Health Economics & Outcome Research: Open Access

Enthoven, Health Econ Outcome Res Open Access 2016, 2:2
DOI: 10.4172/2471-268X/1000115

Review Article Open Access

What is an Integrated Health Care Financing and Delivery System (IDS)? and What must would-be IDS Accomplish to Become Competitive with them?

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Keywords: Health care; Health expenditures; Health economics

Introduction

America's health care financing and delivery system is in transition from the traditional open-ended uncoordinated solo (or small single specialty group) practice, with a culture of physician autonomy, paid on the basis of fee-for-service ("FFS"), to integrated delivery systems (IDS) characterized by multi-specialty medical groups bearing risk for the cost of care, with a culture of teamwork and coordination of care. This transition is being driven by several factors: first, the burden of the cost of care in the USA has become intolerable. It is straining public finances at every level of government, crowding out spending on other needs such as education and infrastructure, deficit and debt reduction, national security, and it is taking an increasing share of what otherwise would be wages. Far from all being necessary or beneficial for health, a report by the National Academy of Sciences estimated that some 30 to 40 percent of health care spending in the USA is waste [1]. In their recent report, the Actuarial Team at the Department of Health and Human Services estimate and project that national health expenditures (NHE) increased their share of GDP from 17.4% in 2013 to 17.7% in 2014 and they project an increase to 19.6% by 2024 [2]. This is a heavy burden on public finances. Second, the growing recognition of widespread quality failures, highlighted in the landmark Institute of Medicine report to err is human [3]. Systems are needed to improve quality. Third, the growing recognition that other countries achieve better population health outcomes at a much lower cost as a share of national incomes And fourth, success of integrated delivery systems (IDS) in achieving growing market shares and high quality measures.

IDS run counter to traditional medical culture, but they offer many advantages to physicians including collegiality, mutual support, and better control over their work lives.

IDS today are a work in progress, on a path to greater efficiency and quality. Today, many providers and insurers are combining to form would-be integrated systems with the hope and promise of being able to compete with IDS. The purpose of this article is to outline for them what they must accomplish to be successful in the long run.

The Current State of Fragmented Care

The predominant form of health care available in the USA is fragmented care, provided by atomistic, unconnected physician practices and a culture of physician autonomy, hospitals, and other providers who are compensated through (FFS) payment [4]. "Fragmentation" in healthcare delivery means the systemic misalignment of incentives or lack of coordination [among providers], that spawns inefficient allocation of resources or harm to patients [4]." In traditional FFS medicine, each physician practice works independently and is paid on the basis of the number of patient visits and procedures performed. Individual physicians treat patients according to their individual opinions as to what care is called for. However, because they are paid per service, providers necessarily face incentives to resolve all doubts by increasing the volume of services provided to their patients.

Fragmentation and FFS payment adversely affect quality, cost, and outcomes-and are detrimental to the health of the American population [5]. A report by the authoritative Institute of Medicine of the National Academy of Sciences (now the National Academy of Medicine) has said, "Between the cares we have and the care we should have lies not just a gap, but a chasm [6]." Another Institute of Medicine report says, "More people die in a given year as a result of medical errors than from motor vehicle accidents (43,458), breast cancer (42,297) or AIDS (16,516) [7]." Recent studies estimate much larger numbers of preventable deaths in hospitals [8]. Yet another report from the National Academies says "(A)n estimated thirty to forty cents of every dollar spent on health care, or more than a half-trillion dollars per year, is spent on costs associated with 'overuse, underuse, misuse, duplication, system failures, unnecessary repetition, poor communication, and inefficiency [9]."

The adverse effects of fragmentation and FFS are increasing. The accelerating advances and complexity of modem healthcare have driven greater specialization and a "silco approach" to healthcare. Yet, in recent years, increasingly prevalent chronic, often comorbid conditions (e.g., diabetes, heart failure, depression) require that patients receive care from multiple providers in multiple settings. Greater specialization has exacerbated fragmentation by increasing the number of narrowly trained specialists without, in turn, facilitating cross-silo coordination to treat patients suffering from complex, chronic, and interrelated illnesses [4].

The Nature of Integrated Delivery Systems

Like others, I have been using the expression "integrated care" or "integrated delivery system" without a very precise definition of it. So here is an attempt at a definition. An integrated health care delivery system is one in which all the providers whose services affect a patient work together in a coordinated fashion, sharing relevant medical information, sharing aims or goals (often measurable and measured), sharing responsibility for patient outcomes, and for resource use. Usually, all the providers will be on the payroll of the same organization, as in a multi-specialty group practice or a few mutually contracting organizations, and see themselves as on the same team. The focus of

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Received March 21 2016; **Accepted** May 18, 2016; **Published** May 25, 2016

Citation: Enthoven AC (2016) What is an Integrated Health Care Financing and Delivery System (IDS)? and What must would-be IDS Accomplish to Become Competitive with them? Health Econ Outcome Res Open Access 2: 115. doi: 10.4172/2471-268x/1000115

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their efforts will be the triple aim, better care, better health, and lower cost. In an integrated delivery system, care is integrated across settings (inpatient, outpatient, home, doctor's office, etc.) in the sense that handoffs between settings are smooth, with all necessary information transferred to the providers in the receiving setting. The outpatient doctors know what the inpatient doctors are doing to the patient. And decisions are made with the total results, i.e. patient outcomes and total resource use, in mind, and not sub-optimization in one or another silo. Patients can be cared for in the least costly and least restrictive appropriate setting. Also care is integrated across specialties, so that the different specialist perspectives are brought to bear together in the interest of patients. Patients are not the "property" of one or another specialist. Rather, they are the shared responsibility of the team. Patients perceive that the providers caring for them communicate with each other and share information fully.

The health care that consumers receive is necessarily a product of a system [10]. For example, a patient who undergoes a coronary bypass procedure is necessarily treated by a "system" –including the primary care physician who refers the patient to specialists, the specialists who diagnose the problem that requires treatment, the surgeon who performs the procedure, the many nurses and other medical providers who provide care, the hospital that provides the facility for the procedure, the medical device and pharmaceutical manufacturers whose products are used, etc., and back to the primary care physician who will advise the patient on the life-style that might prevent the need for another operation. The system can be more or less organized [11].

An IDS is a particular form of health care system that, compared to the traditional model, is highly organized and coordinated. An IDS has several essential features:

- A pro-active focus on the health of their enrolled populations by preventive measures at the patient level, wellness and illness prevention.
- Aligned incentives. Provider incentives aligned with the needs and wants of consumers/patients for better health, better care and lower cost (the triple aim) [12].
- Full sharing of patient information among providers caring for a patient and commitment to spend the time and effort to record one's own findings and treatments to populate the clinical record;
- A culture of teamwork and shared responsibility;
- A commitment to help develop and then apply evidence-based best-practice guidelines;
- Agreement on workflow design (who does what and how);
- Process standardization, performance standards, quality measurements and quality improvement processes; and
- A management structure to guide and execute the above.

The Institute of Medicine (now the National Academy of Medicine)-among many others – has strongly advocated for increased integration as an essential remedy to many of the systemic flaws in our nation's health care system [7].

In more detail, a focus on the health of enrolled members means that each enrolled member's primary care team pro-actively reaches out to each member to provide preventive services and information that will encourage healthy lifestyles. They do not wait until the patient comes in with a complaint or symptoms.

Aligned incentives means that the incentives of providers are aligned with the needs and wants of patients for better health, better care, and lower cost. Usually this means physicians compensated based on the value, not volume, of their care (so that treatment decisions are not influenced by personal financial interests), with bonuses for such desirable contributions as lower hospital costs, indicators of quality of care, teamwork and leadership in adoption of new information technology, or other goals the leadership has targeted. An important source of economy in health care is doctors working harder and more thoughtfully in the outpatient setting to reduce people's need for costly in-patient hospital care. So it is appropriate to reward them for success in this dimension [13]. Incentives include more than just money: they may be peer recognition, professional satisfaction for a job well done, the pleasure and satisfaction from observing a good patient outcome, and patient thanks and gratitude.

The present dominant system of FFS is a centrifugal force in which physicians are paid individually by the patients or patients' insurers. Their revenues come from outside the delivery system, so there is little financial incentive to collaborate with other doctors to improve the system. Physicians have an incentive to hold onto each patient and the revenue he/she brings, to do more and more costly services whether or not truly beneficial to the patient, and in which physicians are rewarded for pursuing their own goals, and not the triple aim.

By contrast, incentives can be properly aligned where physicians are compensated based on value, and where the system compensating the physicians has accepted risk for patient outcomes. That is, where the system retains the savings if it succeeds in providing higher-value, lower-cost care (and, by contrast, is not rewarded for higher-cost, lower-value care), which savings can then be distributed to the physicians and providers who have served the goals of the organization (i.e., the triple aim) and to consumers in the form of lower premiums and consequently more enrolled members. In these circumstances, the payment system is a centripetal force, because physician compensation comes from the organization and ultimately from satisfied patients as a group.

There is a problem with hospital-created and led delivery systems. Hospital managers have been successful by keeping their beds full and the imaging and laboratory equipment busy. This is quite the opposite of the main successful IDS whose aims include caring for patients to minimize their need for costly hospitalization. In successful systems like Kaiser Permanente and Group Health Cooperative of Puget Sound, hospitals are cost centers, not revenue centers.

A recent study of hospital-owned and physician-owned physician organizations in California found that total per patient expenditures in hospital-owned physician organizations were 41% higher ($4312 per patient year *vs.* $3066) than the expenditures in physician-owned organizations [14]. This raises the question of whether hospital-owned and led delivery systems can ever achieve incentives alignment.

Sharing patient information among providers, today usually with the help of an electronic health record (EHR) [15], is important so that every provider in a patient's care team can have a complete, current and accurate picture of what every other provider has found and done. Thus it is important that each provider make the effort to populate the EHR with full and accurate information. This sharing helps to reduce errors resulting from incomplete information and to avoid needless duplication of diagnostic tests. It also provides a built-in peer review process, and facilitates a system's use of aggregated clinical data to identify and standardize the highest-value forms of care. Moreover,

primary care physicians (PCPs) can seamlessly communicate with other providers working in the system, thus permitting the specialist to act as consultants to the PCP, instead of as independent operators who have a separate incentive to increase patient office visits and unnecessary utilization The adoption by numerous delivery systems of EHR systems is a major step in the direction of shared knowledge and the free flow of information and transparency.

A patient-centered culture of teamwork is needed to overcome the dominant culture of the past: autonomy, in which physicians have incentive to act as if they own their patients as revenue sources. Patient-centered medicine must be a team effort. Most of health expenditures are associated with patients with multiple chronic conditions that require the inclusion of multiple specialists in the care team. It is important that these specialists coordinate their efforts to produce the best possible result for each patient, and avoid conflicting or overlapping services or prescriptions, usually with the help of the primary care physician. In addition, before treatment of any kind even becomes necessary, coordinated, patient-centered care calls for engagement of the patient, family, and the rest of the care team, including non-physician providers such as physical therapists, health educators and care coordinators. Thus, through population-focused disease prevention measures, the IDS seeks to lower the population's cost of care while improving its health status by reducing the need for care in the first place.

Additionally, the EHR often permits patients to communicate electronically and securely with their providers, so that simple questions can be answered conveniently, quickly and cost-effectively without an unnecessary office visit, saving both patient and provider time and money [16]. By contrast, in the fragmented system, one usually must make an appointment to see the doctor to get a question answered; after all, that is how the doctor earns his/her living under traditional FFS payment. This system also allows patients to make and cancel appointments electronically. And it allows providers to send reminders to patients [16].

Evidence-based practice guidelines are a vital, but resource- and time-intensive, task. The medical literature is already vast and growing fast. No individual doctor can follow it all [17]. The number of randomized controlled trials (RCTs) added to the MEDLINE database of medical literature reached 25,000 per year by 2001 [18]. An organized team effort is needed to coalesce and critically appraise this vast volume of information and transform it into actionable and meaningful information, which takes time away from seeing patients in the short run but results in better, more up-to-date care in the long run. Moreover, physicians need to agree on best-practice guidelines before they reach the bedside so that care processes are not complicated by disagreements when treatment is in process or imminent [19]. To do knowledge management, Kaiser Permanente physicians have created their Care Management Institute, and multi-specialty medical groups in Minnesota and the Upper Midwest have created their Institute for Clinical Systems Improvement [20].

Agreement on workflow design, process standardization, quality measurements and improvement processes so that hard-won lessons of how best to do the work can be spread rapidly throughout the organization. Care providers must have the ability and correct incentives to contribute time and attention to the development of standardized practice protocols informed by the experiences of providers and patients in the system, as gleaned from a well-functioning EHR. Indeed, in an important new report, the Institute of Medicine has called for health care to be delivered through "learning Health Care System":

- One in which science, informatics, incentives and culture are aligned for continuous improvement and innovation, with best practices seamlessly embedded in the care process, patients and families active participants in all elements, and new knowledge captured as an integral by-product of the care experience [21].

Once put in place, standardized processes and protocols can be "hard-wired" through automated order sets, checklists, and other notices that are provided to physicians and other providers through the EHR.

Finally, a management structure is needed to guide and execute these processes. An integrated system must have physician-led committees that meet regularly to analyze the quality and cost of services provided by the system and to consider and agree upon how to improve the quality and efficiency of the delivery of care. The management structure must provide a means for engagement from the bottom-up-i.e., there must be mechanisms in place for work on quality and efficiency to be regularly undertaken at the level of the individual clinic and for insights and concerns at that level to filter up to senior management structures. There must also be mechanisms for decisions to gain physician acceptance, i.e., for decisions to implement the most efficient, highest quality care to be considered, agreed-to, and implemented by physicians at the clinic level. Because physicians are, of necessity, highly independent in making decisions as to each individual patient's care, it is critically important that each physician in the organization embrace the process through which the system standardizes care. To be successful, such a system must win the loyalty, commitment and responsible participation of physicians.

A system must necessarily be large to incorporate all of these features. In order to support the technological and physical infrastructure, knowledge and experience base, and personnel needed to coordinate care and to align incentives by taking on risk as I have described, significant scale is needed. The largest non-governmental IDS in the USA, and by many measures, the most successful, is Kaiser Permanente, serving about 10 million enrolled members with about 17,400 physicians in 8 states plus the District of Columbia. Kaiser Permanente's greatest strength is in large metropolitan areas. Another, similar Prepaid Group Practice is Group Health Cooperative of Puget Sound, based in Seattle and serving over 600,000 enrolled members with over 700 physicians. (Group Health Cooperative and Kaiser Permanente have recently announced a plan to merge) [22].

The IDS discussed in this paper are an entirely American development. There is a great deal of interest in the IDS on the part of people from other countries. Kaiser Permanente International offers courses on the Integrated Care Experience and hundreds of international visitors have attended them, but as far as I know, they exist only in the United States.

But there are many smaller IDS serving rural or semi-rural populations outside the largest metropolitan areas that employ hundreds of physicians. For example:

- Gunderson Lutheran Health System in La Crosse, Wisconsin, has approximately 440 physicians;
- Scott and White in Temple, Texas, has approximately 932 physicians;
- Dean Health System in Madison, Wisconsin, has approximately 472 physicians;
- The Marshfield Clinic in Marshfield, Wisconsin, has approximately 820 physicians;

- Intermountain Healthcare based in Salt Lake City, Utah, has approximately 800 physicians;
- Geisinger Health System in central Pennsylvania, has approximately 1,000 physicians
- Everett Clinic north of Seattle, Washington, has approximately 320 physicians [23].

IDS have a Variety of Missions and Degrees of Integration with Affiliated Health (Insurance) Plans

IDS come in variety of forms and missions. Some are organized to serve populations in the localities or regions where they operate. Some are organized to serve as regional, national or international referral centers for patients with complex conditions that require the care of specialists who have high volumes of patients with their conditions. Some have varying relationships with health insurance plans from common ownership and control to complete independence.

For example, Kaiser Permanente and Group Health Cooperative of Puget Sound, Prepaid Group Practices (PGP), are fully integrated with their own insurance plans. The Medical groups and the insurance plans have a mutually exclusive relationship. That is, their medical groups serve only members enrolled in their health plans. Sometimes this is referred to as a "closed panel" model. Advantages of this model over models in which the health plan is more loosely affiliated include (a) a more complete alignment of incentives-the health plan prospers as the medical group prospers and vice versa; (b) the medical groups, hospitals and health plans can do strategic planning together; (c) streamlining and simplification: e.g. a service prescribed or performed by a Permanente physician is a service covered by Kaiser Foundation Health Plan without a separate level of utilization review or management. The insurance plan does not attempt to influence medical decisions.

This model is completely financed by per capita prepayment. There is no billing or collecting for items of service, a considerable saving. Also per capita prepayment is a complete break from FFS with all of the latter's associated incentive problems.

A disadvantage of this model is that a person interested in joining a prepaid group practice and his family must give up all of their accustomed doctor relationships and receive all of their covered services through the prepaid group practice. Also, this model has a hard time in an environment with many small employers who do not offer employees choices of health plan. Traditionally, physicians in PGPs strongly prefer that their patients be with them by their own choice-no "captive patients." That makes for better doctor-patient relationships. Because the physicians' services are limited exclusively to their own insurance plan, for employees to have insured access to them, employees need to have employers who offer choices of insurance plan. But employers, especially small ones, and insurance companies have reasons for preferring a single insurer-including avoiding administrative costs, concerns about adverse risk selection, not to mention keeping out PGPs.

On the other hand, the IDS mentioned earlier-Gunderson, Dean, Marshfield, Scott and White, Intermountain, Geisinger-are integrated in all but their affiliated insurance plans which they usually own or control. There isn't mutual exclusivity. The medical groups serve patients covered by other unaffiliated insurers. And the insurance plans cover services by doctors not part of the medical groups. This arrangement is a practical necessity in environments in which much of the local population is covered through other insurance plans or through employers that do not offer choices of plan. An advantage of this approach is that it fits with the local medical-economic ecology. And patients can migrate gradually to the IDS with some family members not doing so. One disadvantage is that it leaves in place the considerable costs of preparing, sending out and collecting bills for services. Also there is less complete alignment of incentives. Like prepaid group practices, their missions are to serve local populations.

Other IDS, like the Mayo and Cleveland Clinics are primarily focused on their roles as regional, national or international referral centers, mainly for patients with complex problems that occur infrequently so that a referral center is needed to accumulate the patient volume needed for proficiency. (And the other IDS refer patients to them and to Academic Medical Centers as needed.) The doctors are generally salaried but the clinics are paid FFS.

The Coordinated Care Provided by IDSs is Fundamentally Different from Fragmented Care

IDSs can be contrasted with traditional fee-for-service medicine in many significant ways. The misaligned incentives present in FFS care have real, tangible effects on the ways in which patients are treated. Physicians in smaller FFS practices are incentivized to –and, research shows, physicians do-both prescribe more procedures, tests, office visits, and so forth, and "hoard" patients, i.e., keep as much patient treatment within their practice as possible even if the treatment could be effectively performed by a lower-cost provider [24].

This stands in sharp contrast to care provided by physicians in an IDS. With an integrated system in which incentives are aligned, the system takes on risk so that it profits by reducing the cost and improving the value of care, and physicians are likewise compensated for providing high-value care [25]. The IDS, and the physicians who practice in it, may share, along with consumers and employers, any savings achieved by providing less costly care. However, they are not incentivized to withhold needed care, because to do so would cause physicians to be left with persistent unsolved medical problems and poor published quality and patient satisfaction scores. In an IDS, the specialists work closely with the primary care physicians, and act as consultants to them. For example, a primary care physician might send a patient to a cardiologist for examination, and then the primary care physician who knows the patient and cardiologist would jointly determine the course of treatment, and would jointly determine which parts of the treatment can effectively be performed by the lower cost provider, and which must be performed by the specialist.

An important design principle in integrated systems is to match the numbers and types of physicians to the needs of the population served. An over-abundance of specialists, or a dearth of primary care physicians, can lead to inappropriate care. In the words of Dr. Thomas Rosenthal:

- "When generalist physicians are less available than specialists, specialists often refer secondary problems to other specialists. For example, after a myocardial infarction a patient may be referred by the cardiologist to an endocrinologist, pulmonologist, and a rheumatologist to manage the patient's long-standing diabetes, chronic obstructive pulmonary disorder, and osteoarthritis…

There is evidence to suggest that primary care involvement in a referral to another physician may improve quality [26]."

Similarly, IDS physicians are incentivized to engage in preventative care and education that will avoid the need for care in the first place. An

integrated system identifies, for example, patients likely to have heart disease, and it identifies ways in which to help patients avoid having the disease progress to the point where high-cost intervention becomes necessary. By contrast, in the traditional FFS model, physicians not only are not compensated for prevention and education, but instead are likely to lose revenues if they succeed in reducing need for services.

Hospital administration is also affected by FFS payment. The mindset of hospital managers in the typical FFS system is to maintain more "heads in beds"-i.e., to fill the hospitals to capacity-because volume must be kept up to pay overhead and to keep the diagnostic equipment fully utilized. But in an integrated system, the hospitals are cost centers that are budgeted out of risk-based payments made to the system as a whole. Reducing use of the hospital saves the IDS money.

Primary care physicians in an ID are also supported by teams including advanced practice nurses, social workers, physical therapists, dieticians, and others. Thus, patients who can be better or less expensively treated outside the physician's office have those options as well [27].

An example will illustrate many of the differences between traditional, fragmented FFS care and care by an ID. Consider the case of an elderly male patient with multiple chronic conditions-perhaps diabetes, coronary artery disease, and depression. In the traditional system, the patient is likely to be cared for by several doctors. The patient may not have a primary care physician (PCP) and may not understand the role of primary care or the need for it. The doctors are independent autonomous actors. They do not share records with each other. They rely on the patient to tell them about his other medical problems. They each order the diagnostic tests they consider to be appropriate for the condition they are diagnosing and treating. The other doctors may not have access to these test results, so some tests are duplicated to no benefit for the patient. Other doctors prescribe the drugs they consider appropriate without systematic control, and often without knowledge, of the other drugs the patient is taking. Some of those may conflict with each other or actually worsen one of the other problems.

The doctors are economic competitors and have a strong incentive to keep the patient for themselves. There can be turf battles: which specialty "owns" the patient. The patient returns repeatedly to see the doctors because doctor office or hospital visits are what the insurer will pay for. In many cases, however, a doctor visit is not needed because the work can be done better and at less cost by a specially trained team of nurses and other allied health professionals who meet with the patient, monitor his condition, advise on diet and exercise and medications, adjust medications to the patient's current condition, and only if necessary, have him seen by a doctor.

Now consider the same patient in an integrated system. He is treated primarily by a PCP whose role is to monitor the patient's health and manage the patient's care. The PCP will thus see to it that the patient is included within any appropriate patient registry and provided educational and preventive services to avoid or reduce the need for costly treatment. Where treatment is necessary, the patient is referred to the appropriate specialists, who work closely with the PCP to provide optimal care, and to see to it that such necessities as pneumonia vaccines do not fall between the cracks. The EHR's automatic reminders will ensure that the PCP confirms that standardized practice protocols identified by the IDS as medically warranted for patients in his circumstances are followed.

The specialists are partners of the PCPs. They are all compensated by the system, so they are not economic rivals. They are free to make all judgments in the best interest of the patient without personal economic considerations entering in. With a shared comprehensive EHR, the specialist can see the results of all the tests the PCP has ordered, avoiding useless duplication. After seeing the patient, the specialist communicates to the PCP, likely through the electronic record, email or telephone, his or her recommended course of treatment which the PCP may carry out or which the specialist may do. Together the partners work out what is their best division of labor. The specialist may advise the PCP what conditions merit referral to a specialist and which do not. Specialists thus act as consultants to the PCPs.

In the IDS, the diabetic patient will likely spend significantly less time in the hospital and in the doctor's office. What the diabetic patient needs are likely not numerous visits to the doctor, but preventive care, monitoring, and education, much of which may best be provided by a team of specially trained nurses and other allied health professionals. Such lower-cost, higher-value options are made available to the patient in an ID.

Empirical Evidence Demonstrates the Benefits of Integrated Care

In many studies, researchers have determined that IDSs offer superior care at lower cost. The studies described here are a sampling of the wealth of evidence supporting integrated care.

In studies comparing the results of traditional, FFS models with the results of integrated models, the latter consistently provide greater value. For example, in the randomized control Rand Health Insurance Experiment, researchers found that total per capita costs (premium and out of pocket) were 25% to 30% lower in an integrated, risk-bearing prepaid multi-specialty group practice than in traditional fee-for-service practice [28]. In that study of a prepaid, integrated health care system, researchers found that the integrated system "delivered a different, less expensive style of medicine than did fee-for-service practitioners."

Research also demonstrates that the quality of care provided by integrated systems is superior-without any increase in cost. Researchers compared the cost and quality of care of Medicare beneficiaries who obtained care from prominent multispecialty group practices (Council of Accountable Physician Practice or "CAPP groups," in the terms of the study) against that of Medicare Beneficiaries in the same region who obtained care elsewhere. They found:

- Unadjusted analyses showed that fee-for-service Medicare beneficiary assignment to a CAPP-group physician was associated with higher quality and lower costs…on all examined measures, whether compared to the U.S. mean or to non-CAPP physicians in their same markets. Using crude measures, standardized physician spending was $239 (8.0%) lower; standardized hospital spending was $235 (9.7%) lower, and total standardized Medicare payments were $540 (7.1%) lower for patients who saw CAPP-group physicians as compared to those who did not [29].

Additionally, researchers have found that a medical group's increased size and affiliation with a hospital or health system were significantly associated with increased use of recommended care management processes for the chronically ill [30]. Similarly, even as compared to large non-risk-based medical groups of 100 physicians or more, risk-based groups providing integrated care were found to be more likely to use care management processes (such as registering and consistently monitoring patients who have diabetes) [31]. And a survey of California physicians found that those in Kaiser Permanente medical

groups had adopted system-level care management tools to a much greater degree than physicians in independent practice associations [32]. Physicians practicing in integrated care systems are also far more likely to use information technology than independent, fee-for-service practitioners [33]. Similarly, physicians in larger, integrated practices are better able to monitor clinical performance and implement clinical protocols [34]. In light of all of these findings, it is no surprise that the Institute of Medicine has concluded that U.S. health care should be based on integrated delivery systems [6].

The response from consumers further confirms the benefits of IDSs. Where consumers are given a meaningful opportunity to select an ID-for example, under conditions where IDSs are conveniently available and in which the employee who chooses a less costly plan gets to keep the savings –consumers in high proportions choose integrated delivery systems [4]. Research on this topic is hard to do for several reasons, particularly because of the need to assure the populations being compared are comparable and because of lack of clarity about which organizations are IDSs and which are not. There is not a "black and white" dividing line. But the literature leaves little doubt about the benefits offered by integrated delivery systems. An article [35] by Hwang, et al. conducted a systematic review of published research related to integrated delivery systems and confirms that the overwhelming evidence supports both quality and cost improvements from integration. As to quality, the authors explained that the "vast majority" of publications reviewed-19 out of 21 peer-reviewed publications and 3 out of 4 non-peer-reviewed publications-showed that quality of care provided by the particular IDS studied was superior to quality of care provided by non-IDSs. The authors also found that IDSs reduced costs. Only five of the peer-reviewed papers that the authors reviewed studied cost of care provided by IDSs. The most common metric for assessing cost was examining decreases in utilization, and the authors concluded that using this metric, four out of the five papers (80 percent) reported that the IDSs studied reduced the cost of care. Two of the papers reviewed addressed costs specifically-as distinct from utilization –and concluded that the cost of care provided by IDSs was lower than that of care provided by non-IDSs [35]. As for the non-peer-reviewed publications, only three discussed cost of care. All three showed that IDSs provided care at lower cost than non-IDSs. No publication-peer-reviewed or non-peer-reviewed-was reported to have found that any IDS provided more expensive care [36].

Closer Integration-Through Employing or Engaging in Exclusive Agreements with Physicians-Provides Greater Benefits than Loose Affiliation among Independent Physicians

As explained above, integrated care occurs when health care providers work as a team to coordinate care, when they use the same EHR in order to have immediate and current access to the patient's full medical record, when they share and put into practice a commitment to develop and employ evidence-based guidelines, and when those guidelines are programmed into their common EHR, and when their incentives are aligned with the needs and wants of their patients for better health, better care and lower cost.

As noted above, many groups have achieved integrated care through use of a variety of organizational models. Among the existing models in the private realm are:

- A fully integrated system with a health plan. This is a single-entity delivery system that includes a health plan. Kaiser Permanente follows this model and the Permanente Medical Groups serve only members of its health plan.
- A fully integrated system with no health plan, like the Mayo Clinic. In these cases, the doctors are usually paid salaries although the Clinic's revenues are FFS payments.
- Then there are networks of independent providers. These are organizations composed of multiple independent providers that share and coordinate services. This model may include some centralized infrastructure services, but physicians are independent and not employed by the system.

Examples of this model include physician-hospital organizations, management service organizations, and independent practice associations (IPAs) [37]. Many existing systems cross these categories-including, for example, a mix of employed and independent physicians [38]. A key difference between a system that relies on all or mostly employed doctors and a system that includes primarily doctors in independent private practice is that in the former case, the doctors' professional incomes come entirely from the IDS, and the leadership of the system can use compensation policies and non-pecuniary incentives to align the doctors' incentives with the goals of the organization (i.e., the triple aim) [39]. On the other hand, the independent doctors' incomes come from FFS practice (including, frequently, income from ancillary services ordered by the physicians). These incentives are not consistent with the triple aim. The independent doctors-however well-intentioned –do necessarily experience conflicts of interest between value-based compensation and the incentives of independent FFS practice. Professionals are far more likely to have a "common vision"; to share and understand well clinical common objectives and goals; to share interoperable information management tools, as well as the professional and patient data that populate those tools; to adopt common policies and procedures for coordinating care if they are employed by a single, integrated group.

Similarly, it can be expected that physicians will invest more fully in integration if they are employed participants in a system. As one commentator puts it: "Simply adapting another institution's checklist would probably have limited value, since an important function of care-redesign teams is to develop a shared vision of high-value care. These checklists have to be tested and modified with clinician experience, and clinicians have to be willing to follow and perfect them-all of which requires teamwork. These teams should not be committees with a time-limited deliverable but rather permanent parts of an organization's structure [40]". Evidence exists that greater integration is linked with improved quality and efficiency of health care [41].

In a study designed specifically to examine the difference between tightly integrated delivery systems (i.e., systems using all or primarily employed physicians) and independent practice associations, the researchers concluded that patients treated by tightly integrated medical groups consistently obtained higher-quality primary care than patients treated by IPAs [42]. Notably, the researchers' findings indicated that the integrated medical groups' better results could not be fully explained by the fact that integrated medical groups are more likely to use EHRs, or that integrated medical groups are more likely to implement quality improvement strategies, than are IPAs. Instead, the authors concluded, their "findings suggest that physician group type influence health care quality."

In another study designed specifically to assess the effects on the association between quality of care and "organizational characteristics," researchers found that clinical performance was directly affected by the form of health care delivery system providing care-specifically, highly organized systems relying mostly on staff or salaried physicians were found to provide better care than did more loosely organized models [43].

Significantly, the benefits of fuller integration are not an all-or-nothing proposition. A health system that works extensively with independent physicians can still achieve particular benefits by maintaining a substantial nucleus of employed physicians [42]. In this context, the employed physicians act as leaders in innovation who can provide guidance to their independent counterparts. For example, the health system can work with its employed physicians to develop and test evidence-based guidelines, workflows, order sets, and protocols. Once it determines which clinical measures produce the most value, it can demonstrate the value of those measures through the work of its employed physicians. The protocols can then, once their value has been established, be exported to independent physicians. Through this process, employed physicians take the initial steps to identify and improve on those clinical measures that provide the greatest value to patients-thereby improving their own quality of care, as well as, through their leadership of other, non-employed physicians, the quality of care provided to the broader population.

This example reflects the experience of one highly successful IDS, the Geisinger Health System. Geisiniger administrators have described the functioning of the Geisinger system-and identified some of its results-in a series of peer- reviewed, articles [44].

If Ids are Such a Good Idea, why have they not taken over the United States Health Care System?

Much of the answer to this frequently asked question can be found in the history of medical care and insurance in the United States. In the 19th and much of the 20th centuries, organized medicine (the American Medical Association and the affiliated county medical societies) fought Prepaid Group Practice, fiercely. Using every means they could-ostracism, boycotts, denial of insurance and hospital privileges, slander, political action-organized medicine fought to defend their traditional preferred model of fee-for-service solo practice.

The historian Rickey Hendricks recounted a typical example:

"The Los Angeles County Medical Association (LACMA) made a bolder assault on a local prepaid group practice plan, also begun in 1929. Drs. Donald Ross and H. Clifford Loos established the Ross-Loos Clinic to serve 2,000 members of the Los Angeles County Employees Association of the Department of Water and Power. By the mid-1930's a group of about fifty doctors served approximately 40,000 people. Services included comprehensive office and hospital care, diagnostic testing, surgery, ambulance, and other services for half the fee-for-service cost…Drs. Ross and Loos literally were cast out of the professional fraternity …In February 1934 they were notified to appear before the LACMA Board of Councilors in ten days "to show cause" why they "should not be censored and/or suspended, and/or expelled." …the local association voted unanimously for expulsion…doctors who were not members remained outside the professional referral network, were denied hospital privileges, and were unable to take specialty board examinations…[45]".

Organized medicine demanded and fought for a model including "free choice of "doctor, "free choice of prescription and treatment," "fee-for-service payment", "direct doctor-patient negotiation of fees" and "solo (or small single specialty group) practice, and a culture of physician autonomy [46]. This model, which Charles Weller has called "Guild Free Choice", was firmly in place in the era when health insurance practically did not exist in this country. During and after World War II, employment-based health insurance grew rapidly and became widespread. Practically all health insurance was based on Guild principles. Exclusion of employer contributions to employee health insurance from the taxable incomes of employees, as well as the fact that employment groups provided a logical basis for the spreading of risks, put health insurance firmly in the hands of employers. Rather than fight the medical profession, with few exceptions, employers fit in with the Guild model. They were trying to buy insurance from the model that existed, and not change the system or fight the medical profession.

Subsequently, employers for the most part, resisted the idea of offering their employees competing alternative insurance plans, partly because of concern over administrative costs and biased risk selection, and also because alternatives to traditional fee-for-service did not exist, and because insurance companies resisted the idea. However in 1960, the Federal Government created the Federal Employees Health Benefits Program (FEHBP), offering employees a wide range of choices and a fixed dollar contribution to the premium of the plan of the employee's choice. And the State of California did the same for its employees. Prepaid Group Practices did very well in those programs.

But even today, in 2015, most employees are not offered a choice of health insurance plans in which they can keep the savings if they choose a more economical plan. However, the beneficiaries of the ACA exchanges are offered such a choice. Also, some prominent universities like Stanford, the University of California, and Harvard offer employees cost conscious choices of plan. And some large employers are now signing up with private sector exchanges to broker such choices [47]. So all this is likely to change markedly in coming years.

Prepaid Group Practice (PGP) is a multi-specialty group practice combined with its own insurance plan, tied together in a contract providing for mutual exclusivity. Organized medicine regularly condemned PGP as "contract medicine" and "unethical." Organized medicine undertook full-scale campaigns to put the early PGPs out of business. For example, the Group Health Association (GHA) was organized in 1937 as a nonprofit cooperative by employees of the Federal Home Loan Bank. The AMA attacked it as a form of "unlicensed, unregulated health insurance and the corporate practice of medicine.' In December 1938, the Justice Department secured an indictment against the national and local medical organizations and their officers for conspiracy in restraint of trade to destroy the GHA. In 1943, the Supreme Court upheld the conviction of the AMA on Antitrust violations. Even in more recent years, these negative attitudes have persisted.

So PGP has had to overcome some serious barriers in the medical profession and in the marketplace for employer sponsored health insurance. But where market conditions are not too unfavorable, they are succeeding. In California, Kaiser Permanente has now enrolled 42% of insured Californians, more than twice the market share of second-largest Blue Cross. And the rest of the healthcare system is beginning to compete with Kaiser by forming their own IDS [48].

But even without this history, change comes slowly in medical care. Many patients, if given the choice would choose a convenient IDS if they were making a fresh start, without attachment to a traditional provider. But they may have a chronic condition well cared for by a

traditional provider and be reluctant to change. Moreover, under the most prevalent arrangements, the whole family must make the change. On the other hand, many Americans move their residence each year, and they are not constrained by a provider attachment. Many patients, even if given a choice that includes an IDS prefer what they perceive as the more personal style of traditional practice. Some consider the "clinic style" to be impersonal.

Many physicians also have strong preferences for the traditional style of practice. They value autonomy or they chose medicine because it offers professional independence. A physician who has gone into traditional practice may have invested in his/her office, recruited and trained the staff, built up a large practice of devoted patients, and understandably may be very reluctant to change-although the independent practice association (IPA) could offer a more acceptable and smoother transition to an IDS, and many physicians in California have formed IPAs and are competing effectively.

IDS are very difficult to start in new locations, remote from existing operations. In fact, group practices of any sort are hard to start because, as explained earlier, FFS is a centrifugal force. And highly paid specialists find they can do better financially on their own, or, better still, in medium to large single specialty group practices through which they can create market power. Most large group practices that have become IDS have been in existence for many years [49].

As the experience of Kaiser Permanente illustrates, under favorable conditions, they can expand rapidly in locations where they are already established. But startups in new locations have proved to be very difficult. For, example, for all their human and financial resources, Kaiser Permanente have had a very difficult time, and ultimately failed in expanding to what were, for them, new geographic regions. In fact, the list of Kaiser's failed attempts at such startups is surprisingly long. It includes Texas, North Carolina, New England, Kansas City, and in Ohio where they operated for many years, they recently withdrew because they could not achieve the scale necessary for efficient operation [50]. In each of these cases, local factors played important roles, but in general, their model is capital intensive, new startups require large up front capital outlays, and scale must be achieved quickly to achieve profitability, the need to achieve scale puts pressure on the new region to "break" the integrated model by providing access to a wider network of non-integrated providers which compromises quality and cost control, and membership growth requires access to a large population of employees who are offered a cost-conscious choice of plan [51]. An ideal market for Kaiser Permanente is the Washington D.C. Area with hundreds of thousands of federal employees who have a cost-conscious choice of plan through the Federal Employees' Health Benefits Program and where they now serve over 600,000 members. Another marketing problem for a Prepaid Group Practice is that, to join one, the whole family must give up its established doctor relationships and start anew with new doctors. Other IDS like Geisinger Health System, Intermountain Healthcare or the Dean Clinic, have their own closely affiliated health plans, but their doctors serve patients covered by other health plans, and their health plans cover physician services by physicians not members of the IDS. Population density and growth help IDS. Kaiser Permanente in California was helped greatly by the post-World War II large influx of people from elsewhere where they had left their accustomed providers behind and looking for new sources of care. On the other hand, some IDS succeed in rural or small town areas. The Marshfield Clinic in central Wisconsin illustrates this.

In comparison with the large group practice IDS, IPAs have important advantages in the marketplace: They are much less capital intensive, they involve much less giving up of existing practice arrangements and relationships. On the other hand, because the physicians remain in FFS practice, the alignment of their incentives with the triple aim is weaker, and their use of services is usually constrained by utilization review and management systems.

IPAs in California started mainly as defensive alliances against Kaiser. They started including all the doctors in their county in FFS solo practice. However, as time has gone by and competitive pressures have intensified, at least some have become more selective, making themselves less attractive to doctors who are not committed to the goals of the organization. So now a gradual process of provider selection is taking place. And they are using EHR, greatly facilitating better coordination.

Over the long run, if employers and government extend the reach of exchanges and create a market of informed individual cost conscious consumer choice, I think it is likely that the more highly organized group practice models will prevail because they will be able to manage quality and cost more effectively. But the U.S. health care system will always be pluralistic and variable because conditions will vary greatly from one market to another.

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