The Strategy That Will Fix Health Care

by Michael E. Porter and Thomas H. Lee
From the October 2013 Issue

In health care, the days of business as usual are over. Around the world, every health care system is struggling with rising costs and uneven quality despite the hard work of well-intentioned, well-trained clinicians. Health care leaders and policy makers have tried countless incremental fixes—attacking fraud, reducing errors, enforcing practice guidelines, making patients better "consumers," implementing electronic medical records—but none have had much impact.

It's time for a fundamentally new strategy.

At its core is maximizing value for patients: that is, achieving the best outcomes at the lowest cost. We must move away from a supply-driven health care system organized around what physicians do and toward a patient-centered system organized around what patients need. We must shift the focus from the volume and profitability of services provided—physician visits, hospitalizations, procedures, and tests—to the patient outcomes achieved. And we must replace today's fragmented system, in which every local provider offers a full range of services, with a system in which services for particular medical conditions are concentrated in health-delivery organizations and in the right locations to deliver high-value care.

Making this transformation is not a single step but an overarching strategy. We call it the "value agenda." It will require restructuring how health care delivery is organized, measured, and reimbursed. In 2006, Michael Porter and Elizabeth Teisberg introduced the value agenda in their book *Redefining Health Care*. Since then, through our research and the work of thousands of health care leaders and academic researchers around the world, the tools to implement the agenda have been developed, and their deployment by providers and other organizations is rapidly spreading.

The transformation to value-based health care is well under way. Some organizations are still at the stage of pilots and initiatives in individual practice areas. Other organizations, such as the Cleveland Clinic and Germany's Schön Klinik, have undertaken large-scale changes involving multiple components of the value agenda. The result has been striking improvements in outcomes and efficiency, and growth in market share.

There is no longer any doubt about how to increase the value of care. The question is, which organizations will lead the way and how quickly can others follow? The challenge of becoming a value-based organization should not be underestimated, given the entrenched interests and practices of many decades. This transformation must come from

within. Only physicians and provider organizations can put in place the set of interdependent steps needed to improve value, because ultimately value is determined by how medicine is practiced. Yet every other stakeholder in the health care system has a role to play. Patients, health plans, employers, and suppliers can hasten the transformation—and all will benefit greatly from doing so.

Defining the Goal

The first step in solving any problem is to define the proper goal. Efforts to reform health care have been hobbled by lack of clarity about the goal, or even by the pursuit of the wrong goal. Narrow goals such as improving access to care, containing costs, and boosting profits have been a distraction. Access to poor care is not the objective, nor is reducing cost at the expense of quality. Increasing profits is today misaligned with the interests of patients, because profits depend on increasing the volume of services, not delivering good results.

In health care, the overarching goal for providers, as well as for every other stakeholder, must be improving value for patients, where value is defined as the health outcomes achieved that matter to patients relative to the cost of achieving those outcomes. Improving value requires either improving one or more outcomes without raising costs or lowering costs without compromising outcomes, or both. Failure to improve value means, well, failure.

Embracing the goal of value at the senior management and board levels is essential, because the value agenda requires a fundamental departure from the past. While health care organizations have never been *against* improving outcomes, their central focus has been on growing volumes and maintaining margins. Despite noble mission statements, the real work of improving value is left undone. Legacy delivery approaches and payment structures, which have remained largely unchanged for decades, have reinforced the problem and produced a system with erratic quality and unsustainable costs.

All this is now changing. Facing severe pressure to contain costs, payors are aggressively reducing reimbursements and finally moving away from fee-for-service and toward performance-based reimbursement. In the U.S., an increasing percentage of patients are being covered by Medicare and Medicaid, which reimburse at a fraction of private-plan levels. These pressures are leading more independent hospitals to join health systems and more physicians to move out of private practice and become salaried employees of hospitals. (For more, see the sidebar “Why Change Now?”) The transition will be neither linear nor swift, and we are entering a prolonged period during which providers will work under multiple payment models with varying exposure to risk.

In this environment, providers need a strategy that transcends traditional cost reduction and responds to new payment models. If providers can improve patient outcomes, they can

sustain or grow their market share. If they can improve the efficiency of providing excellent care, they will enter any contracting discussion from a position of strength. Those providers that increase value will be the most competitive. Organizations that fail to improve value, no matter how prestigious and powerful they seem today, are likely to encounter growing pressure. Similarly, health insurers that are slow to embrace and support the value agenda—by failing, for example, to favor high-value providers—will lose subscribers to those that do.

The Strategy for Value Transformation

The strategic agenda for moving to a high-value health care delivery system has six components. They are interdependent and mutually reinforcing; as we will see, progress will be easiest and fastest if they are advanced together. (See the exhibit "The Value Agenda.")

The current structure of health care delivery has been sustained for decades because it has rested on its own set of mutually reinforcing elements: organization by specialty with independent private-practice physicians; measurement of "quality" defined as process compliance; cost accounting driven not by costs but by charges; fee-for-service payments by specialty with rampant cross-subsidies; delivery systems with duplicative service lines and little integration; fragmentation of patient populations such that most providers do not have critical masses of patients with a given medical condition; siloed IT systems around medical specialties; and others. This interlocking structure explains why the current system has been so resistant to change, why incremental steps have had little impact (see the sidebar "No Magic Bullets"), and why simultaneous progress on multiple components of the strategic agenda is so beneficial.

The components of the strategic agenda are not theoretical or radical. All are already being implemented to varying degrees in organizations ranging from leading academic medical centers to community safety-net hospitals. No organization, however, has yet put in place the full value agenda across its entire practice. Every organization has room for improvement in value for patients—and always will.

1: Organize into Integrated Practice Units (IPUs)

At the core of the value transformation is changing the way clinicians are organized to deliver care. The first principle in structuring any organization or business is to organize around the customer and the need. In health care, that requires a shift from today's siloed organization by specialty department and discrete service to organizing around the patient's medical condition. We call such a structure an integrated practice unit. In an IPU, a dedicated team made up of both clinical and nonclinical personnel provides the full care cycle for the patient's condition.

IPUs treat not only a disease but also the related conditions, complications, and circumstances that commonly occur along with it—such as kidney and eye disorders for patients with diabetes, or palliative care for those with metastatic cancer. IPUs not only provide treatment but also assume responsibility for engaging patients and their families in care—for instance, by providing education and counseling, encouraging adherence to treatment and prevention protocols, and supporting needed behavioral changes such as smoking cessation or weight loss.

In an IPU, personnel work together regularly as a team toward a common goal: maximizing the patient's overall outcomes as efficiently as possible. They are expert in the condition, know and trust one another, and coordinate easily to minimize wasted time and resources. They meet frequently, formally and informally, and review data on their own performance. Armed with those data, they work to improve care—by establishing new protocols and devising better or more efficient ways to engage patients, including group visits and virtual interactions. Ideally, IPU members are co-located, to facilitate communication, collaboration, and efficiency for patients, but they work as a team even if they're based at different locations. (See the sidebar "What Is an Integrated Practice Unit?")

Take, for example, care for patients with low back pain—one of the most common and expensive causes of disability. In the prevailing approach, patients receive portions of their care from a variety of types of clinicians, usually in several different locations, who function more like a spontaneously assembled "pickup team" than an integrated unit. One patient might begin care with a primary care physician, while others might start with an orthopedist, a neurologist, or a rheumatologist. What happens next is unpredictable. Patients might be referred to yet another physician or to a physical therapist. They might undergo radiology testing (this could happen at any point—even before seeing a physician). Each encounter is separate from the others, and no one coordinates the care. Duplication of effort, delays, and inefficiency is almost inevitable. Since no one measures patient outcomes, how long the process takes, or how much the care costs, the value of care never improves.

Contrast that with the approach taken by the IPU at Virginia Mason Medical Center, in Seattle. Patients with low back pain call one central phone number (206-41-SPINE), and most can be seen the same day. The "spine team" pairs a physical therapist with a physician who is board-certified in physical medicine and rehabilitation, and patients usually see both on their first visit. Those with serious causes of back pain (such as a malignancy or an infection) are quickly identified and enter a process designed to address the specific diagnosis. Other patients will require surgery and will enter a process for that. For most patients, however, physical therapy is the most effective next intervention, and their treatment often begins the same day.

Virginia Mason did not address the problem of chaotic care by hiring coordinators to help patients navigate the existing system—a "solution" that does not work. Rather, it eliminated the chaos by creating a new system in which caregivers work together in an integrated way. The impact on value has been striking. Compared with regional averages, patients at Virginia Mason's Spine Clinic miss fewer days of work (4.3 versus 9 per episode) and need fewer physical therapy visits (4.4 versus 8.8). In addition, the use of MRI scans to evaluate low back pain has decreased by 23% since the clinic's launch, in 2005, even as outcomes have improved. Better care has actually lowered costs, a point we will return to later. Virginia Mason has also increased revenue through increased productivity, rather than depending on more fee-for-service visits to drive revenue from unneeded or duplicative tests and care. The clinic sees about 2,300 new patients per year compared with 1,404 under the old system, and it does so in the same space and with the same number of staff members.

Wherever IPUs exist, we find similar results—faster treatment, better outcomes, lower costs, and, usually, improving market share in the condition. But those results can be achieved only through a restructuring of work. Simply co-locating staff in the same building, or putting up a sign announcing a Center of Excellence or an Institute, will have little impact.

IPUs emerged initially in the care for particular medical conditions, such as breast cancer and joint replacement. Today, condition-based IPUs are proliferating rapidly across many areas of acute and chronic care, from organ transplantation to shoulder care to mental health conditions such as eating disorders.

Recently, we have applied the IPU model to primary care (see Michael E. Porter, Erika A. Pabo, and Thomas H. Lee, "Redesigning Primary Care," *Health Affairs,* March 2013). By its very nature, primary care is holistic, concerned with all the health circumstances and needs of a patient. Today's primary care practice applies a common organizational structure to the management of a very wide range of patients, from healthy adults to the frail elderly. The complexity of meeting their heterogeneous needs has made value improvement very difficult in primary care—for example, heterogeneous needs make outcomes measurement next to impossible.

In primary care, IPUs are multidisciplinary teams organized to serve groups of patients with similar primary and preventive care needs—for example, patients with complex chronic conditions such as diabetes, or disabled elderly patients. Different patient groups require different teams, different types of services, and even different locations of care. They also require services to address head-on the crucial role of lifestyle change and preventive care in outcomes and costs, and those services must be tailored to patients' overall circumstances. Within each patient group, the appropriate clinical team, preventive services, and education can be put in place to improve value, and results become measureable.

This approach is already starting to be applied to high-risk, high-cost patients through so-called Patient-Centered Medical Homes. But the opportunity to substantially enhance value in primary care is far broader. At Geisinger Health System, in Pennsylvania, for example, the care for patients with chronic conditions such as diabetes and heart disease involves not only physicians and other clinicians but also pharmacists, who have major responsibility for following and adjusting medications. The inclusion of pharmacists on teams has resulted in fewer strokes, amputations, emergency department visits, and hospitalizations, and in better performance on other outcomes that matter to patients.

2: Measure Outcomes and Costs for Every Patient

Rapid improvement in any field requires measuring results—a familiar principle in management. Teams improve and excel by tracking progress over time and comparing their performance to that of peers inside and outside their organization. Indeed, rigorous measurement of value (outcomes and costs) is perhaps the single most important step in improving health care. Wherever we see systematic measurement of results in health care—no matter what the country—we see those results improve.

Yet the reality is that the great majority of health care providers (and insurers) fail to track either outcomes or costs by medical condition for individual patients. For example, although many institutions have "back pain centers," few can tell you about their patients' outcomes (such as their time to return to work) or the actual resources used in treating those patients over the full care cycle. That surprising truth goes a long way toward explaining why decades of health care reform have not changed the trajectory of value in the system.

When outcomes measurement *is* done, it rarely goes beyond tracking a few areas, such as mortality and safety. Instead, "quality measurement" has gravitated to the most easily measured and least controversial indicators. Most "quality" metrics do not gauge quality; rather, they are process measures that capture compliance with practice guidelines. HEDIS (the Healthcare Effectiveness Data and Information Set) scores consist entirely of process measures as well as easy-to-measure clinical indicators that fall well short of actual outcomes. For diabetes, for example, providers measure the reliability of their LDL cholesterol checks and hemoglobin A1c levels, even though what really matters to patients is whether they are likely to lose their vision, need dialysis, have a heart attack or stroke, or undergo an amputation. Few health care organizations yet measure how their diabetic patients fare on all the outcomes that matter.

It is not surprising that the public remains indifferent to quality measures that may gauge a provider's reliability and reputation but say little about how its patients actually do. The only true measures of quality are the outcomes that matter to patients. And when those outcomes are collected and reported publicly, providers face tremendous pressure—and strong incentives—to improve and to adopt best practices, with resulting improvements in

outcomes. Take, for example, the Fertility Clinic Success Rate and Certification Act of 1992, which mandated that all clinics performing assisted reproductive technology procedures, notably in vitro fertilization, provide their live birth rates and other metrics to the Centers for Disease Control. After the CDC began publicly reporting those data, in 1997, improvements in the field were rapidly adopted, and success rates for all clinics, large and small, have steadily improved. (See the exhibit "Outcomes Measurement and Reporting Drive Improvement.")

Measuring outcomes that matter to patients.

Outcomes should be measured by medical condition (such as diabetes), not by specialty (podiatry) or intervention (eye examination). Outcomes should cover the full cycle of care for the condition, and track the patient's health status after care is completed. The outcomes that matter to patients for a particular medical condition fall into three tiers. (For more, see Michael Porter's article "Measuring Health Outcomes: The Outcome Hierarchy," *New England Journal of Medicine,* December 2010.) Tier 1 involves the health status achieved. Patients care about mortality rates, of course, but they're also concerned about their functional status. In the case of prostate cancer treatment, for example, five-year survival rates are typically 90% or higher, so patients are more interested in their providers' performance on crucial functional outcomes, such as incontinence and sexual function, where variability among providers is much greater.

Tier 2 outcomes relate to the nature of the care cycle and recovery. For example, high readmission rates and frequent emergency-department "bounce backs" may not actually worsen long-term survival, but they are expensive and frustrating for both providers and patients. The level of discomfort during care and how long it takes to return to normal activities also matter greatly to patients. Significant delays before seeing a specialist for a potentially ominous complaint can cause unnecessary anxiety, while delays in commencing treatment prolong the return to normal life. Even when functional outcomes are equivalent, patients whose care process is timely and free of chaos, confusion, and unnecessary setbacks experience much better care than those who encounter delays and problems along the way.

Tier 3 outcomes relate to the sustainability of health. A hip replacement that lasts two years is inferior to one that lasts 15 years, from both the patient's perspective and the provider's.

Measuring the full set of outcomes that matter is indispensable to better meeting patients' needs. It is also one of the most powerful vehicles for lowering health care costs. If Tier 1 functional outcomes improve, costs invariably go down. If any Tier 2 or 3 outcomes improve, costs invariably go down. A 2011 German study, for example, found that one-year follow-up costs after total hip replacement were 15% lower in hospitals with above-average outcomes than in hospitals with below-average outcomes, and 24% lower than in very-low-volume hospitals, where providers have relatively little experience with hip

replacements. By failing to consistently measure the outcomes that matter, we lose perhaps our most powerful lever for cost reduction.

Over the past half dozen years, a growing array of providers have begun to embrace true outcome measurement. Many of the leaders have seen their reputations—and market share—improve as a result. A welcomed competition is emerging to be the most comprehensive and transparent provider in measuring outcomes.

The Cleveland Clinic is one such pioneer, first publishing its mortality data on cardiac surgery and subsequently mandating outcomes measurement across the entire organization. Today, the Clinic publishes 14 different "outcomes books" reporting performance in managing a growing number of conditions (cancer, neurological conditions, and cardiac diseases, for example). The range of outcomes measured remains limited, but the Clinic is expanding its efforts, and other organizations are following suit. At the individual IPU level, numerous providers are beginning efforts. At Dartmouth-Hitchcock's Spine Center, for instance, patient scores for pain, physical function, and disability for surgical and nonsurgical treatment at three, six, 12, and 24 months are now published for each type of low back disorder.

Providers are improving their understanding of what outcomes to measure and how to collect, analyze, and report outcomes data. For example, some of our colleagues at Partners HealthCare in Boston are testing innovative technologies such as tablet computers, web portals, and telephonic interactive systems for collecting outcomes data from patients after cardiac surgery or as they live with chronic conditions such as diabetes. Outcomes are also starting to be incorporated in real time into the process of care, allowing providers to track progress as they interact with patients.

To accelerate comprehensive and standardized outcome measurement on a global basis, we recently cofounded the International Consortium for Health Outcomes Measurement. ICHOM develops minimum outcome sets by medical condition, drawing on international registries and provider best practices. It brings together clinical leaders from around the world to develop standard outcome sets, while also gathering and disseminating best practices in outcomes data collection, verification, and reporting. Just as railroads converged on standard track widths and the telecommunications industry on standards to allow data exchange, health care providers globally should consistently measure outcomes by condition to enable universal comparison and stimulate rapid improvement.

Measuring the cost of care.

For a field in which high cost is an overarching problem, the absence of accurate cost information in health care is nothing short of astounding. Few clinicians have any knowledge of what each component of care costs, much less how costs relate to the outcomes achieved. In most health care organizations there is virtually no accurate

information on the cost of the full cycle of care for a patient with a particular medical condition. Instead, most hospital cost-accounting systems are department-based, not patient-based, and designed for billing of transactions reimbursed under fee-for-service contracts. In a world where fees just keep going up, that makes sense. Existing systems are also fine for overall department budgeting, but they provide only crude and misleading estimates of actual costs of service for individual patients and conditions. For example, cost allocations are often based on charges, not actual costs. As health care providers come under increasing pressure to lower costs and report outcomes, the existing systems are wholly inadequate.

To determine value, providers must measure costs at the medical condition level, tracking the expenses involved in treating the condition over the full cycle of care. This requires understanding the resources used in a patient's care, including personnel, equipment, and facilities; the capacity cost of supplying each resource; and the support costs associated with care, such as IT and administration. Then the cost of caring for a condition can be compared with the outcomes achieved.

The best method for understanding these costs is time-driven activity-based costing, TDABC. While rarely used in health care to date, it is beginning to spread. Where TDABC is being applied, it is helping providers find numerous ways to substantially reduce costs without negatively affecting outcomes (and sometimes even improving them). Providers are achieving savings of 25% or more by tapping opportunities such as better capacity utilization, more-standardized processes, better matching of personnel skills to tasks, locating care in the most cost-effective type of facility, and many others.

For example, Virginia Mason found that it costs $4 per minute for an orthopedic surgeon or other procedural specialist to perform a service, $2 for a general internist, and $1 or less for a nurse practitioner or physical therapist. In light of those cost differences, focusing the time of the most expensive staff members on work that utilizes their full skill set is hugely important. (For more, see Robert Kaplan and Michael Porter's article "How to Solve the Cost Crisis in Health Care," HBR September 2011.)

Without understanding the true costs of care for patient conditions, much less how costs are related to outcomes, health care organizations are flying blind in deciding how to improve processes and redesign care. Clinicians and administrators battle over arbitrary cuts, rather than working together to improve the value of care. Because proper cost data are so critical to overcoming the many barriers associated with legacy processes and systems, we often tell skeptical clinical leaders: "Cost accounting is your friend." Understanding true costs will finally allow clinicians to work with administrators to improve the value of care—the fundamental goal of health care organizations.

3: Move to Bundled Payments for Care Cycles

Neither of the dominant payment models in health care—global capitation and fee-for-service—directly rewards improving the value of care. Global capitation, a single payment to cover all of a patient's needs, rewards providers for spending less but not specifically for improving outcomes or value. It also decouples payment from what providers can directly control. Fee-for-service couples payment to something providers can control—how many of their services, such as MRI scans, they provide—but not to the overall cost or the outcomes. Providers are rewarded for increasing volume, but that does not necessarily increase value.

The payment approach best aligned with value is a bundled payment that covers the full care cycle for acute medical conditions, the overall care for chronic conditions for a defined period (usually a year), or primary and preventive care for a defined patient population (healthy children, for instance). Well-designed bundled payments directly encourage teamwork and high-value care. Payment is tied to overall care for a patient with a particular medical condition, aligning payment with what the team can control. Providers benefit from improving efficiency while maintaining or improving outcomes.

Sound bundled payment models should include: severity adjustments or eligibility only for qualifying patients; care guarantees that hold the provider responsible for avoidable complications, such as infections after surgery; stop-loss provisions that mitigate the risk of unusually high-cost events; and mandatory outcomes reporting.

Governments, insurers, and health systems in multiple countries are moving to adopt bundled payment approaches. For example, the Stockholm County Council initiated such a program in 2009 for all total hip and knee replacements for relatively healthy patients. The result was lower costs, higher patient satisfaction, and improvement in some outcomes. In Germany, bundled payments for hospital inpatient care—combining all physician fees and other costs, unlike payment models in the U.S.—have helped keep the average payment for a hospitalization below $5,000 (compared with more than $19,000 in the U.S., even though hospital stays are, on average, 50% longer in Germany). Among the features of the German system are care guarantees under which the hospital bears responsibility for the cost of rehospitalization related to the original care.

In the U.S., bundled payments have become the norm for organ transplant care. Here, mandatory outcomes reporting has combined with bundles to reinforce team care, speed diffusion of innovation, and rapidly improve outcomes. Providers that adopted bundle approaches early benefitted. UCLA's kidney transplant program, for example, has grown dramatically since pioneering a bundled price arrangement with Kaiser Permanente, in 1986, and offering the payment approach to all its payors shortly thereafter. Its outcomes are among the best nationally, and UCLA's market share in organ transplantation has expanded substantially.

Employers are also embracing bundled payments. This year, Walmart introduced a program in which it encourages employees who need cardiac, spine, and selected other surgery to obtain care at one of just six providers nationally, all of which have high volume and track records of excellent outcomes: the Cleveland Clinic, Geisinger, the Mayo Clinic, Mercy Hospital (in Springfield, Missouri), Scott & White, and Virginia Mason. The hospitals are reimbursed for the care with a single bundled payment that includes all physician and hospital costs associated with both inpatient and outpatient pre- and post-operative care. Employees bear no out-of-pocket costs for their care—travel, lodging, and meals for the patient and a caregiver are provided—as long as the surgery is performed at one of the centers of excellence. The program is in its infancy, but expectations are that Walmart and other large employers will expand such programs to improve value for their employees, and will step up the incentives for employees to use them. Sophisticated employers have learned that they must move beyond cost containment and health promotion measures, such as co-pays and on-site health and wellness facilities, and become a greater force in rewarding high-value providers with more patients.

As bundled payment models proliferate, the way in which care is delivered will be transformed. Consider how providers participating in Walmart's program are changing the way they provide care. As clinical leaders map the processes involved in caring for patients who live outside their immediate area, they are learning how to better coordinate care with all of patients' local physicians. They're also questioning existing practices. For example, many hospitals routinely have patients return to see the cardiac surgeon six to eight weeks after surgery, but out-of-town visits seem difficult to justify for patients with no obvious complications. In deciding to drop those visits, clinicians realized that maybe local patients do not need routine postoperative visits either.

Providers remain nervous about bundled payments, citing concerns that patient heterogeneity might not be fully reflected in reimbursements, and that the lack of accurate cost data at the condition level could create financial exposure. Those concerns are legitimate, but they are present in any reimbursement model. We believe that concerns will fall away over time, as sophistication grows and the evidence mounts that embracing payments aligned with delivering value is in providers' economic interest. Providers will adopt bundles as a tool to grow volume and improve value.

4: Integrate Care Delivery Systems

A large and growing proportion of health care is provided by multisite health care delivery organizations. In 2011, 60% of all U.S. hospitals were part of such systems, up from 51% in 1999. Multisite health organizations accounted for 69% of total admissions in 2011. Those proportions are even higher today. Unfortunately, most multisite organizations are not true delivery systems, at least thus far, but loose confederations of largely stand-alone units that often duplicate services. There are huge opportunities for improving value as

providers integrate systems to eliminate the fragmentation and duplication of care and to optimize the types of care delivered in each location.

To achieve true system integration, organizations must grapple with four related sets of choices: defining the scope of services, concentrating volume in fewer locations, choosing the right location for each service line, and integrating care for patients across locations. The politics of redistributing care remain daunting, given most providers' instinct to preserve the status quo and protect their turf. Some acid-test questions to gauge board members' and health system leaders' appetite for transformation include: Are you ready to give up service lines to improve the value of care for patients? Is relocating service lines on the table?

Define the scope of services.

A starting point for system integration is determining the overall scope of services a provider can effectively deliver—and reducing or eliminating service lines where they cannot realistically achieve high value. For community providers, this may mean exiting or establishing partnerships in complex service lines, such as cardiac surgery or care for rare cancers. For academic medical centers, which have more heavily resourced facilities and staff, this may mean minimizing routine service lines and creating partnerships or affiliations with lower-cost community providers in those fields. Although limiting the range of service lines offered has traditionally been an unnatural act in health care—where organizations strive to do everything for everyone—the move to a value-based delivery system will require those kinds of choices.

Concentrate volume in fewer locations.

Second, providers should concentrate the care for each of the conditions they do treat in fewer locations. The stated promise of consumer-oriented health care—"We do everything you need close to your home or workplace"—has been a good marketing pitch but a poor strategy for creating value. Concentrating volume is essential if integrated practice units are to form and measurement is to improve.

Numerous studies confirm that volume in a particular medical condition matters for value. Providers with significant experience in treating a given condition have better outcomes, and costs improve as well. A recent study of the relationship between hospital volume and operative mortality for high-risk types of cancer surgery, for example, found that as hospital volumes rose, the chances of a patient's dying as a result of the surgery fell by as much as 67%. Patients, then, are often much better off traveling longer distance to obtain care at locations where there are teams with deep experience in their condition. That often means driving past the closest hospitals.

Concentrating volume is among the most difficult steps for many organizations, because it can threaten both prestige and physician turf. Yet the benefits of concentration can be game-changing. In 2009, the city of London set out to improve survival and prospects for stroke patients by ensuring that patients were cared for by true IPUs—dedicated, state-of-the-art teams and facilities including neurologists who were expert in the care of stroke. These were called hyper-acute stroke units, or HASUs. At the time, there were too many hospitals providing acute stroke care in London (32 of them) to allow any to amass a high volume. UCL Partners, a delivery system comprising six well-known teaching hospitals that serve North Central London, had two hospitals providing stroke care—University College London Hospital and the Royal Free Hospital—located less than three miles apart. University College was selected to house the new stroke unit. Neurologists at Royal Free began practicing at University College, and a Royal Free neurologist was appointed as the overall leader of the stroke program. UCL Partners later moved all emergency vascular surgery and complex aortic surgery to Royal Free.

These steps sent a strong message that UCL Partners was ready to concentrate volume to improve value. The number of stroke cases treated at University College climbed from about 200 in 2008 to more than 1,400 in 2011. All stroke patients can now undergo rapid evaluation by highly experienced neurologists and begin their recovery under the care of nurses who are expert in preventing stroke-related complications. Since the shift, mortality associated with strokes at University College has fallen by about 25% and costs per patient have dropped by 6%.

Choose the right location for each service.

The third component of system integration is delivering particular services at the locations at which value is highest. Less complex conditions and routine services should be moved out of teaching hospitals into lower-cost facilities, with charges set accordingly. There are huge value improvement opportunities in matching the complexity and skills needed with the resource intensity of the location, which will not only optimize cost but also increase staff utilization and productivity. Children's Hospital of Philadelphia, for instance, decided to stop performing routine tympanostomies (placing tubes into children's eardrums to reduce fluid collection and risk of infection) at its main facility and shifted those services to suburban ambulatory surgery facilities. More recently, the hospital applied the same approach to simple hypospadias repairs, a urological procedure. Relocating such services cut costs and freed up operating rooms and staff at the teaching hospital for more-complex procedures. Management estimated the total cost reduction resulting from the shift at 30% to 40%.

In many cases, current reimbursement schemes still reward providers for performing services in a hospital setting, offering even higher payments if the hospital is an academic medical center—another example of how existing reimbursement models have worked

against value. But the days of charging higher fees for routine services in high-cost settings are quickly coming to an end. (See again the sidebar “Why Change Now?”)

Integrate care across locations.

The final component of health system integration is to integrate care for individual patients across locations. As providers distribute services in the care cycle across locations, they must learn to tie together the patient’s care across these sites. Care should be directed by IPUs, but recurring services need not take place in a single location. For example, patients with low back pain may receive an initial evaluation, and surgery if needed, from a centrally located spine IPU team but may continue physical therapy closer to home. Wherever the services are performed, however, the IPU manages the full care cycle. Integrating mechanisms, such as assigning a single physician team captain for each patient and adopting common scheduling and other protocols, help ensure that well-coordinated, multidisciplinary care is delivered in a cost-effective and convenient way.

5: Expand Geographic Reach

Health care delivery remains heavily local, and even academic medical centers primarily serve their immediate geographic areas. If value is to be substantially increased on a large scale, however, superior providers for particular medical conditions need to serve far more patients and extend their reach through the strategic expansion of excellent IPUs. Buying full-service hospitals or practices in new geographic areas is rarely the answer. Geographic expansion should focus on improving value, not just increasing volume.

Targeted geographic expansion by leading providers is rapidly increasing, with dozens of organizations such as Vanderbilt, Texas Children’s, Children’s Hospital of Philadelphia, MD Anderson Cancer Center, and many others taking bold steps to serve patients over a wide geographic area.

Geographic expansion takes two principle forms. The first is a hub-and-spoke model. For each IPU, satellite facilities are established and staffed at least partly by clinicians and other personnel employed by the parent organization. In the most effective models, some clinicians rotate among locations, which helps staff members across all facilities feel they are part of the team. As exp ansion moves to an entirely new region, a new IPU hub is built or acquired.

Patients often get their initial evaluation and development of a treatment plan at the hub, but some or much care takes place at more-convenient (and cost-effective) locations. Satellites deliver less complicated care, with complex cases referred to the hub. If complications occur whose effective management is beyond the ability of the satellite facility, the patient’s care is transferred to the hub. The net result is a substantial increase in the number of patients an excellent IPU can serve.

This model is becoming more common among leading cancer centers. MD Anderson, for example, has four satellite sites in the greater Houston region where patients receive chemotherapy, radiation therapy, and, more recently, low-complexity surgery, under the supervision of a hub IPU. The cost of care at the regional facilities is estimated to be about one-third less than comparable care at the main facility. By 2012, 22% of radiation treatment and 15% of all chemotherapy treatment were performed at regional sites, along with about 5% of surgery. Senior management estimates that 50% of comparable care currently still performed at the hub could move to satellite sites—a significant untapped value opportunity.

The second emerging geographic expansion model is clinical affiliation, in which an IPU partners with community providers or other local organizations, using their facilities rather than adding capacity. The IPU provides management oversight for clinical care, and some clinical staff members working at the affiliate may be employed by the parent IPU. MD Anderson uses this approach in its partnership with Banner Phoenix. Hybrid models include the approach taken by MD Anderson in its regional satellite program, which leases outpatient facilities located on community hospital campuses and utilizes those hospitals' operating rooms and other inpatient and ancillary services as needed.

Local affiliates benefit from the expertise, experience, and reputation of the parent IPU—benefits that often improve their market share locally. The IPU broadens its regional reach and brand, and benefits from management fees, shared revenue or joint venture income, and referrals of complex cases.

The Cleveland Clinic's Heart and Vascular Institute, a pioneering IPU in cardiac and vascular care, has 19 hospital affiliates spanning the Eastern seaboard. Successful clinical affiliations such as these are robust—not simply storefronts with new signage and marketing campaigns—and involve close oversight by physician and nurse leaders from the parent organization as well as strict adherence to its practice models and measurement systems. Over time, outcomes for standard cases at the Clinic's affiliates have risen to approach its own outcomes.

Vanderbilt's rapidly expanding affiliate network illustrates the numerous opportunities that arise from affiliations that recognize each partner's areas of strength. For example, Vanderbilt has encouraged affiliates to grow noncomplex obstetrics services that once might have taken place at the academic medical center, while affiliates have joint ventured with Vanderbilt in providing care for some complex conditions in their territories.

6: Build an Enabling Information Technology Platform

The preceding five components of the value agenda are powerfully enabled by a sixth: a supporting information technology platform. Historically, health care IT systems have been siloed by department, location, type of service, and type of data (for instance, images).

Often IT systems complicate rather than support integrated, multidisciplinary care. That's because IT is just a tool; automating broken service-delivery processes only gets you more-efficient broken processes. But the right kind of IT system can help the parts of an IPU work with one another, enable measurement and new reimbursement approaches, and tie the parts of a well-structured delivery system together.

A value-enhancing IT platform has six essential elements:

It is centered on patients.

The system follows patients across services, sites, and time for the full cycle of care, including hospitalization, outpatient visits, testing, physical therapy, and other interventions. Data are aggregated around patients, not departments, units, or locations.

It uses common data definitions.

Terminology and data fields related to diagnoses, lab values, treatments, and other aspects of care are standardized so that everyone is speaking the same language, enabling data to be understood, exchanged, and queried across the whole system.

It encompasses all types of patient data.

Physician notes, images, chemotherapy orders, lab tests, and other data are stored in a single place so that everyone participating in a patient's care has a comprehensive view.

The medical record is accessible to all parties involved in care.

That includes referring physicians and patients themselves. A simple "stress test" question to gauge the accessibility of the data in an IT system is: Can visiting nurses see physicians' notes, and vice versa? The answer today at almost all delivery systems is "no." As different types of clinicians become true team members—working together in IPUs, for example—sharing information needs to become routine. The right kind of medical record also should mean that patients have to provide only one set of patient information, and that they have a centralized way to schedule appointments, refill prescriptions, and communicate with clinicians. And it should make it easy to survey patients about certain types of information relevant to their care, such as their functional status and their pain levels.

The system includes templates and expert systems for each medical condition.

Templates make it easier and more efficient for the IPU teams to enter and find data, execute procedures, use standard order sets, and measure outcomes and costs. Expert systems help clinicians identify needed steps (for example, follow-up for an abnormal test)

and possible risks (drug interactions that may be overlooked if data are simply recorded in free text, for example).

The system architecture makes it easy to extract information.

In value-enhancing systems, the data needed to measure outcomes, track patient-centered costs, and control for patient risk factors can be readily extracted using natural language processing. Such systems also give patients the ability to report outcomes on their care, not only after their care is completed but also during care, to enable better clinical decisions. Even in today's most advanced systems, the critical capability to create and extract such data remains poorly developed. As a result, the cost of measuring outcomes and costs is unnecessarily increased.

The Cleveland Clinic is a provider that has made its electronic record an important enabler of its strategy to put "Patients First" by pursuing virtually all these aims. It is now moving toward giving patients full access to clinician notes—another way to improve care for patients.

Getting Started

The six components of the value agenda are distinct but mutually reinforcing. Organizing into IPUs makes proper measurement of outcomes and costs easier. Better measurement of outcomes and costs makes bundled payments easier to set and agree upon. A common IT platform enables effective collaboration and coordination within IPU teams, while also making the extraction, comparison, and reporting of outcomes and cost data easier. With bundled prices in place, IPUs have stronger incentives to work as teams and to improve the value of care. And so on.

Implementing the value agenda is not a one-shot effort; it is an open-ended commitment. It is a journey that providers embark on, starting with the adoption of the goal of value, a culture of patients first, and the expectation of constant, measurable improvement. The journey requires strong leadership as well as a commitment to roll out all six value agenda components. For most providers, creating IPUs and measuring outcomes and costs should take the lead.

As should by now be clear, organizations that progress rapidly in adopting the value agenda will reap huge benefits, even if regulatory change is slow. As IPUs' outcomes improve, so will their reputations and, therefore, their patient volumes. With the tools to manage and reduce costs, providers will be able to maintain economic viability even as reimbursements plateau and eventually decline. Providers that concentrate volume will drive a virtuous cycle, in which teams with more experience and better data improve value more rapidly—attracting still more volume. Superior IPUs will be sought out as partners of choice, enabling them to expand across their local regions and beyond.

Maintaining market share will be difficult for providers with nonemployed physicians if their inability to work together impedes progress in improving value. Hospitals with private-practice physicians will have to learn to function as a team to remain viable. Measuring outcomes is likely to be the first step in focusing everyone's attention on what matters most.All stakeholders in health care have essential roles to play. (See the sidebar "Next Steps: Other Stakeholder Roles.") Yet providers must take center stage. Their boards and senior leadership teams must have the vision and the courage to commit to the value agenda, and the discipline to progress through the inevitable resistance and disruptions that will result. Clinicians must prioritize patients' needs and patient value over the desire to maintain their traditional autonomy and practice patterns.

Providers that cling to today's broken system will become dinosaurs. Reputations that are based on perception, not actual outcomes, will fade. Maintaining current cost structures and prices in the face of greater transparency and falling reimbursement levels will be untenable. Those organizations—large and small, community and academic—that can master the value agenda will be rewarded with financial viability and the only kind of reputation that should matter in health care—excellence in outcomes and pride in the value they deliver.