinical and fiscal accountability for a defined population. It is not known how many systems or networks in the United States now meet this definition. We do know, however, that approximately 300 hospital systems belong to the American Hospital Association’s (AHA’s) Health Systems Section, Many of these appear to have most of the components of an organized or integrated delivery system. To this we might add large multispecialty group practices such as the Mayo, Ochsner, and Cleveland clinics; selected staff- and group-model health maintenance organizations (HMOs) such as Kaiser Permanente and Group Health Cooperative of Puget Sound; some of the newer networks organized around physician groups such as the Mulliken and Friendly Hills groups in southern California; and insurance companies such as Aetna, Prudential, and CIGNA.

Based largely on an ongoing program of research, this paper provides some early knowledge about the issues, challenges, and behavior associated with these new delivery models. We highlight the incentives driving the
creation of integrated delivery systems; describe the various models that are emerging; summarize what has been learned to date; identify barriers to system integration and some key success factors for creating effective systems; and suggest a few of the more important public policy implications.

**Drivers And Models**

**Drivers.** The primary driver behind the formation of integrated delivery systems is the new economics of managed care. This driver predates current and proposed state and national health care reform initiatives, as employers and major purchasers in California, Florida, Minnesota, Oregon, Pennsylvania, Wisconsin, and other states become more active in managing the growing costs of medical care. Initiatives at the state and federal levels are accelerating this trend. The new economics goes beyond the first generation of managed care, which emphasized discounts from established charges, utilization review, and second opinions, and is based on providing care to a defined number of enrollees at a capitated or fixed rate per member per month. Under capitation-based health care, all of a provider’s or a system’s revenue is earned “up front” when contracts are negotiated. As a result, all system components–hospitals, physician groups, clinics, and so forth–become cost centers to be managed under the capitation-based budget. Cost centers do not generate revenue as in the old world of indemnity-based fee-for-service medicine. Then, more volume meant more profit; now, more volume means less profit.

The new world creates incentives for keeping people well by emphasizing prevention and health promotion practices and, when people become sick, treating them at the most cost-effective location in the continuum of care. The new economics of managed care also creates incentives for underuse of services, which could be harmful to patients. Some people argue that use of various quality-monitoring and patient outcome measurement systems that tie provider compensation in part to meeting quality and outcome criteria can guard against undertreatment. Further, they point out that there is market pressure to provide high-quality care because systems that achieve cost savings at the expense of patient outcomes or lower patient satisfaction place themselves at a competitive disadvantage in the following years’ negotiations. In brief, the bottom line of the new managed care economics appears to be the demand for “value,” which is defined as being able to provide additional quality-enhancing features that purchasers desire for a given price, or, conversely, being able to provide a given set of quality attributes or outcomes for a lower price.

This dynamic poses two critical strategic challenges to individual providers: differentiation and integration. The differentiation challenge involves...
being able to offer or arrange to offer the full continuum of care at geographically accessible locations throughout a given market to capture a sufficient number of enrollees to make the system viable. The integration challenge lies in coordinating the continuum of care across the relevant market area of interest. At the heart of this process is the ability to clinically integrate services in local markets. Providers acting alone or in loose affiliation will have great difficulty providing and coordinating the full continuum of care to compete effectively in the new world of managed care economics. This need to simultaneously differentiate and integrate represents the internal logic of system development in the new managed care economy. We return to this point later.

**Models.** The model integrated delivery system shown in Exhibit 1 depicts a defined or enrolled population that has insurance coverage for a predetermined set of benefits. These persons receive care from an integrated delivery system that encompasses primary care providers, specialists, ambulatory care centers, home health care agencies, hospitals, and so on.

### Exhibit 1
**Model Of Integrated Service Delivery**

- **Defined population(s) and benefit plan(s)**
- **System/network integrator or organizer**
  - Hospital/health system–led
  - Physician group–led
  - Hospital/physician group–led
  - Insurance company–led
- **Insurance role**
- **Alternative payment mechanisms**
  - Full capitation
  - Mixed capitation/fee-for-service
  - Others

- **Primary care providers**
- **Hospitals**
- **Specialists**
- **Subacute units**
- **Ambulatory care centers**
- **Nursing homes**
- **Home health**
- **Hospice**
Payment could come from a variety of arrangements, ranging from fee-for-service to capitation. For purposes of illustration, capitation is assumed.

One approach to organizing a network is to base it on an existing hospital/health system with capitated payment fixed at the system level overall. This model is the most prevalent form, mainly because of the financial, organizational, and leadership resources and expertise these systems possess. These advantages, however, can be offset by an overemphasis on acute care, focused on filling hospital beds, which runs counter to the demands of population- and capitation-based delivery models. Whether or not a hospital-led model would want to take on the insurance function depends on the incentives (and costs) involved. For example, given stringent cost containment demands by purchasers, hospital-led systems might want to reduce their overall cost structure by eliminating the “middleman” and incorporating the insurance function themselves. Hospital-led systems also might want to incorporate the insurance function if it enables them to gain more enrollees. On the other hand, some hospital-led systems will “contract out” or form strategic alliances with an insurance company because many systems lack sufficient knowledge or expertise to perform the insurance function themselves.

A second approach is to organize around physician groups that own or lease hospital beds as needed. Potential advantages of such models are their closeness to the “customer” (the patient) and, under capitation, the alignment of economic incentives with the primary provider of care (the physician). The physician organization accepts responsibility for enrollees’ health status and thus has incentives to use all resources—including hospital care—prudently in meeting patients’ needs. Potential disadvantages, however, are that many physician groups do not have sufficient size, capital reserves, or managerial expertise to run an integrated delivery system. They also are even less likely than hospital-led systems to take on the insurance function and are more likely to enter into contractual relationships with carriers. This can involve high monitoring and transaction costs.

A third approach is a hybrid hospital/physician-led system. It is interesting to note that many hospital-led integrated delivery systems, in fact, have created “subsidiary” physician/hospital organizations (PHOs) for purposes of aligning hospitals’ and physicians’ economic interests in pursuing managed care contracts. The advantages of a hybrid model spring from combining the financial and organizational reserves and expertise of the hospital component with the clinical and patient focus of the physician component. This model, however, relies on a great deal of trust between hospitals and physicians, effective leadership on both sides, and a mutual commitment to work through problems. In addition, problems often arise when the physician component is overly dominated by specialists at the expense of input
Finally, the integrated delivery system can be organized around insurance companies. This model is likely to prevail in areas of the country lacking hospital- or physician-led prototypes. Its advantages include actuarial expertise, claims administration, and marketing expertise. A potential major disadvantage is a lack of understanding of the provider “business” and the intricate network of professional and institutional relationships that must be maintained across the continuum of care.

While the discussion thus far has assumed overall capitation, it is possible to split the capitation between hospital and physician services. For example, capitating the physician portion of care but paying hospitals per diem would create incentives for physicians to use more hospital care. To offset this, incentive payments might be designed for hospitals that have better-than-expected utilization performance. The opposite scenario exists, of course, if the hospital portion is capitated but physicians are paid fee for service. To the extent that payment arrangements differ for the hospital and physician components, additional problems and tensions will be created, and common incentives will be weakened. In these situations, it is likely that the joint hospital/physician-led integrated delivery system model will fare better at reconciling the divergent economic incentives. To the extent that fee-for-service and per diem arrangements continue to predominate, better organized and more centrally directed networks are likely to perform better than looser networks. From a public policy perspective, it would appear that a full alignment of economic incentives between hospitals and physicians (capitation at the level of the system overall) has the greatest potential for achieving needed levels of service integration and alignment of economic interests. While it places both parties at greatest risk, it also places both parties in a position to achieve the greatest overall rewards. Existing data suggest that the greatest potential for cost savings under capitation is in the area of hospital care, with a potential 35 percent reduction from $40 per member per month to $26 per member per month, and specialist care, with a 16 percent reduction from $24 per member per month to $20 per member per month.6

What Is Known About Organized Delivery Systems?

The Health System Integration Study. Evidence about the first generation of multihospital systems suggests that, overall, these systems did not demonstrate superior cost, quality, or access performance compared with independent hospitals.7 This appears to be because they focused primarily on creating administrative economies of scope and scale, engaged in diversification efforts that were largely unrelated to each other, and did not
integrate pieces of the system to provide more cost-effective care. The question now is whether the new generation of expanded health systems has the capability to demonstrate superior performance to meet the challenges of local market reform and state and national legislative reforms.

While it is too early to answer this question definitively, we have been studying eleven evolving integrated delivery systems over the past four years in an effort to get a “running start” on the issue. These systems primarily began as hospital systems but in recent years have added significant physician and insurance components. The systems range in size from total assets of approximately $500 million to more than $2 billion; total net revenue of approximately $500 million to more than $2 billion; and between four and fourteen hospitals and up to 120 primary care and postacute care units. All but one have full or partial ownership involvement in an HMO or a preferred provider organization (PPO), all have at least one PHO of one form or another, and all but one have a systemwide vice-president for clinical affairs (or similar title) whose responsibility it is to provide overall leadership for physician and clinical integration, including development of clinical outcome measures.

Our thesis is that these systems will be successful only to the extent that they achieve the requisite degree of service integration at the clinical level. Clinical integration is defined as the extent to which patient care services are coordinated across the various personnel, functions, activities, and operating units of a system.8 While there are many approaches to such integration, the bottom line is whether patient care, disease prevention, and health promotion activities are conducted in radically different ways than in the past.’ Our research suggests that clinical service delivery integration is facilitated by certain forms of functional integration and by integrating physicians into health systems. Functional integration is defined as the extent to which key support functions and activities (such as financial management, human resources, strategic planning, information management, and quality improvement) are coordinated across operating units so as to add the greatest overall value to the system of care. Physician-system integration is defined as the extent to which physicians identify with a system, use the system, and actively participate in its planning, management, and governance.

Findings: Degree of integration. We found that systems achieve a greater degree of integration under the following conditions: (1) members identify with the mission and values of the organization; (2) strategic planning processes are in place that promote relevant input from across the system; (3) information systems attempt to provide clinical data across the system; and (4) budgeting policies and practices promote coordination across service lines. In addition, quality assurance/improvement processes that are
shared across system operating units and systems with the ability to allocate resources across operating units achieve greater clinical integration. These functions and activities constitute the management infrastructure that must be in place to promote physician-system and clinical integration.

As suggested, physician-system integration was strongly associated with clinical integration. It is simply not possible to achieve any measurable level of clinical integration for patients without a close relationship of physicians with an organized delivery system. In particular, the percentage of physicians practicing in multispecialty groups and the percentage practicing in system-owned or system-managed facilities were significantly associated with such measures as the number of clinical treatment protocols developed, the percentage of clinical outcome measures collected, and the percentage of shared clinical service lines. We also found that systems that were further along in physician-system and clinical integration activities perceived local and state health care reform as much less threatening than did those that were less further along in their integration activities.

Financial performance. Preliminary findings suggest that more integrated systems have better financial performance and score better on a composite performance index relative to competitors. For example, the greater the degree of overall perceived physician-system integration, the greater the system’s inpatient productivity (for example, in terms of full-time-equivalent staff per adjusted inpatient admission) \((r = .64; p <= .01)\). Also, the greater the percentage of physicians practicing in primary care groups, the greater the system’s total operating margin \((r = .51; p <= .05)\); and the greater the percentage of physicians in single-specialty groups, the greater the system’s cash flow \((r = .48; p <= .06)\). A greater degree of overall perceived clinical integration was positively associated with greater total net revenue \((r = .47; p <= .06)\) and inpatient productivity \((r = .66; p <= .01)\). Further, a growing percentage of system revenue and profits is coming from their managed care entities rather than from hospitals, and in three systems these entities already account for a majority of the system’s revenues and profits. These findings must be interpreted cautiously because they represent cross-sectional data and do not take into account other factors that may influence systems’ financial performance. Ideally, one also would want to examine the relationship between physician-system/clinical integration and various clinical outcomes of care, population-based health status measures, patient satisfaction data, and functional health status measures. These were beyond the scope of the study at the time, but they are examples of the type of data that must eventually be collected and systematically examined to address the ultimate performance of organized delivery systems.

We also compared the composite financial performance of each system’s hospitals with that of its most significant market competitors as identified
by the systems themselves. The composite performance measures were
drawn from the Health Care Investment Analysts (HCIA) database and
included market share, operating cost per admission, net patient revenue
per admission, percentage federal patients (largely Medicare), capital ex-
 pense load, productivity, and profitability for 1992. Each item was
weighted for relative importance from 10 to 20 points, adding up to 100
points. “Strength” points were computed where the performance of a sys-
tem’s hospitals exceeded that of its market competitors on the above
criteria, and “risk” points were computed where the reverse was true. A net
score was then computed with a range of plus 100 to minus 100 points. This
measure of composite financial performance relative to market-area com-
petitors was then plotted against each system’s overall perceived level of
integration (Exhibit 2). As indicated, there is a generally positive relation-
ship between the level of integration and composite financial performance
relative to competitors. The exceptions are System A, with an above-
average level of integration but comparatively poorer financial performance
(primarily because of recent acquisitions), and System I, with average
integration but high comparative composite financial performance. Most
other measures of integration also showed generally positive relationships
with comparative composite financial performance. These data are only
suggestive; they are limited to a single point in time, are subject to the
accuracy of the secondary database, use the same criteria weights regardless
of hospital market, and exclude some competitors for which complete data
were lacking. Most important, they are limited to hospital financial per-
formance and do not capture performance across the health system.

Exhibit 2
Relationship Between Overall Perceived Integration And System Hospitals’ Composite
Financial Performance

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Comparative financial performance of hospitals
Finally, selected data were collected from five systems on the integration of financing and delivery through ownership of managed care plans. This strategy was pursued as a way of capturing additional patients and as an opportunity to learn to manage risk in a world of increasingly capitated payment. Data collected included (1) the size and financial performance of the managed care plans owned or sponsored by the systems; (2) the extent to which payments were made to in-system or out-of-system providers; (3) the volume, revenue, and operating income generated as a result of contractual arrangements with managed care plans; (4) various structural characteristics of the managed care plans with the greatest volume of activity; (5) the degree of physician involvement in managed care contracts that involve risk sharing; and (6) the extent to which there was a common managed care infrastructure among participating operating units.

Enrollment in the systems’ managed care plans ranged from 115,000 to 1,704,245 persons, with an average net income of $11,567,000. Hospital payments made by the systems’ managed care plans to in-system hospitals averaged around 35 percent, with a wide range of 7 percent to 85 percent. The respective figure for physicians was 18 percent, with a range of 2 percent to 100 percent. Thirty-two percent of total inpatient days for system hospitals were derived from managed care plans, with 9 percent of the days derived from the systems’ own managed care plans. Thirty-five percent of net operating unit income was derived from managed care plans overall, with 12 percent coming from the systems’ own managed care plans. About 40 percent of the significant managed care contracts were multiyear contracts averaging around two years in duration. Fifteen percent of the significant contracts were based on fully capitated payment, and this increased to 24 percent for the systems’ managed care plans. Also, 15 percent of the significant contracts were based on per case payment, and this also increased to 24 percent for the systems’ own managed care plans. Twenty-three percent of the active physicians were involved in managed care contracting that involved some degree of mutual risk sharing, but with a wide variance. Finally, most systems share at least some of the following features of a managed care infrastructure: contracting, claims processing, third-party administration, member services, utilization management, quality management, and uniform pricing.

Environmental factors that influenced the degree of managed care activity within a system included the number of other systems in a given market and the number of physicians practicing in multispecialty groups of twenty-five or more. Further, managed care activity was greater among systems with more physician involvement in top system management positions and systems with more physicians practicing in system-owned or affiliated practices. Interestingly, the greater the number of a system’s operating units
sharing diagnostic and treatment protocols, the greater the enrollment in the system’s managed care plans and the profitability of those plans.

**Summary.** Taken as a whole, these findings provide consistent support for the thesis that functional integration, physician-system integration, and clinical integration are interrelated. In addition, they suggest some of the factors that are associated with these relationships and, therefore, some potential areas for policy intervention. These interventions are likely to be more effective if they are grounded in an understanding of the barriers to system integration efforts.

**Barriers To System Integration**

A major external barrier to forming more integrated systems is the mixed financial incentives that providers face from insurers and payers. Other barriers identified through two waves of field visits to all of the systems studied involve (1) the embryonic development of most clinical information systems; (2) the lack of adequate geographic concentration of facilities; (3) ambiguous roles and responsibilities; (4) an overemphasis on the acute care hospital paradigm; (5) the lack of strategic alignment; (6) the inability to execute the system’s strategy; and (7) the inability to “manage” managed care. Since these have been discussed in detail elsewhere, we highlight only a few of the more policy-relevant barriers here.11

**Clinical information systems.** The demand for increased accountability that market and legislative reform will place on systems represents a major challenge. This will be particularly true for those systems and networks assembled primarily through affiliations, consolidations, joint operating agreements, and mergers involving disparate information systems. In addition, systems must expand their information capabilities to link patients and providers across all settings involved in the continuum of care, from acute inpatient care to care provided in the physician’s office to care provided in the patient’s home. These efforts will require an enormous investment of capital. As evidence of this, some systems will spend more than $100 million over the next several years to develop clinical information capabilities. Policymakers must have an informed understanding of what systems of providers will realistically be able to produce in response to legitimate demands for increased accountability.

**Overemphasis on the acute care hospital paradigm.** Most of the systems studied are in the process of reinventing themselves as primary care, physician-centered, population-based delivery systems, moving away from the acute care hospital focus of the past. But traditional behavior dies hard, as evidenced by claims that the rationale for growth in primary care is to “feed” the hospital with admissions; a continued focus on the needs of
specialists rather than on building primary care physician groups; and continued investment in “pet” hospital projects that are not consistent with systemwide priorities. These problems were particularly severe for systems with a “cash cow” hospital (the hospital that has made the most revenue for the system and around which the system was built). Public policy that continues to encourage use of expensive hospital resources (such as through mixed payment incentives) works at direct cross-purposes to efforts to develop a more broadly based, integrated continuum of care centered on primary care.

**Managing managed care.** Most systems are in a stage of transition, caught somewhere between fee-for-service indemnity-based insurance on the one hand and 100 percent population-based capitation on the other. As a result, they face internal market problems between their own managed care product and competitive products in the marketplace. For example, some systems’ hospitals get a better deal from competing managed care products than from the system’s own product. In addition, these systems face the difficult challenges of putting the building blocks of managed care in place, including expanding the number of physicians practicing in groups and developing the clinical information systems that can produce the kind of cost, quality, and outcome data required by purchasers.

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**Key Success Factors**

Our research has identified four critical success factors for the development of effective organized delivery systems: ability to (1) make the system the right size; (2) conduct relevant population-based health status/needs assessment; (3) assume capitation-based risk for defined populations; and (4) develop new management and governance models.

**Sizing the system.** The first question that integrated delivery systems must answer is, Whom do they want to serve? This involves many issues related to size, composition, and geographic distribution of a system’s current facilities; its ability to create economies of scope and scale; local geographic factors; the extent to which the employment base is concentrated or dispersed through geographic areas; and the presence and location of competing systems and providers. Systems need to have sufficient geographic presence to cover both the place of employment and the suburban areas where people live. The issues involve the breadth and depth of services to be offered. By **breadth** is meant the number of different kinds of facilities and services to be offered across the continuum of care. Depth refers to the number of different facilities and services within specific categories that can be provided. Based on the answers to these questions and examination of the health needs of the desired enrollees, estimates of
resource requirements can be derived. For example, some have estimated that to care for 450,000 enrollees, a given system would need approximately 275 primary care physicians, 255 specialists, and 900 hospital beds. To this one might add perhaps two home health agencies, several nursing homes, and one or two hospices. To effectively care for a population this size or larger, planners may need to develop subregions within the network. For most existing systems, these are sobering figures since many delivery systems now have three times as many specialists, twice as many hospital beds, and yet only about one-half to two-thirds the needed number of primary care physicians.

Population-based health status/needs assessment. If integrated delivery systems are to be held responsible for the health status of populations, then they will need to do a better job of assessing the needs, demands, and preferences of their population. This will involve not only using existing secondary data but also collecting primary data on population subsegments such as the poor and near-poor, minorities, and others for whom adequate secondary data are lacking. In conducting such assessments, systems will need to foster closer linkages with public health and social services agencies in the community. Analysis of these data may reveal areas in which systems can forge cooperative programs and agree to share responsibility for certain populations that cut across geographic boundaries.

It is particularly important that such assessments focus on community wellness and health promotion and not exclusively on perceived or diagnosed illness. With this focus, it may be possible to forestall the need for acute care or minimize the cost of managing long-term chronic illness through appropriate secondary prevention programs.

Ability to assume capitated-based risk. The ability to assume capitated-based risk is central to system success. For systems to go at risk, they must be able to (1) integrate physicians into the system, (2) develop the necessary functional support systems, and (3) achieve requisite levels of clinical integration through a comprehensive community care management system. Since these have been previously discussed, we elaborate on only a few points here. First, there needs to be an adequate supply of primary care physicians to act as gatekeepers and coordinators of care; and these physicians must practice in groups so as to expedite the generation of clinical outcome data across a large enough volume of patients for statistically valid findings, as well as to speed communication and learning across groups of caregivers. Physicians practicing in groups also provide a forum for engaging in constructive debate on how capitated dollars should be spent.

Second, strategic planning needs to focus increasingly on primary care and multispecialty physician groups rather than on hospitals. In addition, continuous quality improvement will need to focus on the most important
health needs of the population served and, therefore, the most important strategic priorities of the system. The challenge is to create an organization-wide impact in regard to quality improvement over time. Further, systems must undertake more formal assessments of the relative cost/benefit ratios of alternative technologies compared with the health needs of the population and the ability of the system to use the new technology.

The third major factor—the development of a community care management system—begins with assessing population needs, developing resource requirements based on these needs, and then engaging in a continuous cycle of what we call community-based care management. The cycle begins with knowledge of the current state of the science and art of medical practice and health care. This means having a “window” on the latest research regarding outcomes and clinically effective practices. This in turn becomes input for design of the system’s own clinical care protocols and guidelines, which leads to development of the system’s overall continuous improvement processes. Reanalysis and assessment of these results are then combined with evidence from other sites nationally. All of this is anchored by the information systems noted earlier.

**New management models.** The new system demands that physicians, nurses, and other caregivers provide care differently than has occurred in the past. To fully support these efforts, the governance, management, and clinical practice elements of the new integrated systems must be aligned. Suggestions for achieving this have been described elsewhere.

The new leadership of health systems will be much more interdisciplinary than the current generation is, involving physicians, nurses, and other clinicians with management expertise as well as executives from other fields who will “step up” to the challenges of building more integrated delivery systems.

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**Public Policy Implications**

It is important to emphasize that to date most of the organized or integrated delivery systems have developed primarily in response to local market reform by purchasers and payers and not to legislative reform. Current reform proposals are likely to extend the incentives to reorganize delivery systems more evenly across the country in those areas and markets not yet touched by local market reform. They will also reinforce and intensify the incentives that already exist in the more mature managed care markets. In this regard, two questions assume importance. First, to what extent (if any) and in what ways should public policy encourage the formation of organized delivery systems? Second, to what extent and in what ways should public policy hold such systems accountable?

**Formation of organized delivery systems.** It is possible to argue that in
the absence of more definitive evidence regarding the superior performance of organized delivery systems, special incentives are not needed to encourage their formation. One could, for example, imagine passage of the Organized Delivery System Act of 1995 similar to the HMO Act of 1973. Somewhat more was known, however, about prepaid group practice in 1973 (although not much more) than is now known about organized delivery systems. Short of passing such legislation, national and state policymakers could do several things to encourage more coordinated and cost-effective health care delivery. These include (1) development of common financial incentives; (2) development of a common benefit package; (3) changes in licensure and certification laws permitting more flexible use of health professionals; (4) federal health work-force policy that encourages increases in the number of primary care providers; and (5) initiatives that promote more informed consumer choice.

Of these, by far the most important is the development of common financial incentives to provide the necessary economic discipline for hospitals, physicians, and other components of the system to provide more integrated care. The greatest frustration expressed by physicians and executives alike interviewed in our study was the inconsistent and often directly contradictory financial incentives arising from the mixture of fee-for-service, discounted-price, diagnosis-based, and partial capitation payment arrangements. Until common economic incentives are created for hospitals, physicians, and others to work together, progress in achieving true clinical integration of care at the local community level will be agonizingly slow. Our research and experience suggest that comprehensive capitated payment arrangements covering the entire continuum of care are most likely to promote clinical integration. While the number of observations is too small to draw conclusions, we found that systems with a greater degree of capitated payment tended to be further along with clinical integration. Further, other data suggest that some integrated systems can respond quite rapidly when faced with capitated payment arrangements reducing length-of-stay for Medicare patients from 6.6 days to 5.1 days in one month; reducing length-of-stay for the top ten diagnosis-related groups (DRGs) from five days to four days after six months; and reducing length-of-stay for coronary artery bypass graft (CABG) surgery from ten days to 6.5 days after one year.14 Supporting the above, we found one of the study systems managing its CABG patients under a four-day protocol and another proposing a three-day protocol.

Implementation of a common benefit package promotes potentially more integrated care delivery because it establishes the parameters of services to be offered by everyone. Financial considerations aside, the more comprehensive the benefit package, the greater the potential for coordi-
nated care. For example, long-term care and mental health services will never be well coordinated with other care if they are “carved out” or left out altogether from the benefit package. Benefit design influences delivery system implementation just as much as payment incentives do. Policy-makers must carefully consider the implications of both.

Most of the study systems are involved in concerted efforts to retrain and cross-train personnel to create a more flexible work force that can be used interchangeably in providing care across treatment settings. This includes not only administrators, nurses, and therapists, but also physicians. A major barrier faced by many systems is restrictive personnel licensure and certification requirements. Many of these are, of course, a result of each profession’s interest in protecting its turf and professional identity. These forces, however, need to be broken down and opportunities provided for experimentation in using personnel in new ways. As hospitals downsize and some health professionals fear for their jobs, they appear more open to new professional opportunities that diverge from their original training and professional identity. Legislation is needed to promote cross-training and to use clinical outcomes and patient satisfaction data to supplement formal education in deciding what existing providers can and cannot do.

As primary care, wellness, and health promotion replace acute inpatient care at the center of the health system, policies that promote greater production of professionals in these areas will be sorely needed. This is true in regard to not only primary care physicians but also nurse practitioners, physician assistants, and health educators. Many health reform proposals contain provisions to increase the supply of these professionals and, thereby, begin to address a major disjuncture between the current “product” of most medical and health professional schools and the needs of the delivery system. The content of such education, however, must give greater emphasis to learning and working in teams; promoting systems thinking; exposing students to continuous quality improvement/total quality management methods, practices, and philosophies; the use of protocols and pathways; cost-effectiveness and cost/benefit analysis; clinical epidemiology; and community health status outcomes assessment.

Public policy also can encourage more integrated provision of care through promoting more informed consumer choice of health plans and treatment options. Examples include requiring clearly stated, written descriptions of benefit plans; disseminating information to the public on plan performance; and requiring individual choice of plans.

Two additional policies that might explicitly encourage more organized/integrated delivery systems and networks are a more flexible application of antitrust legislation to facilitate the formation of various alliances, consolidations, and mergers; and policies to encourage the formation of physician
Without physicians practicing in groups, it is difficult to develop protocols and pathways of care; to develop reliable, valid outcome measures; to facilitate communication of patient information across providers; and, essentially, to assume risk for enrolled populations. One idea would be to provide direct subsidies for the formation of group practices, similar to subsidies to medical schools to train more primary care physicians. Alternatively, systems with higher percentages of physicians organized into group practices could be allowed to keep a higher percentage of achieved savings under capitated budgets. These policies might be needed for only a limited time to stimulate growth in group practices. Systems then would compete based on multiple performance dimensions outlined below and their ability to capture enrollees in negotiations with purchasers.

**Accountability.** The second policy question asks, What should the public expect from such systems? We believe that the answer lies in holding these systems and other forms of health care delivery accountable for the cost-effective delivery of health services and, ultimately, the health status of communities served consistent with the nation’s stated health care objectives. One step toward this goal would be to establish “balanced,” scorecards of health system performance similar to those established by some leading companies. These scorecards would include financial criteria (such as costs of services provided per enrolled member adjusted for health status of the populations served); access criteria (such as the percentage of Medicaid enrollees below and near the poverty line for whom the system provides care); quality criteria (the provision of appropriate care consistent with established guidelines and protocols); and outcome criteria (severity-adjusted clinical outcomes for selected conditions and procedures and patient satisfaction data). Over time, communitywide health status measures such as infant mortality, preventable mortality and morbidity, immunization rates, and population-based measures of health and well-being should be incorporated. Many of these measures are not yet widely available, but considerable effort and some progress are being made.

**Signposts of integration.** In the meantime, present research suggests that the types of behavior that one should observe in more integrated health systems include significant downsizing of acute care capacity; consolidation of programs and services; development of cross-institutional clinical service lines such as in cardiovascular care, oncology care, behavioral medicine, and women’s health; expansion of the number of primary care physicians; growth of both primary care and multispecialty group practices; development of clinical protocols, pathways, and care management systems; acceleration of the clinical applications of continuous quality improvement and expansion to the entire continuum of care; development of outcome measures; and the previously noted balanced scorecard ap-
proach to assessing system performance. One also should observe much closer ties between such systems and local public health and social welfare agencies, schools, prisons, police departments, and related organizations.

Concluding Comments

Our experience suggests that the organized or integrated delivery system concept is amenable to any particular national health care reform legislation. The concept is also flexible and adaptable to meet numerous local market conditions. This is evidenced not only in our in-depth analysis of the eleven systems in the current study, but also by more casual observation of other examples across the country. Systems and networks are forming daily in response to local market conditions, as well as to threats that some people perceive in state and national health care reform proposals.

Nonetheless, it must be acknowledged that most such systems are in the early stages of clinical integration, that there are considerable barriers to achieving such integration, that a more comprehensive set of performance measures is needed, and that more research comparing the different models of system/network formation is required. At the same time, we need to remember that neither policy nor practice can wait until “all the evidence is in” or the “critical experiments” are conducted. Present research suggests that the field is already moving forward rapidly. The systems under study have committed significant amounts of time, energy, and resources to developing more clinically integrated systems of care to serve defined populations. It may be that these systems know something that the policymakers do not. Or, in the paraphrased comments of several respondents: “Let’s pass health reform and get on with it. We can deal with capitation and budgets. But we need to know what we’re shooting at.”
NOTES


