Value-based Healthcare

Value-based Healthcare: Part 2—Addressing the Obstacles to Implementing Integrated Practice Units for the Management of Musculoskeletal Disease

Aakash Keswani BA, Karl M. Koenig MD, MS, Lorraine Ward MBA, MPP,
Kevin J. Bozic MD, MBA

Last month, we introduced the integrated practice unit (IPU)—a patient-centered, value-based, multidisciplinary care model—designed to treat conditions over the full care cycle [7]. This month, we focus on: (1) One institution's plan for implementing

IPUs, (2) potential obstacles to adopting this approach, and (3) approaches for addressing those obstacles.

Creating an IPU for Lower Extremity Joint Pain

Given the high prevalence and societal costs of managing conditions that

that might pose a conflict of interest in connection with the submitted article. All ICMJE Conflict of Interest Forms for authors and *Clinical Orthopaedics and Related Research*® editors and board members are on file with the publication and can be viewed on request. The opinions expressed are those of the writers, and do not reflect the opinion or policy of *CORR*® or The Association of Bone and Joint Surgeons®.

A. Keswani BA
Icahn School of Medicine at Mount
Sinai, New York, NY, USA

K. M. Koenig MD, MS, L. Ward MBA,
MPP, Kevin J. Bozic MD, MBA (✉)
Department of Surgery and Perioperative
Care, Dell Medical School at The
University of Texas at Austin, 1400
Barbara Jordan Blvd. Suite 1.114,
Austin, TX 78723, USA
e-mail: kevin.bozic@austin.utexas.edu

manifest as lower extremity joint pain, such as osteoarthritis, the Dell Medical School has designed an IPU for managing this common condition. The IPU is designed to improve value—defined as health outcomes that matter to patients per healthcare dollar spent—through developing a treatment plan tailored to patients' preferences and serving as a “one-stop shop” of services to longitudinally address both the clinical and psychosocial factors affecting their musculoskeletal illness.

A key feature of the lower extremity joint pain IPU is a holistic evaluation before the patient arrives for his or her visit. This evaluation is achieved via: (1) An online collection of patient-reported outcomes (PROs) to assess mental health status, overall health status, and condition-related functional outcomes prior to clinic; (2) the gathering of a detailed medical history; and (3) a review of the data in an IPU team “huddle” prior to the patient's visit to identify which multidisciplinary IPU services could potentially improve lower extremity joint pain-specific patient outcomes and overall health

A Note from the Editor-in-Chief:

We are pleased to present to readers of *Clinical Orthopaedics and Related Research*® the latest installment of Value-based Healthcare. In this month's column, the authors present the second of a two-part series on Integrated Practice Units (IPUs), a novel, patient-centered, value-based, multidisciplinary care model piloted at a small number of institutions. Part 1 covered how to design and implement an IPU. In this concluding column on the topic, the authors detail the obstacles to implementing this new approach, as well as the ways to address those obstacles. Our Value-based Healthcare column explores strategies to enhance the value of musculoskeletal care by improving health outcomes and reducing the overall cost of care delivery. We welcome reader feedback on all of our columns and articles; please send your comments to eic@clinorthop.org. The authors certify that they, or any members of their immediate families, have no funding or commercial associations (eg, consultancies, stock ownership, equity interest, patent/licensing arrangements, etc.)

Value-based Healthcare

status. The latter conversation begins the process of defining an individualized treatment pathway for each patient. An online platform, which should be compatible with mobile and web-based devices, enables two-way communication with the patient and initiates information sharing prior to the in-person visit by delivering relevant decision aids in digestible “chunks.” An online component also allows patients to share their preferences, values, and treatment goals with the clinical team prior to their visit.

IPU in Practice

To illustrate, we will use the example of a 70-year-old woman with obesity and mild depression, who presents with pain from severe osteoarthritis of the knee. Consistent with the principle of “downstreaming” care [7], all patients seen in the IPU will initially be evaluated by a specialty-trained orthopaedic nurse practitioner or physician assistant (termed an “associate provider”). The associate provider will review information collected prior to the visit with the patient and help the patient understand which treatment options may be appropriate based on her preclinic PROs, level of patient activation, and chronic comorbidities. The patient, having electronically received decision aids regarding lower extremity joint

pain before her visit, can ask relevant questions and share her goals in seeking treatment, such as pain relief or a return to her favorite activity. Based on this conversation, patients will be offered additional services, such as weight management counseling, mental health support, smoking cessation programs, and social worker support to address psychosocial drivers of musculoskeletal illness. These services could all be offered through a single member of the care team such as a social worker trained to provide care coordination, mental health, and behavior modification support. With the patient’s consent, these services and the “core” treatments for lower extremity joint pain (including physical therapy, NSAIDs, steroid injections) comprise her personalized treatment plan.

The type, frequency, and delivery mechanism (virtual vs. in-person, or from the IPU team vs. an existing community partner) of treatment will vary based on the patient’s clinical and psychosocial characteristics, as will triggers for progressing to other phases of treatment. A worsening of the patient’s PRO scores, for example, may precipitate a conversation to see whether her symptoms have become sufficiently limiting to consider surgery. The patient and associate provider agree upon realistic, measureable goals from treatment and this “contract” is available to the patient online. If there is

a diagnostic dilemma or it becomes clear that a patient is an appropriate candidate for surgery, the associate provider will invite the orthopaedic surgeon into the conversation.

Patient engagement beyond the office visit involves robust virtual followup, including monitoring of PROs and clinical data to ensure patients achieve their goals. The level of engagement from the IPU team will vary depending on the patients’ needs and preferences. For example, low-complexity patients respond to PRO surveys at regular intervals and are contacted only if they raise an issue (via the two-way communication platform) or if there is an unexpected change in PROMs. For more-complex patients (such as our example patient in the previous paragraph), an assigned care coordinator may check in by phone or video-conference biweekly to support her. Some IPU services such as weight management or home physical therapy support can be delivered virtually through online platforms. If the treatment plan does not yield the desired improvement or maintenance of outcomes, the patient’s lead provider, which is usually the associate provider, can explore alternative or additional treatments with the patient.

We believe the approach described above will drive higher value across a population of patients with lower extremity joint pain, and expect that

Value-based Healthcare

most patients will achieve their goals with nonoperative treatment. However, for a certain proportion of patients, stabilization or lessening of the impact of the disease on their quality of life may be the best we can hope for (even with surgical treatment). We will assume our example patient achieved her goals. At this point, the associate provider would facilitate her transition out of the IPU and back to the primary care environment. This involves contacting her primary care provider to share a summary of treatment provided and recommendations for condition maintenance. In the future, if the patient's lower extremity joint pain were to return, the primary-care physician could refer the patient to the IPU once again.

Obstacles to Implementing an IPU Approach

The barriers to implementing IPU will vary based on the condition being treated, organization of the providers, and characteristics of the local community. These barriers can be divided into three subcategories: Operational, technology, and payment/contracting.

Operational Challenges

Allowing associate providers and other nonphysician providers to take on

greater clinical responsibility is a departure from current practice. However, multiple health systems, such as 26 primary care clinics under the Interior Health Regional Health Authority in Ontario, Canada, and the head and neck cancer service at the University of Michigan Medical Center have implemented nonphysician-led delivery models demonstrating clinical outcomes similar to those of physician-led models while achieving greater patient and provider satisfaction, and greater specialist physician availability for more complex patients [4, 8]. As described by the authors, some patients may not respond positively to seeing associate providers. In these situations, having the orthopaedic surgeon available to see any patient who wants to see them, and having the surgeon introduce the associate provider as part of the “care team” are two potential solutions.

Most institutions will choose to develop multiple IPU to address different conditions similar to MD Anderson's oncology IPU [10]. In these cases, certain IPU (such as those for lower extremity joint pain and low back pain) may draw upon physical therapy and behavioral health since they are similar services. Treatments and services unique to an IPU or condition are considered “core”, while those used by multiple IPU/conditions should be considered “shared”

services. Operationally, the latter should be located and staffed to enable easy, real-time access to all IPU utilizing the service. This approach is similar to that of the “shared service centers” that have been adopted by more than 30 US integrated delivery systems for business functions such as procurement and human resources/finance in which staff are co-located and share a single information system [9]. Still, there are several trade-offs worth considering. In terms of operations, having services embedded within the IPU, as opposed to centralized, would enable immediate access to those services for patients in the IPU, along with much less scheduling complexity since the service is no longer shared. The major risk is that certain IPU may not have sufficient demand for nutrition and weight management services relative to resources available, thereby resulting in wasted capacity.

The daily scheduling of shared services presents another challenge, given the need to provide seamless patient access while ensuring appropriate supply and utilization of services. Upfront stratification of clinical needs based on PROs responses and previsit data collection, and virtual delivery of services are two strategies to reduce scheduling complexities. Several health systems, including Partners HealthCare, have developed efficient systems to assess patient complexity

Value-based Healthcare

previsit, enabling primary care clinics to schedule and staff accordingly [6]. Additional strategies include providing extended hours for in-clinic and virtually-delivered services. Lastly, a certain proportion of patients may not want or need multiple shared services.

Technology Challenges

There are several technology capabilities that are essential for driving patient-centered value through this model. Perhaps most critical is a patient-engagement platform that enables two-way communication (whether by text, voice, or videoconference) and sharing of content (such as care pathway information, photos/videos of wounds, and personalized treatment plans) between the patient and IPU care team via web-based and mobile devices. The platform must collect outcomes (like PROs, patient satisfaction) longitudinally and display the data in real-time for use in and beyond the clinic. The platform improves communication within the care team, and enables a dashboard approach so that providers can focus resources on the patients who most need intervention, based on real-time information. Virtual care delivery has been tested widely: For example, the United States Department of Veterans Affairs has trialed multiple telehealth applications (including face-face

consultations, tele-imaging) for needs related to chronic conditions, mental health, and specialty consultations in some 820,000 veterans (as of 2013) with an estimated savings of USD 1500 per patient and mean patient satisfaction score of 86% [3]. A major barrier to acquiring this technology, beyond staff/patient training and upkeep, is the upfront cost of customizing the platform to the specific needs of the IPU. In our experience, many vendors have indicated a willingness to partner with providers in building these platforms at little to no cost in exchange for having a collaborator to trial, improve, and validate the application. In addition, several major electronic health record companies [1, 5] are quickly building and rolling out additional features of their core products to meet these needs.

Technology enables ongoing outcomes data collection, which is critical for enabling the real-time use of these data to continuously improve value. For example, Berliner and colleagues [2] have shown that preoperative joint function, pain, and mental health PROs can be used to predict which patients are most likely to achieve a clinically meaningful improvement in pain and function from surgery. This algorithm (and others like it) are built into risk calculators for use during the office visit so patients can receive a personalized risk/benefit assessment during the

shared-decision making process. Ideally, these platforms will use machine learning techniques to continuously refine the algorithms based on incoming patient data. The same principle would apply to models analyzing operational data collected in-clinic (such as clinic room utilization, shared service supply optimization, patient wait time). With these data, providers can make continuous adjustments to the care model and patient experience based on real-time, quantifiable feedback.

Payment and Contracting Approaches

Last month [7], we highlighted the importance of measuring performance in order to optimize value. These data will also be critical for orthopaedic providers and payors to develop population-level, risk-sharing contracts. Ideally, payors will continue to take on insurance risk (as might accrue following unforeseeable events or in the care of complex patients), while the IPU will assume the performance risk for longitudinally managing the medical condition itself. Through providing personalized treatment programs to patients who are most likely to benefit from them, and by addressing the psychosocial drivers of disease, the IPU can achieve improved health outcomes at a lower cost per patient. In order to incentivize the care team, the

Value-based Healthcare

IPU must share in a portion of those savings with the team members delivering and supporting care, and, after delivering superior value, be able to contract with payors for greater patient volume in the future.

Given reimbursement rules under fee-for-service payment models, and the fact that many services described (e-consults, social work, mental health support) are often not currently covered by employers and insurance plans except for in specific cases (such as bundled payments), models like the lower extremity joint pain IPU will likely be harder to justify in the current state. They will likely result in lower margins or even negative margins relative to current performance. Furthermore, as has been shown with the US health insurance exchanges, there will be significant lag time as payors develop the necessary infrastructure and processes to support risk-based contracts; since most payors are not ready for true value-based payment approaches, the vast majority of clinical practices and health systems pursuing IPU-like models will likely work under hybrid arrangements. These arrangements could range from expansion of fee-for-service to cover certain shared services, or slight modifications of current bundled payment models. At the same time, due to the impending rollout of the Medicare Access and CHIP Reauthorization Act,

which provides significant direct incentives for physicians to move towards alternative payment models and comprehensive quality measurement at the individual provider level, movement towards an IPU-like model will likely pick up pace. In our experience, we have encountered and begun working with employers and payors who are interested in realigning incentives in order to financially justify models like the lower extremity joint pain IPU. In these cases, we recommend starting with a small pilot population, minimal financial risk for providers, appropriate risk-adjustment, and mutual trust built upon a desire to improve value for patients.

References

1. AthenaHealth. Electronic health records. Available at: <http://www.athenahealth.com/practice/athenaclinicals/ehr>. Accessed August 26, 2016.
2. Berliner JL, Brodke DJ, Chan V, SooHoo NF, Bozic KJ. John Charnley Award: Preoperative patient-reported outcome measures predict clinically meaningful improvement in function after THA. *Clin Orthop Relat Res*. 2016;474:321–329.
3. Darkins A. Experience of the VA and IHS. In: Lustig TA, Board on Healthcare Services, Institute of Medicine, eds. *The Role of Telehealth in an Evolving Health Care Environment: Workshop Summary*. Washington, D.C.: The National Academies Press; 2012.
4. DiCenso A, Bourgeault I, Abelson J, Martin-Misener R, Kaasalainen S, Carter N, Harbman P, Donald F, Bryant-Lukosius D, Kilpatrick K.. Utilization of nurse practitioners to increase patient access to primary healthcare in Canada—thinking outside the box. *Nurs Leadersh (Tor Ont)*. 2010;23:239–259.
5. Epic. About us. Available at: <http://www.epic.com/About>. Accessed August 26, 2016.
6. Grant RW, Ashburner JM, Hong CS, Chang Y, Barry MJ, Atlas SJ. Defining patient complexity from the primary care physician's perspective: A cohort study. *Ann Int Med*. 2011;155:797–804.
7. Keswani A, Koenig KM, Bozic KJ. Value-based Healthcare: Part 1—Designing and implementing integrated practice units for the management of musculoskeletal disease. *Clin Orthop Relat Res*. [Published online ahead of print July 25, 2016]. DOI: [10.1007/s11999-016-4999-5](https://doi.org/10.1007/s11999-016-4999-5).
8. Mason H, DeRubeis MB, Foster JC, Taylor JM, Worden FP. Outcomes evaluation of a weekly nurse practitioner-managed symptom management clinic for patients with head and neck cancer treated with chemoradiotherapy. *Oncol Nurs Forum*. 2013;40:581–586.
9. McDowell J. Shared services centers can drive significant savings. *Healthc Financ Manage*. 2011; 65:118–22, 124.
10. Ying AK, Freely TW, Porter ME. Value-based healthcare: Implications for thyroid cancer. *Int J Endocr Oncol*. 2016;3:115–119.