

ARTICLE

# Integrated Practice Units: A Playbook for Health Care Leaders

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The playbook for assembling and integrating a successful Integrated Practice Unit (IPU) features several key steps, including defining the patient condition or set of related conditions to be served, as well as defining patient needs across the care cycle and mapping the processes involved to meet those needs. Leaders then need to assemble a multidisciplinary team by identifying the appropriate mix of clinical and patient support personnel to address the full care cycle, including common comorbid medical conditions and complications. Execution involves the creation of a number of mechanisms that facilitate and support integration across the team, including physical, financial, and IT elements. The authors offer a playbook for development of IPUs as an integral part of the Value Agenda, which is designed to provide a path toward high-value care and the business success that will result.

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Health care does not have to be chaotic. Patients and families should not have to worry about coordinating their own care. Clinicians should not have to wonder who will provide the other services that their patients need.

Innovative health care systems are adopting and developing an organizational model that is starting to bring order to dysfunction: the Integrated Practice Unit (IPU), an integral component of the strategic Value Agenda. The central driver for organizations is the shift to value-based health care, in which value is defined as the outcomes that matter for the patient relative to the overall cost of care. To compete successfully in an increasingly value-oriented marketplace, providers must shift to value-oriented strategies that deliver excellent outcomes with progressively increasing effectiveness and efficiency.

In previous articles, we described the Value Agenda, a six-part strategic framework for substantially improving value in health care, including reorganizing care, measuring costs and outcomes that

matter to patients, adopting bundled payments or other reimbursement approaches that reward greater value,<sup>1</sup> and integrating multisite health systems across geography (Figure 1).<sup>2</sup> Although each component matters, the element that unleashes the others is care reorganization through the development of IPUs.

FIGURE 1

## Components for the Strategic Value Agenda

The development of care delivery through IPUs is the key component needed to facilitate an effective and efficient value-based care system that delivers on the strategic Value Agenda.



Source: The authors

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IPUs are multidisciplinary teams, ideally colocated, that are structured to meet the needs of well-defined groups of patients, usually with similar conditions, over the full cycle of care. IPUs represent a profound organizational change in health care delivery and can enable better, more efficient care with shorter cycle times for groups of patients with similar needs. The IPU structure disrupts traditional specialty-level clinical work practices and lines of authority, as well as the flow of funds through specialty departments common in many health care organizations. Yet IPUs are becoming more common because they are a logical consequence of progress in medicine.

In the past century, medical science produced enormous advances, which led to increases in the number of clinicians with different types of expertise who needed to collaborate to deliver

state-of-the-science care for even routine conditions. Most health care organizations have been structured around specific disciplines and interventions (e.g., cardiology and surgery), which supported training and services performed by individual physicians. In this traditional service line model, clinicians have not been equipped or organized to work and communicate seamlessly together.

The chaos that results from the traditional model was inevitable. It led to inefficiency, highly uneven coordination, erratic quality, and anxious patients and families.

The traditional organizational model also failed to encourage or enable sophisticated measurement of outcomes or costs, without which improvement in value was compromised. “Performance” could only be expressed in terms of fee-for-service revenue, which resulted from the work of individuals, not the work of the team. The traditional model has also resulted in faulty IT, which was designed around specialty silos and the need to support fee-for-service payments to different types of clinicians who worked separately with little integration.

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Fortunately, many health care organizations are beginning to recognize a fundamental principle accepted in business and other sectors: how individuals are organized to do their work matters profoundly.

One catalyst for creation of IPUs is the need to compete for market share through participating in bundled payment contracts, in which IPUs are paid for cycles of care. However, the vast majority of patients receiving care from IPUs remain covered by fee-for-service contracts, suggesting that IPU formation is primarily driven by the need to coordinate patient care for many conditions.

In IPUs, excellence is not defined by the performance of individuals, but instead by the expertise, integration, and coordination of a team with clinicians who can learn as a group from past performance and best practices. There is growing evidence that IPUs improve the value of their care and are well positioned to compete for market share as a true center of excellence. This experience is accumulating within the traditional health care marketplace and government-run systems such as the Department of Defense health care system.<sup>3-5</sup>

This article draws upon lessons learned by the innovators and early adopters of the IPU model. It provides a playbook for creating and improving them.

## What Is an IPU?

An IPU is a dedicated team involving both clinical and nonclinical personnel who work together to provide the full care cycle for a group of patients with the same medical or behavioral condition or

**Table 1. Features of an IPU**

1. An IPU is organized around a medical condition or set of closely related conditions. (In primary care, which is by its very nature holistic, IPUs are organized around defined patient segments in terms of their primary and preventive care needs, such as weight loss, atherosclerosis risk reduction, chronic condition management, or smoking cessation.)
2. Care is delivered by a dedicated, multidisciplinary team whose members devote a significant portion of their time to working together to care for the medical condition.
3. Providers identify themselves as part of a common organizational unit and distinct from their specialty department.
4. The team takes responsibility for the full cycle of care for the condition (encompassing outpatient, inpatient, and rehabilitative care) and the supporting services needed for the condition, such as nutrition, social work, and behavioral health. IPUs also take responsibility for preparing patients before and after procedures or consultations and are experienced in recognizing variation among patients in their needs and their clinical complexity and adjusting care accordingly.
5. Patient education, engagement, monitoring, adherence, and follow-up are integrated into team composition and the care model.
6. The IPU has a single management and scheduling structure.
7. To the extent feasible, the team is colocated in dedicated facilities tailored to the care processes and technology needs.
8. A physician team captain or a clinical care coordinator (or both) is responsible for overseeing each patient's overall care process across time and locations of care, including the patient's home.
9. The team measures patient outcomes, care processes, and overall costs for each patient using a common measurement platform.
10. The team meets formally and informally on a regular basis to discuss outcomes, processes, and technology and employs a structured approach to improving results.
11. The team accepts joint overall accountability for outcomes and costs.

Source: The authors.

set of closely related conditions. IPUs are organized around the needs of patients (e.g., patients with low back pain), rather than around specialties or a particular intervention (e.g., spine surgery). They embody the central principle of a value-driven organization: to organize around customer needs, not the supply of particular services.

IPUs are the antithesis of focused factories for performing specific procedures. In contrast, they are holistic entities designed to address the full needs of a population of patients with similar conditions. Even patients with the same clinical condition can have different circumstances (e.g., comorbidities or risk factors). This means that a key function of IPUs is being equipped to address common co-occurring issues, so that overall care for each patient can be customized. IPU teams should have the skills, training, and technology to meet most of the needs of most of the patients in their segment (Table 1). To address exceptional cases, the IPU team should build working relationships with specialists who can address the less common needs in caring for the condition.

Aggregating care for a condition within an IPU creates volume, which enables teams to rapidly accumulate and share experience for target patients. The team members work in proximity to each other in well-designed spaces, which reduces the chance of miscommunication. Through formal and informal care interactions, clinicians and specific support personnel develop real relationships, both personally and professionally. They are united by a shared purpose and by the pursuit of deep expertise in meeting the needs of a defined group of patients and accepting accountability for actually taking care of them.

## The IPU Playbook

The playbook for a successful IPU is being written by an increasing number of innovative organizations that are now years into this organizational model. The key steps in assembling and integrating an IPU as part of the Value Agenda are the following:

1. Define the patient condition or set of related conditions (e.g., head and neck cancers) to be served. Define patient needs across the care cycle, and map the processes involved.
2. Assemble a multidisciplinary team with the appropriate mix of clinical and patient support personnel for the full care cycle, including common comorbid medical conditions and complications.
3. Create mechanisms that facilitate and support integration across the team, including:
  - a. Physical facilities designed to support integrated care;
  - b. Colocated personnel;
  - c. Common services that support performance, including patient intake, scheduling, patient management, and other administrative infrastructure for the IPU; and
  - d. A leadership team focused on managing and improving the IPU as a single unit, not tied to specialties or departments.
4. Develop functional integrating mechanisms. Create a framework for cost and outcome measurement and processes to integrate data, convene, and collaborate to improve performance.

### *1. Defining Patient Conditions, Needs, and Care Cycles*

IPUs are organized around segments of patients with common or similar medical circumstances. This facilitates experience, which in turn enables expertise, efficiency, and excellent value. The starting point is to achieve clarity on the fundamental question, “What set of patients is this IPU being formed to serve?” After this broad question is addressed come follow-on questions to be answered with discipline and rigor:

- a. How are target patients for the IPU identified and accessed?
- b. What are the major needs of this set of patients, including those that result from the core condition, common comorbid conditions, and complications? What are the outcomes that matter, and how are they influenced by common patterns of patient variation?
- c. What is the care cycle over the condition for which value can be increased?

Many IPUs are organized around discrete disease conditions, such as prostate cancer, Parkinson disease, or diabetes. In other areas, care is most efficiently organized around groups of related conditions, which involve similar needs and a similar team.

For example, there are several types of head and neck cancers, but patients with these conditions often share the need for complex surgery, facial reconstruction, speech therapy, and help and assistance with eating. Similarly, there are many types of congenital heart disease, but their care

cycles involve similarities in services and the needed team. Despite different anatomic diagnoses, patients, as well as their families, have similar needs as the patients undergo complex cardiac surgery and intense postoperative care, such as management of discomfort and prevention of complications such as heart rhythm abnormalities.

The key theme that underlies the identification of the patient group for an IPU is a set of needs that can be best and most efficiently met by multidisciplinary teams working closely together. For example, patients who have had stroke vary in the causes and the extent of damage to their brains. Some have had hemorrhages, while others have had occlusions of arteries. Some have minor transient loss of functions, while others have devastating disabilities. But among these patients, an array of common needs arises frequently.

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Outcomes are better and costs are reduced when patients are concentrated on stroke units, where neurologists, neurosurgeons, and cardiovascular specialists are accustomed to working together, where nurses are practiced at preventing commonly occurring complications like aspiration pneumonia, and where occupational and physical therapists are also on the team to focus early on helping patients and their families with stroke recovery.

Of course, every patient is unique, and many patients have multiple conditions (e.g., diabetes and congestive heart failure). No group of patients has identical needs, and no team can meet all of the needs of all conceivable patients with a given medical condition. That is why experience and well-developed relationships among colleagues with various skills are an essential part of constructing the IPU model.

Dedicated teams will be able to meet many of those needs far more efficiently and effectively than is possible through unplanned and poorly organized one-off care processes and sporadic interactions. IPU teams must map the range of processes involved in care and understand that their role is to ensure that any additional needs outside of those covered by the dedicated team are also met. Paradoxically, segmentation of patients into groups with similar needs is a key step in enabling truly personalized care.

Defining the care cycle over which the IPU will work to improve value is a critical strategic decision. The hospitalization period of patients who are undergoing a surgical procedure often can be improved, but the potential improvement in value may be far greater if the care cycle is deeper (more varied types of expertise integrated into the IPU) or broader (taking responsibility for patients over a longer period of time). Deepening and broadening the care cycle for the IPU includes more upstream work (such as diagnosis and preparation for the hospitalization, procedure, or consultation) and downstream work (detecting complications or recurrences and arranging follow-up).

Competitive advantage can be enhanced if responsibilities extend over a fuller care cycle. For this reason, many hospitals today are working closely with nonacute service providers to develop more than referral relationships. Instead of merely transporting the patient to a new location, the owners of each part of the care cycle are integrating their work so that patients move seamlessly with the greatest efficiency and expertise to the level of care that meets their needs.<sup>2</sup>

### *Organizing Primary Care*

Organizing for high value in primary care offers somewhat different challenges than in specialty care. Primary care involves inherent heterogeneity because it deals with all of the needs of individuals, whatever their disease history. To deliver high-value primary care, it is equally important that patients be segmented, but not by condition alone. Instead, they should be grouped on the basis of their range of care needs, from management of mild chronic diseases to coordination across complex sets of conditions. Some shared needs can and should be met by the personnel integrated into the primary care IPU. However, a critical function of a primary care IPU is to identify patients who will also benefit from specialty IPUs external to the practice (e.g., a diabetes IPU) and triage patients to and coordinate with those teams.

Some of the most effective primary care IPUs focus on subsets of patients with bounded heterogeneity of primary care needs; for example, CareMore, ChenMed, and Oak Street Health all concentrate on elderly patients. In this population, coordination of care for chronic diseases and complex sets of conditions is a common challenge, and social and economic determinants of health are particularly important. This set of common needs enables the building of teams, care protocols, and facilities that create value for a high proportion of their patients.

### *Clusters of IPUs*

As organizations develop IPUs for increasing sets of conditions, IPUs can be grouped into broader macro groupings of sister IPUs based upon clusters of disease. For example, the Cleveland Clinic has 22 [Institutes](#), many of which are organized around types of diseases, such as cardiovascular and neurological disorders. Within each Institute, then, are multiple IPUs. The Cleveland Clinic Taussig Cancer Center, for example, has organized each cancer subspecialty, including breast, colon, melanoma, and lung, among others, as an IPU. Aggregating these together enables sharing of services such as chemotherapy infusions and radiation oncology.

Many provider organizations have a history of service lines. These are loose groupings that bring together both clinical and administrative personnel in broad areas. This level of organization, however, is not enough. Within service lines, there is enormous variation in patients' needs defined by conditions (e.g., the needs of patients with colon cancer are qualitatively different from those of patients with breast cancer). Therefore, instead of broad service line groupings, the structure should consist of families of related IPUs addressing more narrowly defined groups of patients with similar needs that can be best met by distinct, focused, well-practiced teams, even if they share certain services.

## *Patients in Multiple IPUs*

Some patients with complex needs in multiple conditions should receive care from more than one IPU. Care coordination among multiple IPUs is facilitated by the inclusion of personnel whose job is to coordinate the patient experience across the continuum of care, even if part of the care is in a sister IPU.

### **2. Assembling the IPU Team**

Having identified the condition or set of closely related conditions that are the focus of the IPU, the next step is to determine the types of personnel and skills sets that should be included in the IPU team. The care advantage of an IPU comes from assembling the right multidisciplinary team that works regularly, effectively, and efficiently together to improve patient outcomes.

Team construction should be guided by these principles:

1. Determine the types of personnel who are needed to best meet the set of common needs of the patient population. For example, patients with diabetes benefit from care from a range of types of physicians, but also from supporting experts such as nutritionists, nurse educators, and pharmacists with familiarity with the condition. The right clinical team expands the ability of the IPU to meet the full set of patients' needs with efficiency and coordination.
2. Determine the personnel who are required to provide value enhancement across the full care cycle. For example, communicating regularly with patients helps them adhere to their regimens; in addition, regular patient interactions allow detection of unexpected deterioration. These communications can significantly reduce complications and their associated costs.
3. Determine the personnel who are needed to enable the IPU to go deeper and be more holistic in meeting patients' needs beyond single-disease issues. For example, at the Mayo Clinic, primary care clinicians are key members of the breast cancer team, because many women with breast cancer and their families have a range of issues that should be addressed, beyond those directly related to their tumors.
4. Determine the type of support staff to include that allows others on the team to work at the top of their license. For example, having an associated pharmacist with knowledge of the condition and who can review medications with patients prior to discharge can both improve care and save physician time.
5. Determine the type of other nonclinical personnel who are important to improve effectiveness and efficiency throughout the care cycle. For example, care coordinators can prevent and close gaps in care that are the result of having multiple clinicians. Social workers can help address nonclinical issues that often influence patient outcomes. Dedicated scheduling personnel can help avoid the wasted effort and deleterious impacts on care that result from missed appointments.

The IPU team should be large enough to include key personnel who have the capabilities described above, but not so large that personal relationships are challenging to develop. Regardless of the size, the effectiveness of the IPU depends upon management attention to relationships among its personnel; the importance of this attention goes up as the number of personnel involved increases.

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A strength of IPUs comes from the inclusion of full-time or near-full-time expert staff, but they often also need some part-time staff to provide specific services where the volume of needs is below that needed to fully occupy a staff member. For such services, IPUs should concentrate referrals to a small number of shared personnel (e.g., physician specialists, social workers, or behavioral health providers). Through such concentration, the expertise of the non-IPU personnel grows along with trust and familiarity with IPU team members.

For example, at Dana-Farber Cancer Institute in Boston, there are IPUs for a wide range of cancers, but requests for cardiology consultations are concentrated upon just two cardiologists from nearby Brigham and Women’s Hospital. These cardiologists have relationships with Dana-Farber cancer team members and far greater familiarity than most cardiologists with the cardiac side effects of cancer treatments and with the cardiovascular complications of various cancers. This experience enables them to anticipate and recognize complications quickly.

As the volume of patients served by the IPU grows, the range of personnel with which the IPU needs intermittent relationships decreases. For example, a small renal transplant program might not be able to be selective about which staff anesthesiologists are in the operating room for its cases. But a larger program can benefit from a dedicated full operating room team, deeply experienced with the operation and with each other. As this example makes clear, the ability of the organization to concentrate the volume of patients with a condition or set of related conditions influences the scope and effectiveness of IPUs.

### *3. Structural Integrating Mechanisms*

Having identified the overall structure, composition, and services of the IPU team, it should be no surprise that explicit mechanisms are needed to enable the coordination and integration of work across the IPU. It is not enough to merely designate clinicians and supporting personnel as part of the IPU and identify them as “a team.” To foster and drive care integration around value, the IPU needs to create structures (hardware) and practices (software) that enable the IPU to reliably deliver value. These include structural mechanisms for care integration, such as appropriate physical facilities as well as managerial and clinical processes.

## *Physical Facilities*

Colocating IPU personnel allows team members to easily coordinate, see patients together, and interact formally and informally on a daily basis. Investment in new facilities or remodeling of existing space is typically necessary, given the historical fragmentation of clinical space. Such investments in integration often have a substantial return in terms of quality, efficiency, and clinician morale.

An example is the Women's Integrated Pelvic Health Program at Chicago's Northwestern Medicine. This program assembles various types of surgeons essential to the care of patients with pelvic disorders (e.g., incontinence, organ prolapse, fissures, and fistulas). The Center has offices and meeting space arrayed around a central core. Physical therapists are located at the core and are readily accessible to both patients and surgeons. Physical proximity means that therapists are constantly interacting with surgeons and having informal interactions about patients.

The frequency of interactions between surgeons and physical therapists in the Center leads to teamwork that is obvious to patients. One of the crucial benefits of actually working shoulder to shoulder is that communication between personnel is in conversations rather than relying on clinical notes or emails that must be written and read carefully and immediately. Patients draw comfort when two or more clinicians see them at the same time so that there is no chance of confusion about next steps for any of them, including the patient.

Another colocation trend at some institutions is placing radiologists in the IPU, rather than with other radiologists. In this way, radiologists can read images in real time and examine the patient if necessary to clarify what they are seeing on the scans. Radiologists often work right next to the clinicians who requested tests and discuss the results as well as which additional tests might be useful.

This trend toward colocation of IPU personnel also reflects a further commitment to organize care around the needs of patients. It is a logical response to the onerous practice of asking patients to go to multiple sites for their care. Many hospitals have recognized the confusion and distress created by making an already-ill patient park 50 yards from the hospital, walk to one office to register, walk to the other side of the campus to see a physician, and then walk to yet another location for laboratory tests. Colocation, then, is more than a tactic for improving providers' personal productivity. It also greatly benefits patients.

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Colocation is also a powerful tool to reduce confusion regarding needed care while enhancing relationships among clinical personnel who otherwise rarely see each other. Many of the best IPUs do more than locate personnel in the same part of the building. They also share the same work rooms, surrounded by consultation rooms where they interact with patients.

Space is in high demand and highly fragmented at almost all health care institutions because current space utilization was designed around the wrong clinical care model. To plan for how to carve out and best use dedicated IPU space, and in which sequence or relocation, is challenging but will lead to major efficiency dividends for clinicians and patients.

The key principle to guide colocation decisions is to determine which communications and interactions among IPU team personnel are most common and will have the greatest positive impact on a patient's experience if they can occur quickly and reliably. The surgeon and the physical therapist at the Women's Integrated Pelvic Health Program is one example. Another is to have a seamless connection between clinicians and schedulers.

Space, then, is a tool to maximize care integration and patient value in a variety of ways. For functions or staff not critical to the IPU, space in the IPU may not be needed. It is also not efficient for an outpatient pharmacy to be located in an IPU and serve just one patient population. Rather, pharmacies are usually best located in shared space in the hospital that is convenient to multiple IPUs.

#### *Administrative Structure*

IPUs also need administrative structures that are geared toward simplifying processes such as intake, reducing elapsed time, and improving integration, coordination, and efficiency for patients and clinicians. Patient outcomes that have particular importance for the administrative structure to address include disutility of the care process, such as confusion about what is happening next, delays before appointments occur and information is conveyed, and the chaos that results when care is not coordinated. Tools such as care process maps are needed to minimize waste of time and resources of clinical personnel and patients. Reduction of overall cycle time for patients' care processes is a particularly critical focus for IPU administrative structures. There are opportunities to reduce cycle time in most IPUs, which not only benefits patients, but also increases the capacity to serve more patients with the same resources. The traditional management focus on reducing wasted time for physicians is much less significant than overall cycle time, which includes physician time as well.

Sourcing of patients for an IPU is important for achieving sufficient scale for efficiency and experience. This cannot be left to spontaneous clinician referrals. IPU leaders and staff must proactively build real relationships with administrative personnel and use IT to identify IPU candidates. Key data include diagnosis and test results from patient encounters in the ED and elsewhere.

The fact is, however, that information and administrative systems in hospitals tend to be geared toward collecting payments under the fee-for-service system, rather than identifying and tracking patients with various needs. For example, because of lags in data entry and analysis, most hospitals have a difficult time identifying patients with heart failure who might benefit from a heart failure IPU before those patients are discharged from the hospital. Contacting patients after they have gone home is less effective for both enrollment and prevention of complications. Systems to identify groups of patients that fit an IPU are, therefore, new requirements for IT.

Existing systems can facilitate the intake role once patients are identified and assemble the data needed for risk stratification, care management, and collaboration between the IPU and its patients. The simple act of reliably acquiring email addresses and cell phone numbers can greatly improve the effectiveness and timeliness of interactions between patients and their care providers.

Intake systems should also facilitate ongoing education of patients and provide ways for patients to communicate with the IPU team. This will enable patients to get answers to questions and teams to get updates on patients' progress. There should be no doubt in patients' minds about how to reach the IPU team and clear expectations about response time. A well-designed intake process, then, is a key first step in creating real trust between patients and their caregivers and, thus, a foundation for education about the disease and the patients' needed involvement.

The scheduling function may seem mundane to clinicians, but it is also crucial. Patients will testify that scheduling is a major cause of the chaos that is so common for them. The ability to schedule needed tests on the same day as physician appointments may not change a patient's clinical outcome, but it saves a great deal of time and has a real impact on patients' confidence in the team. All IPU personnel, including shared specialists, should cooperate with IPU schedulers to facilitate booking appointments without having to go through the clinician or other personnel.

Because IPUs integrate care of patients across the full cycle of care, their responsibilities are not bounded by which site in the health care system a patient is, at any given moment. Care coordinators play a critical role in ensuring that care across various settings is integrated, helping patients to get the best outcomes at the most efficient site. Social workers are similarly important IPU members, working at the interface of clinical and nonclinical personnel, and are also experts in addressing needs related to social determinants of health.

#### *Management and Leadership Structure*

The IPU model requires clear overall leadership, with the explicit goal of improving value for patients. The IPU leader should be responsible for ensuring that value is a shared goal of all on the team. IPU leaders also should set and reinforce team culture and take responsibility for ongoing improvement of IPU care quality, integration, and efficiency and for attracting and retaining new patients. Clinical care must be the IPU leader's top priority, with decision-making authority over all team members. Leadership that is divided between the IPU and department chairs will create major obstacles to value improvement.

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Strong IPU leadership remains controversial in some organizations because it is seen as disruptive of legacy department and funds flow. Leaders of traditional departments (e.g., surgery and

medicine) can understand the benefits of multidisciplinary teams but often take steps to keep members of their departments under their overall control. They also seek to retain clinical revenues for their departments that they can use for functions other than clinical care.

For an effective IPU leadership structure, each IPU should be a single profit-and-loss center. The primary reporting relationship of IPU members should be to the IPU head, who will lead the overall operation of the IPU and have the major influence on evaluation and incentives.

A common mistake for hospital systems is to create multiple dotted-line relationships through which IPU leaders report to the legacy management structure (e.g., chairs of surgery, medicine, etc.). A positive working relationship with chairs can be beneficial, but the overarching goal of the IPU must be improving value for its patients.

#### *4. Functional Integrating Mechanisms*

The final crucial element is what we call the software of the IPU (i.e., the functional integrating mechanisms including protocols, best practices, standards, and other mechanisms that tie together care in the IPU). These explicit integrating mechanisms serve to institutionalize a high-reliability culture within an IPU.

##### *Measuring and Improving Performance*

IPUs exist to improve quality and efficiency of care across care cycles. This requires systematic and universal data on the outcomes that matter to patients, as well as the full costs of delivering those outcomes. Measuring true outcomes and true cost remains, largely, poorly developed in health care. Proper measurement requires modern outcome standards and is made much more efficient via advanced IT infrastructure. It also requires discipline and even courage from leaders, including the board of directors or trustees.

Provider organizations are increasingly aware that there is no substitute for measuring what they are trying to improve, but measurement is still impeded by misconceptions from the past. The conventional wisdom in the 20th century was that quality in health care was not even measurable. We also find that many in the field still think that rigorous cost accounting is not worth the effort, despite the obvious failure to control health care costs in the absence of such data.

There is a rapidly growing consensus that the time has arrived for measurement of standard minimum sets of actual patient outcomes by condition.<sup>6</sup> Only by measuring the outcomes that matter to patients, and doing so in a standardized way across providers, can providers learn from each other and determine whether care processes are effective and efficient or assess whether innovations in care are driving actual improvement. The overwhelming focus today remains on process measurement, such as whether providers have followed guidelines. Process measures can be used as internal tools for improvement but set a very low bar for management. Processes should also consistently improve and evolve, something that process measurement can bring to a halt. Performance itself must be based upon actual outcomes gathered from patients.

Outcomes data are even more powerful drivers of improvement when they are made transparent and reported publicly. Many provider organizations, however, remain wary of public reporting, but transparency of outcomes to providers and the public across IPUs is clearly the future. Patients highly value organizations willing to provide such data, which serve as evidence that the providers are measuring performance, are confident in their outcomes, and are focused on learning and improving.

The Centers for Medicare & Medicaid Services has begun to provide a modest financial incentive for reporting outcomes for total hip and total knee replacement as part of its bundled payment program. There is every reason to expect that the CMS will move from voluntary to mandatory reporting within a few years, as it has with other quality metrics. IPUs will benefit from getting ahead of the game by engaging in outcome transparency sooner than their competitors. Increasing numbers of organizations throughout the world are already on this path.<sup>7</sup>

Measurement of actual costs over the care cycle is the essential complement to outcomes measurement and requires the use of time-driven activity-based cost (TDABC) accounting, a technique that is now spreading.<sup>7</sup> The majority of health care costs are shared costs, for personnel, equipment, and space that is used for multiple patients. Personnel-related costs are the largest single expense category, and the greatest opportunities to improve efficiency lie in the disciplined design and management of how personnel are deployed. Organizations with TDABC data have discovered that some care they considered unprofitable is actually delivering substantial financial margins on the basis of accurate costing. In other instances, the reverse is true.

TDABC accounting provides a tool to analyze the potential cost impact of care redesigns, such as consolidating care in a lower-cost setting versus just assuming redesigns lower cost. Such data are essential tools if IPUs are to take on politically delicate challenges such as moving sites of care.

A recent study using TDABC accounting to assess pediatric aerodigestive care at six hospitals — four with IPU and two with non-IPU care models — demonstrates the value of the IPU model. “Providing aerodigestive care in the context of an IPU appears to be economically advantageous,” the authors reported. “In IPUs, the coordinated and integrated care was less expensive than it was in facilities offering notionally separate care. This care in the IPU also improved patients’ tier 1, tier 2, and tier 3 health outcomes. Both components of the value equation — outcomes and cost — improved under IPU care delivery.”<sup>8</sup>

### *Incentive Systems that Reward Value*

With a well-defined IPU patient population, the right team members in the right physical setting, a sound administrative structure, clear overall leadership, and rigorous performance measurement, IPUs create the key conditions for truly excellent and efficient care. A final necessary ingredient, however, is to motivate personnel to change the status quo. IPUs need both push (fear) and pull (hope) incentives to encourage clinicians to change existing practices (e.g., consolidating care in locations that are more efficient and/or deliver better outcomes).

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*IPUs need both push (fear) and pull (hope) incentives to encourage clinicians to change existing practices.”*

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A starting point to create incentives for innovation is for IPUs to be single integrated profit-and-loss units versus allowing funds to flow through legacy organizational structures with their own needs and incentives (e.g., specialty departments). Accurate TDABC accounting will help IPU leaders focus on improving true efficiency rather than lobbying for cross subsidies from other units.

The most powerful incentives require a new reimbursement model (e.g., bundled payments that cover episodes of care for patient conditions or time-based bundles such as for a year of care for a chronic disease). Bundled payments — based on outcomes measures, not process measures — are essential because they allow resources to be allocated to that which works, including high-value care that is not reimbursed under conventional fee-for-service payment systems.

Even in the absence of value-based payment systems, however, provider organizations should support activities that improve outcomes and efficiency, even if they are not reimbursed directly (e.g., care coordination programs). Such activities increase an organization’s ability to achieve better outcomes and thus compete for market share. Fee-for-service payments work counter to value improvement, but an IPU that is a true profit-loss center with accurate data will work to improve its outcomes (to attract more patients) and lower its cost (to enhance its profitability). In the absence of cost data, however, the only way traditional service lines or IPUs can improve performance is to increase the total volume of services. This runs counter to value-based thinking. Financial incentives should never be structured to reward personnel for doing more of any specific activity, but must motivate personnel to perform the right activity for the patient.

The benefits of improved IPU financial performance should support needed investments and be deployed to reward all core IPU personnel. For shared personnel, such as specialist consultants who see IPU patients part time, payment can be on a retainer basis and adjusted periodically on the basis of their actual value contribution (both efficiency and outcomes). While adequate and fair compensation is important, established IPUs consistently report that the most powerful incentive is nonfinancial: pride in improving outcomes.

## **Looking Ahead**

The poor performance of health care systems across the world reflects the numerous barriers that have preserved a legacy structure in health care delivery that has worked against value and the reorganization of care. These barriers have retarded the development of IPUs and sapped the creativity of clinicians wanting to improve patient care. The greatest barriers to IPUs include:

- The fee-for-service payment system (which rewards care fragmentation);
- The organizational structure of provider entities around clinicians and specialties rather than patients (which proliferates silos);

- The lack of rigorous data on actual patient outcomes and true costs (which obscures what is working and has to improve); and, finally,
- Making needed investments in proper facilities and teams when financial margins are thin.

We are now in an era when these barriers are falling. Providers can change if they have the right goal of value. This playbook for development of IPUs as an integral part of the Value Agenda provides a path toward high-value care and the business success that will result.

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