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Dell Med: Transforming Care Delivery & Payment

"It's Really Time To Revolutionize The Way People Get – And Stay - Healthy"

- Dr. Clay Johnston, Inaugural Dean, Dell Medical School at the University of Texas at Austin[1]

Dr. Clay Johnson, in 2014, was appointed the founding dean of Dell Medical School with a mission to apply novel care delivery models to improve health and care access in south-central Texas. Since that time, the school experienced many successes, but broad acceptance and implementation of Dell Med's new payment models remained elusive, with no clear purchaser of care eager to collaborate to improve scale and reach. With the recent announcement of a new academic medical center to be built in Austin, Texas' state capital, Dell Med's leadership team wondered how to find purchasers interested in engaging in value-based payment models at scale.

Health and Health Care in Travis County, Texas

Travis County, in south-central Texas, was home to nearly 1.3 million people,[2] with 1 million residing in Austin, the county's largest city and the state's capital. Nearly 50% of Travis County residents self-identified as White, 33% as Hispanic or Latino (33%), and 10% as Black. Black residents had an obesity prevalence of 40%, higher than both Hispanic (27%) and White residents (18%).[3] Black patients' diabetes prevalence of 13% was also higher than Hispanic (11%) and White (5%) residents.

Austin was a high growth region; real gross domestic product (GDP) had increased 31% between 2016 and 2021, nearly three times the rate of other U.S. metropolitan areas.[4] Travis County's 11% poverty rate was similar to the U.S. average but its 15% rate of uninsured under age 65 exceeded the 9% national average, largely because Texas had chosen not to expand Medicaid coverage after passage of the Affordable Care Act in 2011.[a]

[a] As of May 2023, 40 states have committed to expand Medicaid access since the passage of the Affordable Care Act (ACA) in 2010. However, Texas is one of the 10 states that have not expanded Medicaid. Medicaid expansion – as outlined in the ACA – would help provide coverage to nearly all adults with incomes up to 138% of the federal poverty line, with additional funding supporting this change via a federal matching program.

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Much of Travis County's health care was provided in the city of Austin by two major providers, St. David's HealthCare, managed by the national for-profit HCA Healthcare company, and Seton Healthcare Family, part of national non-profit Ascension Health.[5] Many residents received care in numerous independent clinics and practices, as well as ambulatory surgical centers throughout the county as well. Despite several initiatives, such as the Community Care Collaborative, an independent 501(c)(3) joint venture between Seton Healthcare Family and Central Health, to provide health care to uninsured or underinsured residents, access to care remained a challenge in the region.

In 2004, Travis County voters voted to create and fund Central Health, or the Travis County Healthcare District, a publicly supported purchaser of health care for individuals who were at or below 200% of the federal poverty level ($2,265) but did not qualify for Medicaid, Children's Health Insurance Plan (CHIP), or Medicare.[6] Central Health purchased care mainly through partnerships with local clinics and hospitals, who agreed to accept Central Health's Medical Access Program, or MAP, insurance.

"Rethink Everything"

Although it was home to the state capital and the University of Texas at Austin, Travis County had no medical school, though several local hospitals offered limited graduate medical education programs. In 2011, Texas State Senator Kirk Watson proposed "10 Goals in 10 Years for Health Care" and placed building a new medical school at the University of Texas at Austin at the top of the list.[7] The University of Texas Board of Regents approved $65 million for a new medical school and faculty recruitment.[8] In need of more funding to make a medical school a reality, on November 6, 2012, with 55% of the vote,[9] citizens of Travis County approved Proposition 1, which authorized an increase in the property tax to improve the health of the community, including support for a new medical school.[10] In January 2013, the Michael & Susan Dell Foundation pledged $50 million over 10 years toward the new school as a naming gift.[11] The University of Texas Board of Regents, in May 2013, approved the construction of three new buildings for the medical school campus.

The Birth of a New Medical School

Clay Johnston, M.D., Ph.D., was hired in January 2014 as the inaugural dean of Dell Med. A neurologist and epidemiologist, Johnston had previously been the associate vice chancellor for research and pat of the leadership team at the Center for Healthcare Value at the University of California, San Francisco. Upon arriving in Texas, he stated his vision: "create a medical school that really represents where health care should be going, not where it's been".[12] Johnston intended to build a new structure for clinical care designed around the needs of distinct condition-based patient segments. His slogan was "Rethink Everything".

In July 2014, Central Health, the Community Care Collaborative, and Dell Med formalized an affiliation agreement, which provided an additional $35 million per year to the new medical school and its care programs. Johnston recruited Kevin J. Bozic, M.D., M.B.A., an orthopaedic surgeon with subspecialty training in lower extremity total joint replacement, to be Dell Med's Chair of Surgery and Perioperative Care. Bozic had been the Vice Chair of the Department of Orthopaedic Surgery at the University of California, San Francisco (UCSF) and core faculty at the Philip R. Lee Institute for Health Policy Studies. He had also studied with Professor Michael E. Porter at Harvard Business School and became a passionate advocate for value-based health care. Bozic had guided care and payment reform at the U.S. Centers for Medicare and Medicaid Services (CMS) and the Center for Medicare and Medicaid Innovation (CMMI). He felt that the traditional models of health care delivery and payment had not produced outcomes and experiences that patients and physicians desired. He believed that a new model of musculoskeletal care could reduce costs, enhance access, and improve patient outcomes.

Dell Med compressed the traditional medical school science curriculum and core clinical rotations from three into two years. A new third year, coined the "growth" year, included a 9-month "Innovation, Leadership and Discovery" block that allowed students to engage in community-based health projects or pursue a joint degree at a University of Texas at Austin professional school, including an M.B.A. from the McCombs School of Business, an M.P.A. from the LBJ School of Public Affairs, or an M.A. from the School of Design and Creative Technologies.[13] The final, or fourth, year was more traditional and allowed students to assist in direct patient care, interview for residency training programs, and take required courses on skills development for physician-leaders.

Dell Med's GME programs focused on the clinical aspects of care delivery and leadership. For example, a clinical fellowship in orthopaedic surgery consisted of 60% clinical work on lower extremity total joint replacement and 40% on research and value-based health care activities.[14]

Dell Med and the McCombs School of Business, through a joint venture, created the Value Institute for Health and Care to be a home for value-based health care thought leadership and advisory support. The Institute was led by Professors Elizabeth Teisberg and Scott Wallace and introduced a non-residential, one-year M.S. program in Health Care Transformation.

New Model for Integrated Care Delivery

Along with the creation of the new medical school, Dell Med set out to create a new way to organize the delivery of clinical care that would be centered around the needs of patients based on conditions or families of conditions.

Johnston organized Dell Med by both traditional academic departments (e.g., ophthalmology, oncology, and neurology), along with institutes and centers focused on specific patient needs, such as the Mitchell and Shannon Wong Eye Institute, the Waggoner Center for Alcohol & Addiction Research, and the Musculoskeletal Institute.[15] Within the respective clinical entities, multidisciplinary clinical and administrative teams built Integrated Practice Units (IPUs) around certain conditions that were determined to be high priority for the overall patient population needs in Travis County. For example, Dr. Charles D. Fraser, Jr, a senior pediatric cardiac surgeon,, Dr. Carlos M. Mery, a pediatric cardiac surgeon, and Kathy Carberry, a nurse by training with a special focus on building team-based care model, were recruited from Texas Children's Hospital, where they had jointly helped develop and lead the number one congenital heart surgery program by U.S. News and World Report.[16] Through a collaboration between UT Health Austin and Dell Children's Hospital, the team set about building a new IPU for congenital heart disease. Similarly, IPUs were built in condition areas at different points of time, such as women's health, bipolar disorder, and multiple areas of musculoskeletal disease.

Building Integrated Delivery Models: The Example of the Musculoskeletal Institute at Dell Med

One area that Dell Med chose to focus on for building out an IPU structure was in musculoskeletal disease, which affected 50% of the U.S. population 18 years or older[17] And was the leading cause of missed work.[18] Five musculoskeletal disorders were among the top 20 causes of years lived with disability (low back pain (1), other musculoskeletal disorders (4), neck pain (6), osteoarthritis (12), and rheumatoid arthritis (20).[19] In 2016, Central Health had a backlog of 1,401 patients and a wait time of more than a year to see an orthopaedic surgeon.[20] Many health care professionals did not accept patients from Central Health because of its low payment rates in the MAP program, and with a fixed budget, fee-for-service model, Central Health also limited the number of new orthopaedic appointments the musculoskeletal providers who did see Central Health patients were able to offer.[21]

Bozic hired orthopedic surgeon Karl M. Koenig, M.D. to be Chief of the Division of Orthopaedic Surgery and Executive Director of the Musculoskeletal Institute within UT Health Austin, the clinical practice of Dell Med. Koenig, a specialist in knee and hip replacement surgery, had previously led projects for bundled payments and team-based care at Dartmouth Hitchcock Medical Center. In 2016, one of the first steps that the Dell Med Musculoskeletal Institute took was to work with Central Health personnel to consolidate and address Travis County's long waitlist for orthopaedic care. Central Health did not have robust electronic record keeping, and it took many months for Koenig, alongside Devin Williams, a Nurse Practitioner (NP), to develop a clean waitlist from the mass of paper records with incomplete patient data. By the end of 2016, however, just as Dell Med's new clinical buildings were ready for occupancy, the task was completed, and the new Musculoskeletal Institute was ready to launch. The Musculoskeletal Institute created four musculoskeletal IPUs: lower extremity, upper extremity, sports, and back and neck. The lower extremity IPU was one of four IPUs within Dell Med's overall musculoskeletal health transformation strategy.

The Lower Extremity IPU

In addition to overseeing the Musculoskeletal Institute, Koenig was the clinical director of the Lower Extremity IPU, focusing primarily on chronic hip and knee pain. Koenig advocated for a holistic care approach to chronic lower extremity pain. The approach would include nutrition and diet services to address obesity, and social work services to address social determinants of health, such as financial stress, employment issues, and behavioral health concerns. Koenig believed that an integrated approach would not only improve musculoskeletal health but also the patient's overall health and well-being and be more cost-effective than traditional care practices.

Core to the lower extremity IPU approach was that the team met in a "huddle" at the beginning of each clinic day to review the patients to be seen that day (**Exhibit 1**). Before a clinic day, an advanced practice providers (NP or physician assistant [PA]) reviewed each patient's chart and searched for available imaging and any other pertinent clinical information to inform the meeting and help optimize care delivery later in the day. The NP or PA used email or text message to acquire patient-reported outcome measures (PROMs), which they combined with basic clinical history and symptoms. During the discussion of each patient, either Koenig or Bozic guided the discussion of a proposed treatment plan until a consensus was reached, including which team members should see each patient. A medical assistant prepared orders for imaging, labs, and insurance reviews. Any available team member contacted social workers and nutritionists immediately after the "huddle" to brief them about the patients they would see during the clinic day. This was done through Microsoft Teams or the electronic messaging application in the electronic medical record (EMR), and it allowed social workers and nutritionists to both schedule their own patients on days, yet also hold spare time to see patients as needed in the IPU. Typically, the decision of which health care professionals would see which patients was decided during the "huddle." Any changes were documented on a whiteboard located around the care team workspace in real-time in an attempt to help the team stay organized and more effectively manage transitions of care.

A design team at Dell Med had worked with the Musculoskeletal Institute in rethinking the physical layout of the clinical space for orthopaedic care. One decision was that upon arrival at the clinic, patients, rather than having time in a waiting room, were brought directly to their clinic room, where they could feel more "at home" in their own private space, serving as both their waiting area and clinic space. A central working space for all members of the IPU sat at the core, with patient rooms organized around. Patients and providers had their own doors to enter and exit each clinic room, allowing for greater privacy and decreased interference with central clinical workspaces. Each patient room had a couch for family or other members of their support team to remain with them during the clinic visit, as well as a well-labeled closet space for personal patient belongings and a large television

monitor to allow the providers, patients, and support team members to view images and pertinent clinical data together (see **Exhibit 2**).

The patient's in-person clinic visit started with check-in, followed by any necessary x-ray imaging that had yet to be completed. Patients without complete PROMs were brought to their clinic room, where they completed their PROMs before being seen. After completing documentation, patients watched a brief video on the large television screen explaining the IPU care model. The video highlighted the fact that specific members from the care team had been selected, based on the patient's clinical needs, to see them. This helped patients understand why they may not see, for example, an orthopaedic surgeon if not clinically indicated. In order to feel comfortable with their treatment plan, patients could, however, request a visit from the surgeon. Unlike traditional orthopaedic visits, social workers and nutritionists would often engage with patients in care plans that helped them to optimize their overall health, which bolstered the success of their musculoskeletal care treatments. After COVID, the nutritionist only provided care virtually regardless of whether patients were seen in-person or via telehealth, while the social workers split their time between in-person and virtual care. The decision was made to try to include these services, for example, via telemedicine whenever possible when it was felt to be clinically equivalent or better to in-person care and gave both patients and providers greater flexibility and convenience. Those providing care remotely were looped in via a virtual waiting room on a large TV screen while the patient was physically in a clinic suite at the Musculoskeletal Institute. Any advanced imaging, such as CT or MRI scans, was performed during a separate appointment elsewhere, since imaging modalities were not co-located.

Follow-up planning was included at the end of each clinic encounter. The "primary" provider for the encounter, typically an advanced practice provider, would summarize the visit alongside the patient and discuss options for "next steps". Typically, follow-up was offered in a number of different formats, including telemedicine, phone call, messaging through the patient portal, or in-person. Through a discussion with their providers, patients – based on their comfort level – select the follow-up option that is best for them and considered "safe" by the care team.

Outcomes Measurement

Bozic and Koenig introduced PROMs as a central part of the care delivery model (see **Exhibit 3**), allowing IPUs to measure the symptoms most important to patients, not just the traditional process or clinical outcomes metrics, such as complication, readmission, and mortality rates. To implement and manage a large-scale PROMs collection program long-term, Bozic and Koenig knew they needed a full-time individual with PROMs, value-based health care, and digital technology experience. In 2019, Prakash Jayakumar, M.D., Ph.D., an orthopaedic surgeon by training and previous Harkness Fellow with substantial value-based health care research experience through The Commonwealth Fund, joined the Dell Med team. As the Director of Value-Based Health Care and Outcome Measurement at Dell Med, Jayakumar oversaw the quality improvement team. Amongst his primary responsibilities included PROMs implementation and management, as well as improvement in the use of digital health tools to personalize shared clinical decision-making.

At Dell Med, all patients were asked to submit PROMs, by email or text within two weeks of their initial clinic appointment. Mental health PROMs were the only exception. These were completed in person, enabling the Musculoskeletal Institute to mobilize a social worker in real-time to engage with patients with mental health concerns, including symptoms of depression and anxiety. Case management were also available for any social health concerns. At new patient visits, PROMs were required to be completed before patients were seen. This disciplined process yielded a 100% PROMs completion rate for initial visits.

Collection of PROMs after the initial new patient clinic visit was contingent on the visit type. Scheduled follow-up appointments required functional, self-efficacy, mental health, and overall quality of life PROMs. For patients who returned to clinic, completion rates hovered around 100%. However, for patients who did not return to clinic, though there was a desire to see how they were faring clinically, completion rates were about 30%. Patients seen outside of a scheduled, planned follow-up appointment were asked to complete whichever PROMs, typically disease-specific, had been determined to be appropriate by the Dell Med team. Dell Med partnered with a third-party PROMs vendor to deliver, score, collect, and report scores. The vendor, however, experienced several programming challenges, including wrong PROMs being assigned, which frustrated patients, and breakdowns in communication between the PROMs vendor and the EMR system. As of Fall 2023, UT Health Austin had gone through two PROMs vendors and was planning to move to a third because of these ongoing challenges.

Dell Med's Bozic and Jayakumar also co-developed with OM1, a technology firm focused on utilizing real-world data to provide more personalized care, an artificial intelligence (AI)-driven patient decision aid to assist in shared clinical decision-making for patients with knee osteoarthritis. The tool included three modules for patients: 1) osteoarthritis education; 2) preference sharing by patients regarding pain relief goals and commitment to surgical recovery; and, 3) a personalized outcomes "report card," which provided estimated probabilities of complications and improvement in joint pain, joint stiffness, and quality of life based on each individual patient's demographic information, clinical characteristics, and PROMs data. Early indications showed that use of the AI decision aid improved the quality of patients' decisions, the level of shared decision-making, patient satisfaction, and functional outcomes.[22]

Costing

Koenig and Jayakumar also led a concerted effort to use time-driven activity-based costing (TDABC) to measure the cost of care delivery more accurately. Dell Med received a grant to introduce real-time location systems (RTLS) sensors to more accurately measure the time clinicians and staff spent with patients. The research grant involved placing sensors in all clinical and staff spaces used by the lower extremity IPU and supplying all staff and providers with their own sensors to wear.

Initial costing results found that, on average, patients who presented to the clinic spent only 10.9 minutes with the surgeon, while they spent 39.2, 30.5, and 22.6 minutes with nutritionist, social worker, and physical therapist, respectively. These data could now be used, along with personnel capacity cost rates, to calculate patient-level costs.

Initial Results from the Lower Extremity IPU

At the launch of the lower extremity IPU, 1,401 patients covered by Central Health sat on the waitlist to see a provider for their musculoskeletal concerns. Less than 10 months later, on March 31, 2017, the waitlist had been eliminated, with patients who did ultimately undergo a total joint replacement as part of the IPU model of care having decreased length of hospital stay, higher rates of discharge home, and no difference in 30-day readmission compared to patients treated in the traditional fee-for-service model.[23] No routine PROMs collection and assessment were available during this initial phase of the IPU when the team focused on addressing the waitlist.

Along with addressing the Central Health waitlist, the IPU model of care led to high employee satisfaction, driven by a renewed focus on a team-based approach to care delivery. Physicians elected to be called by their first names, and each day's team "huddle" reinforced that all team members' voices were important. Staff and physician turnover rates were very low.

However, as the clinic became busier, issues became apparent. With more patients being served, the clinic flow became interrupted at times, with some patients having to sit in chairs or benches in the hallway until their clinic room became available.

Bundle Payments

Central Health Lower Extremity

Building on the trust now existing between the two entities after the Musculoskeletal Institute had worked off Central Health's long musculoskeletal waitlist, they began to design a new healthcare services payment system for the uninsured population of Travis County.

Central Health, with limited financial resources, had long sought consistency and stability for its payments for health care services, as well as transformational improvements for delivering care to their beneficiaries.

Koenig, Miranda Hoff, M.P.A., Manager of Strategic Initiatives, and Lorrayne Ward, M.P.P., M.B.A., Senior Director of Operations and Strategy, began the process to design a bundle payment contract for treating conditions of a specific anatomic location or pathology, such as knee pain or knee osteoarthritis. Central Health leadership, especially Dr. Mark Hernandez, Chief Medical Officer of the Community Care Collaborative, wanted a model that would capture as many patients as possible. Koenig's Dell Med team responded by expanding the project's scope to create a broader bundle payment around musculoskeletal diseases of the lower extremity, which would cover a larger volume of patients who could receive care within a single contract.

Koenig knew that some musculoskeletal conditions needed to be excluded from such a contract. Bone or soft tissue cancers, for example, required extensive medical and surgical care, a long cycle of care, different resource utilization, and very different patient goals than treating persistent knee pain. Fractures were also excluded.

Koenig reflected that perhaps the simplest grouping would be between acute and chronic conditions. These two groups seemed to have the least within-group and most between-group variation in the resources needed and length of treatment required. He chose chronic musculoskeletal concerns, such as non-specific knee pain, which included severe chronic knee pain due to osteoarthritis, to be the initial candidates for the bundle payment program, allowing acute injuries and diagnoses to remain in the traditional fee-for-service model. He also decided not to stratify, based on patient sub-segment or risk of complication, within the bundle payment since he could not achieve consensus on what and how to risk stratify, and both Dell Med and Central Health lacked billing infrastructure to administer a multi-tier bundle payment program.

The lower extremity bundle payment care cycle would be triggered by the initial clinic appointment. Central Health would make a single up-front payment for all care, including imaging studies, physical therapy, durable medical equipment, dietician, social work, and the surgical fees, related to the presenting complaint for an entire year from the initial visit. Surgical fees related to any required additional surgical treatment for surgical complications, for example, were also included in the single payment. Hospital fees were outside the bundle and paid directly to the hospital. If a patient required care for another concern (e.g., contralateral knee pain), a new, second bundle was started for the new complaint. The bundle payment for the new condition, however, was reduced to about 50% of the original price. Each year, the bundle payment would renew if ongoing care was needed. Dell Med bore all the risk in the bundle payment contract since all its health care professionals, including the surgeon, were salaried employees.

The bundle payment amount was not linked to quality, clinical outcomes, or PROMs. Since UT Health Austin and Central Health felt these metrics remained important, they continued to be measured and reviewed during quarterly quality and outcomes check-ins to ensure accountability.

To price the bundle, care transformation leaders at Dell Med reviewed historical spend and utilization data for the covered conditions. Central Health data had only limited and anecdotal evidence about the conditions. The Dell Med team also reviewed internal costing data, though these were not based on TDABC calculations. The team then made a set of assumptions, which included 100% of patients having an initial clinic visit, only an estimated 15% requiring surgery based on pilot program results, a rate far below the historical percentage, and 60% of patients needing physical therapy services. Other assumptions made focused on imaging and the time commitment of non-orthopaedic surgeon care team members, such as an advance practice provider (e.g., nurse practitioner or physician assistant), nutritionist, or social worker. These assumptions and the limited internal costing data enabled the team to estimate its internal cost of care. Dell Med and Central Health negotiated a breakeven price for the bundle, recognizing the need to provide care for Travis County's underserved residents.

The bundle launched in 2017, though Central Health compliance required that Dell Med maintain fee-for-service coding in clinic notes and billing documentation. Reviewing these data after one full year of the bundle payment program, Central Health had saved about 25% compared to fee-for-service payments. Patients covered under the bundle had fewer advanced imaging studies, joint injections, and surgeries. Both patients treated surgically and non-surgically for hip and knee osteoarthritis demonstrated significant clinical improvement at 6-months and 1-year, as measured by PROMs (see **Exhibit 4**). Over the next five years, no price increases occurred, and Dell Med's resources were being stretched thin as inflation and resource costs escalated.

Over the same timeframe, Dell Med had also introduced an upper extremity bundle payment program with Central Health. By doing so, the majority of patients with musculoskeletal complaints, excluding back and neck concerns, covered by Central Health could be seen at a Dell Med IPU. In addition, under the guidance of Dr. David Ring, a hand and upper extremity surgeon and leader of the upper extremity IPU, substantial cost savings for Dell Med were achieved by moving common hand procedures, such as a trigger finger release, from the operating room to an office-based setting and improving the appropriateness of shoulder surgery indications.

Teacher Retirement System Low Back Pain

While attending a meeting in late 2018, Johnston met Katrina Daniel, Chief Health Care Officer for the Teacher Retirement System (TRS) of Texas. TRS was the largest public retirement system in Texas, serving 1.9 million people.[24] As Johnston described the Musculoskeletal Institute's innovative care delivery and bundle payment models. Daniel inquired whether such models would work for her members, many of whom were commercially-insured and complained of persistent and poorly treated low back pain. This became the target condition for an initial collaboration between TRS and Dell Med.

Dr. Mark Queralt, a physiatrist by training and the leader of the Musculoskeletal Institute's back and neck IPU focused on defining the included conditions, such as non-specific, axial low back and neck pain, for which the scientific literature consensus showed that surgery was not helpful for patients. This criterion led to excluding patients with radiculopathy, myelopathy, or trauma (including fracture) from the bundle, because while surgery was not universal for them, it was more likely a possibility and would have involved a more complex bundle design structure. No other inclusion or exclusion criteria were used, and patients were not risk-stratified by comorbidities (e.g., diabetes or mental health disorder) or health habits (e.g., tobacco use).

Both TRS and Dell Med had a shared goal to provide comprehensive effective care to patients while decreasing spend by reducing unnecessary surgeries. They also wanted to decrease patients' use of opioid pain medications.

The clinical trigger for the case would be presentation to the back and neck IPU with one of the included diagnosis codes. For the next year, all clinical care, including any necessary imaging studies and physical therapy, but excluding surgery, would be included and covered by a single bundle payment. Since surgery was rarely medically appropriate for patients with the included diagnosis codes, any referral to a surgeon would be reimbursed under a fee-for-service mechanism.

Dell Med planned to collect PROMs as part of their outcomes assessment but per Aetna, the commercial health plan administrator, outcomes would not be used to adjust the bundle price.

The proposed bundle payment rate was determined by assessing the average historical spend on such patients, adjusted for reimbursement growth trends and the amount patients can be assumed to cover. Financial bonuses could be achieved by hitting specific targets, which included opioid prescription reductions, patient education documentation, and decreased spend (both operative and nonoperative).

While TRS was eager to implement the bundle payment program as quickly and widely as possible, Aetna, its commercial insurer, had concerns about the administrative burden to design, build, and train a new billing platform for a relatively small segment of the population. Ultimately, Aetna dictated which school districts could be eligible for the bundle and excluded the Austin Independent School District, which was located closest to the Dell Med clinics.

Aetna did not market the program beyond supplying flyers for posting on teachers' lounges bulletin boards and many of the teachers in the included districts did not even know they were eligible for the bundle payment program. Further, most teachers in the eligible districts teachers had to drive 45 minutes or more to access the clinic site. The bundle payment program launched on October 1, 2018. Five years later, less than 10 patients had participated in it.

Towards The Future

In August 2023, the University of Texas System Board of Regents announced plans to create the University of Texas at Austin Medical Center.[25] The $2.5 billion initiative would bring an academic medical center to Austin, the largest city in the United States currently without one Bozic and Koenig anticipated that the new facility would increase the demand for care at Dell Med's lower extremity IPU well beyond the 65% increase already realized from 2018 to 2022. They wondered how they could scale the care delivery and payment models introduced during Dell Med's first five years. Should they focus on employers, or government and commercial payers? The decision would influence the Musculoskeletal Institute's resource capacity decisions and the sustainability of its patient-centered team care approach.

Endnotes

[1] https://www.youtube.com/watch?v=dKBWtu7tBfQ

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[22] https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2776550

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[24] https://www.trs.texas.gov/Pages/about_trs.aspx

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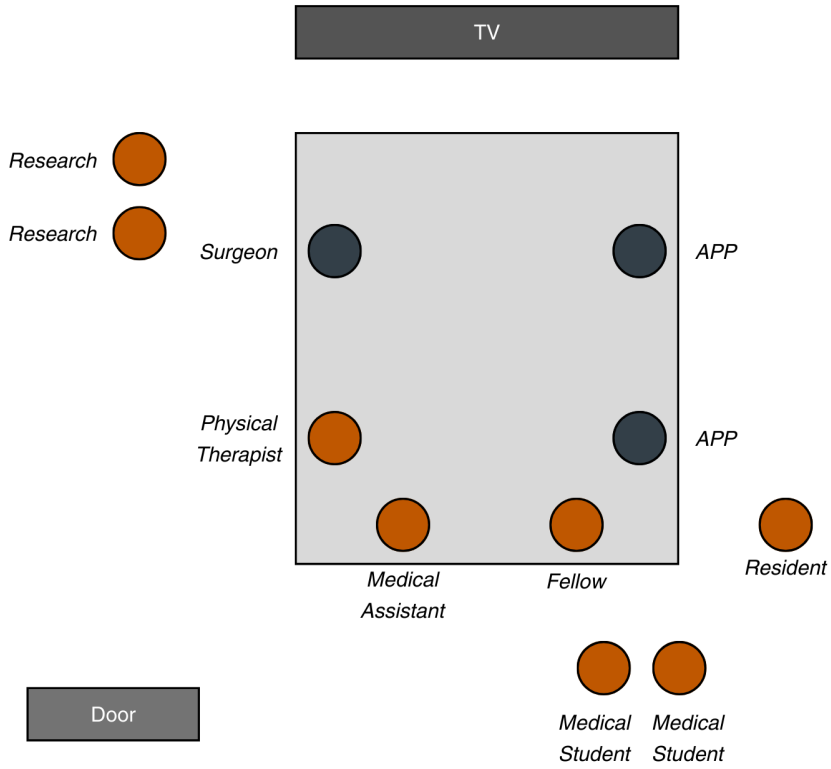
Exhibit 1 A schematic of the pre-clinic day lower extremity IPU team "huddle"



Note: The "huddle" leaders are colored dark. APP: advanced practice provider.

Source: Casewriter, based on company documents.

Exhibit 2 A clinic exam room at Dell Med's Musculoskeletal Institute.

Source: UT Health Austin

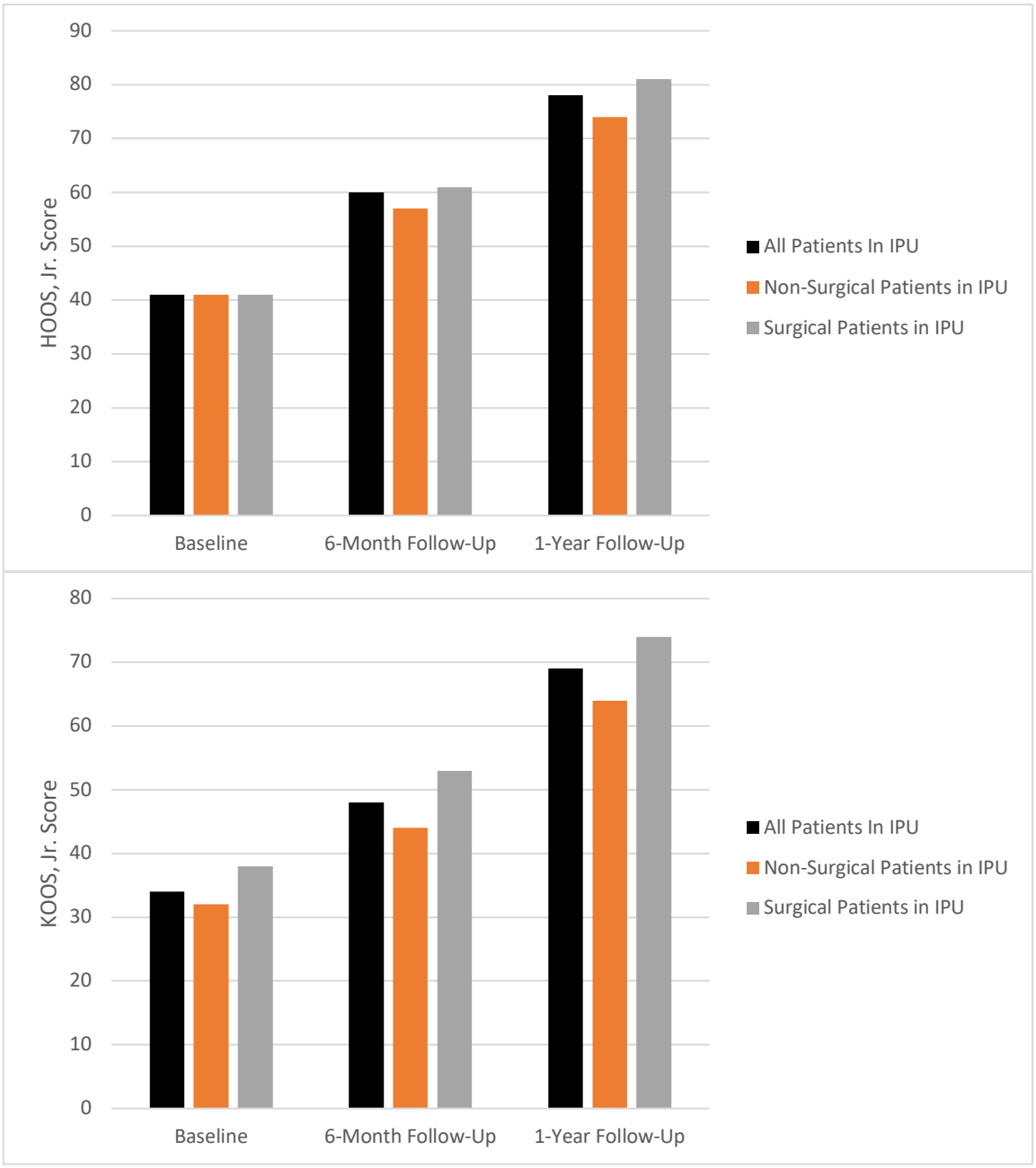
Exhibit 3 Patient-reported outcome measures (PROMs) collected as part of routine care in the Musculoskeletal Institute's lower extremity integrated practice unit (IPU)

PROMs
1. Hip dysfunction and Osteoarthritis Outcome Score, Jr. (HOOS, Jr.)*
2. Knee dysfunction and Osteoarthritis Outcome Score, Jr. (KOOS, Jr.)*
3. Generalized Anxiety Disorder-7 (GAD-7)
4. Patient Health Questionnaire-2/9 (PHQ-2/9)
5. Pain Self-efficacy Questionnaire-2 (PSEQ-2)
6. Patient-Reported Outcomes Measurement Information System Global-10 (PROMIS Global-10)

**Patients completed either the HOOS, Jr. or KOOS, Jr. based on their primary presenting concern but not both.*

Source: Casewriter, based on company documents.

Exhibit 4 Patient-reported outcomes over time for patients from October 2017 to October 2019 with chronic hip and knee pain treated in the lower extremity integrated practice unit (IPU)



n (Baseline) = 2496; n (1-Year Follow-Up) = 496

Source: Casewriter, based on company documents.