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Redesigning the Care of Musculoskeletal Conditions With Lifestyle Medicine

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Abstract

Value-based health care has been accelerated by alternative payment models and has catalyzed the redesign of care delivery across the nation. Lifestyle medicine (LM) is one of the fastest growing medical specialties and has emerged as a high-value solution for root cause treatment of chronic disease. This review detailed a large integrated health care delivery system's value transformation efforts in the nonoperative treatment of musculoskeletal (MSK) conditions by placing patient-centric, team-based, lifestyle-focused care at the foundation. With an economic and treatment imperative to reimagine care, recognizing more intervention is not always better, a collaborative approach was designed, which placed functional improvement of the patient at the center. This article described the process of implementing LM into an MSK model of care. The change management process impacted clinical, operational, and benefit plan design to facilitate an integrated care model. A new understanding of patients' co-occurring physical impairments, medical comorbidities, and behavioral health needs was necessary for clinicians to make the shift from a patho-anatomic, transactional model of care to a biopsychosocial, longitudinal model of care. The authors explored the novel intersection of the implementation of a biopsychosocial model of care using LM principles to achieve greater value for the MSK patient population.

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The Centers for Disease Control and Prevention estimates that 90% of the nation's $4.1 trillion in annual health care expenditures is directed toward the treatment of chronic physical and mental health conditions.[1] In addition to being costly, these chronic conditions are the leading cause of disability and death in the United States.[2] Notably, the presence of multiple chronic conditions is associated with exponentially higher health care cost, utilization, and lower quality of life.[3] Chronic musculoskeletal (MSK) conditions such as arthritis affect 21% of US adults with more than half of cases occurring in the presence of other chronic conditions.[4] Pain due to chronic MSK conditions creates functional impairment and is associated with a decline in mental health, with nearly 1 in 5 adults with arthritis experiencing symptoms of depression and anxiety.[5]

Globally, the impact of low back pain (LBP) is reported as the primary cause of disability. Low back pain impacts 619 million people globally, more than 1 in 4 US adults, and is more common with increasing age.[6,7] An estimated 15.4% of the US population has lost work owing to LBP, an economic impact of 264 million lost workdays. From 2012-2014, the United States spent $364 billion on care for LBP, with most of this spend in lumbar operations.[8] An analysis of health care expenditures in the United States revealed that in 2016, low back and neck pain ranked first among the 154 health conditions with an estimated $134.5 billion spent; other MSK disorders accounted for the second highest amount of health care spending at $129.8 billion, and osteoarthritis (OA) ranked eighth at $80.0 billion.[9] The Center for Medicare and Medicaid Services (CMS) has cited total joint replacement as the most common operation that beneficiaries receive. With more than 1 million operations performed each year, CMS covers 60% of this volume, and these numbers are expected to rise to 2 million operations per year by 2030.[10] This trend is a considerable economic concern, with CMS implementing new regulations to

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ensure quality care is delivered.[11] Owing to the economic impact of these MSK conditions, effective options for nonsurgical care must be developed.

Models of care have been developed, which shift care from episodic to longitudinal support of patients across the continuum of disease.[12] The biopsychosocial (BPS) model has been promoted across clinical practice guidelines for MSK conditions owing to the prognostic value of psychosocial factors such as pain catastrophizing, depression, anxiety, and recovery expectations.[13-18] The BPS model of care includes interventions directed at each domain and delivered in a team-based model. The biological aspects of the condition are assessed and treated by a physician or physical therapist. The psychological aspects are assessed and treated by a behavioral health specialist, psychologist, or other similar professional. The social aspects of the condition are managed by a community health worker, health coach, or social worker. To illustrate the value of the BPS model, recent Cochrane review highlighted the bidirectional interaction between exercise and health beliefs, social functioning, and depression and fear avoidance in population with hip and knee OA.[19]

Lifestyle medicine (LM) is a rapidly growing medical specialty with evidence-based treatment principles aligned with the BPS model of care.[20,21] Lifestyle medicine delivers whole-person care and has shown effectiveness in treating multiple drivers of chronic disease such as systemic inflammation.[22] Lifestyle medicine treatment is grounded in behavior change science and the 6 pillars of health, which include high-quality dietary patterns, regular physical activity, stress management, restorative sleep, social connection, and avoidance/reduction of risky substances.[23,24] In a narrative review, Prather and Cheng[25] evaluated the role of LM interventions to reduce systemic inflammation associated with metabolic OA or OA in the presence of diagnostic criteria of the metabolic syndrome. Their review supports the use of LM to treat and prevent progression of metabolic OA based on the following: (1) reduced pain and improved quality of life with adherence to a whole-food plant predominant dietary pattern; (2) reduction in mediators of inflammation with physical activity; (3) impact of sleep disruption on central pain processing; and (4) reduction in levels of inflammation with mindfulness training.[26-29] Additional evidence exists in support of a micronutrient-rich dietary pattern to maintain optimal weight and reduce inflammation associated with OA.[30] Taken together, use of LM treatment for MSK conditions can reduce underlying chronic inflammation and improve lifestyle factors to improve pain and quality of life for patients with these conditions.

ARTICLE HIGHLIGHTS

- Musculoskeletal (MSK) conditions are highly prevalent in the United States, carry substantial health care costs, and often coexist with metabolic and mental health conditions.
- Chronic inflammation contributes to the experience of pain and poor functioning in patients with MSK conditions.
- Treating patients with evidence-based lifestyle medicine within a biopsychosocial model of care can address patients' pain, poor functioning, metabolic, and mental health needs.
- The redesign of care for patients with chronic MSK conditions using a lifestyle-focused, biopsychosocial model of care requires strategic planning, cross-service line collaboration, and change management to be successful.
- Iterative processes that respond to real-time challenges and barriers are key to success in care redesign.

Linking Pain and LM Interventions

A reconceptualization of treatment provided for the spine pain and lower extremity OA population has been necessary owing to the progress in scientific literature and lagging implementation in clinical practice. A modern neuroscience understanding of pain yields new important insights. The first insight is that pain is the product of a complex interaction of biological, psychological, and social factors, not a product of sensory neuron stimulation.[31] Pain processing and mood are regulated by common neurotransmitters such as serotonin, norepinephrine, glutamate, and γ-aminobutyric acid, and these have a marked effect on the experience of pain[32] (Figure 1). Second, pain can be potentiated or sustained by the presence of inflammation:

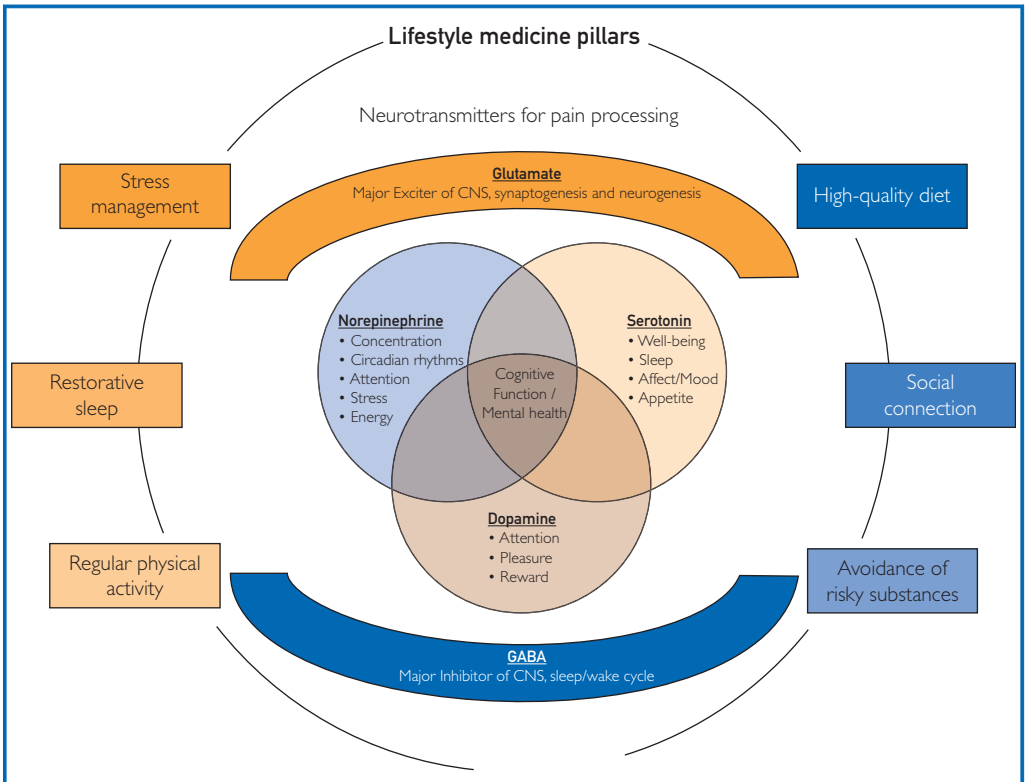

FIGURE 1. Shared neurotransmitters responsible for common pain impairments summarized as sleep, pain, affect, cognition, and energy (SPACE) and the lifestyle medicine pillars. CNS, central nervous system; GABA, γ-aminobutyric acid. Adapted from David Williams, PhD. Used with permission.

local, systemic, or neuroinflammation.[25,33-35] Specific to OA, a growing body of literature has identified this condition as an expression of metabolic syndrome, suggesting significant crosstalk among chronic inflammation, oxidative stress, and endothelial dysfunction, which occurs in other metabolic conditions such as obesity, type 2 diabetes, depression, and cardiovascular disease.[36] Finally, chronic pain is inherently more complex to assess and treat than acute pain. Acute pain mechanisms may be sufficiently addressed within a pathoanatomic model with acceptable outcomes (eg, a broken bone requires fixation to heal). However, a pathoanatomic framework is insufficient and has not produced equivalent outcomes in the chronic pain population. The complex social and neurobiologic processes that are responsible for the progression from acute to chronic pain indicate that the treatment targets for improved function and decreased discomfort due to pain have less to do with nociception but rather the "ecosystem" within and surrounding each patient.[37-39] This may partly explain why pathoanatomic treatment models have failed to address the chronic pain epidemic. A comprehensive review of the neuroscience of pain is beyond the scope of this article; however, the authors recommend few resources for further exploration on the topic.[40-43]

Shared neurotransmitters and the central nervous system changes responsible for chronic pain conditions reliably lead to the concomitant impairments of fatigue, disrupted sleep, problems with cognition, physical dysfunction, and disturbances in affect (ie, anxiety, anger, and depression) that have been summarized as sleep, pain, affect, cognition, and energy (SPACE).[44] Therefore, the goal of lifestyle modification as part of a comprehensive MSK treatment plan is to directly treat the SPACE deficiencies using

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behavioral change strategies around nutrition, exercise, sleep hygiene, socialization, and cessation of substances like tobacco and nicotine (Figure 1).

The Journey to Value for MSK Conditions

Corewell Health West (CHW) is an integrated health care system in West Michigan in risk-based partnership with the health plan Priority Health. Corewell Health West has been on a value transformation journey, which began in 2021 with the redesign of primary care.[45] The LM team is part of the CHW Population Health department and functions across clinical service lines to accelerate value transformation projects in addition to operating as a medical group specialty practice within CHW. Given the high prevalence and cost of caring for patients with chronic MSK conditions, value transformation efforts were spread into specialty areas of orthopedics and neurosciences in 2022. The value efforts for MSK conditions are focused on improving the delivery of nonoperative care for hip and knee OA, LBP, and neck pain. These value efforts' strategic goals are to improve the health of this population and reduce the need for surgical care, specifically total joint replacement and elective spinal fusion operations. A nonoperative model of care was needed for patients who:

- do not want operation
- have chronic pain that operation may not address
- have poorly controlled metabolic conditions
- need optimization before operation
- have significant psychosocial and social determinants of health barriers
- are at high risk for emergency department visits, hospital readmissions, repeat operation, or failure to regain function after operation.

Following the examples of pioneering organizations such as University of Texas Health Austin, Virginia Mason, Hospital for Special Surgery, and University of Pittsburgh Medical Center, CHW determined that developing an integrated practice unit (IPU) may be of greatest benefit to support goal achievement.[46] As described by Porter and Lee,[47,48] the IPU model of care is a distinct entity that matches care to the specific needs of the population it serves. The IPU model uses a multidisciplinary team in which each member brings a specific skill set matched to the population's needs. Because of the diverse skills and perspectives, the IPU model enables implementation of the BPS model of care necessary to treat the different factors contributing to the pain conditions present in the MSK population. The IPU provides longitudinal management of the population and offers the mechanism for the following: (1) delivering care focused on lifestyle behavioral changes; (2) collecting and tracking patient progress over time; and (3) adapting care based on interval outcomes. Transitioning from transactional, disease-focused care to longitudinal, health-focused care allows for time-dependent treatment effects to occur, such as those provided by LM. Engagement with patients over a longer term affords the opportunity to best match treatment to patient goals and to optimize health. Optimization of health may also benefit those patients who do engage with operation, as noted in published literature on the prehabilitation potential of lifestyle modification.[49]

Organizations such as those cited earlier have each been successful in lowering the cost of care for the MSK population.[50-54] Both improved health outcomes and reduced surgical utilization are aspects of this reduction. There is ample published literature around patient dissatisfaction and outcomes with current models of care that ultimately result in a surgical event.[55-60] This dissatisfaction usually centers on continuation of pain or failure to improve function. Of patients who undergo a total knee replacement, 1 of 5 will not be satisfied with the procedure. In the total hip arthroplasty population, recent literature suggests a 1 in 10 dissatisfaction rate. In the spine fusion population, the results are even more varied with some studies citing nearly 50% of patients not achieving expected surgical results.[61] Despite the high variability and low generalizability within the spinal fusion population, spinal fusion operations are generally regarded as a low value procedure owing to the high cost and inconsistency of outcome.

This evidence combined with a third-party vendor analysis of CHW claims data suggested that overutilization of surgical procedures was

occurring within the organization. This led CHW leaders to establish a surgical reduction target in 2022 for patients who are less likely to benefit from surgical intervention. This target was set as a change management tool, or "true north," which teams could use to determine success of the novel model and associated interventions in reducing cost of care for the population. Outcomes were assessed using patient-reported outcome tools and monitoring admissions and emergency department use to ensure high-quality care is delivered.

Design of the IPU

For the MSK IPU development, a population health analysis was conducted, which included patients with hip, knee, neck, and back pain conditions that might lead to total joint replacement or spinal fusion operation, respectively. A review of patient characteristics of potential IPU patients was performed. Groupings of diagnoses of interest were created with the assistance of physiatrists, sports medicine physicians, and surgeons. This analysis revealed health determinants that were meaningful to the condition of interest and common among the population. This helped the team understand the needs of the population and the appropriately matched treatments (Table 1).

Based on the identified population characteristics and review of evidence for the best practice treatment recommendations for these populations, a team of experts was assembled to create a model of care that would help deliver improved health outcomes to patients (Figure 2). Consensus building meetings were held to attain stakeholder alignment and agreement on what best practice care would include for these populations. An LM-certified physiatrist was a key stakeholder in this process. As demonstrated in Table 1, the impact of comorbid concerns such as high body mass index, depression, and diabetes in the population could be improved by

TABLE 1. Population Health Analysis of Knee, Hip, and Back Pain by Health Determinant

	Knee		Hip		Back	
	Patient volumes in total population					
Health determinant	High risk	Low risk	High risk	Low risk	High risk	Low risk
JH ACG RUB						
Healthy		334		89		1636
Low		1465		406		3733
Moderate		14,180		6009		36,998
High	11,548		5692		29,894	
Very High	11,435		6758		29,075	
BMI						
<25		15,038		9592		17,112
25.1-35.0	37,520		20,478		42,696	
35.1-40.0	16,038		7541		14,153	
40.1-45.0	8940		3871		7373	
>45	5327		2063		4347	
JH ACG depression	18,566	37,491	10,739	18,395	38,770	66,166
JH ACG diabetes	11,221	45,672	6158	23,461	15,637	57,312
Smoking status						
Never smoker		32,675		15,769		36,443
Former smoker	18,422		10,551		25,998	
Every-day smoker	4617		2875		8575	
Someday smoker	969		566		1592	
Passive smoke exposure	772		269		110	
Light smoker	299		132		329	
Heavy smoker	41		20		54	

BMI, body mass index; JH ACG, Johns Hopkins Adjusted Clinical Group; RUB, resource utilization band.

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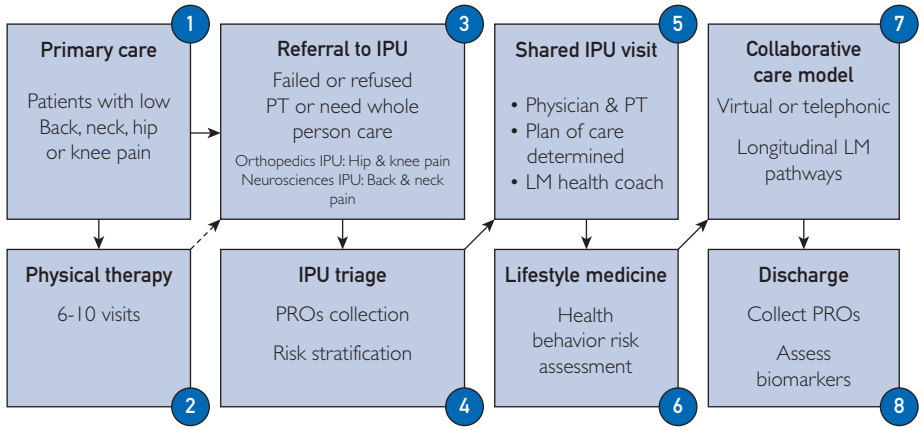

FIGURE 2. Patient journey map for risk contracted patients. IPU, integrated practice unit; LM, lifestyle medicine; PRO, patient-reported outcome; PT, physical therapy.

integrated LM services. Therefore, the inclusion of LM services was a core element of the IPU design to support patients in making changes in nutrition, exercise, sleep, and stress management. This was done to treat underlying inflammation and the co-occurring metabolic and behavioral health conditions present in the IPU population (Figure 3).

Patient-reported outcome measures were implemented to support a BPS assessment of the patient population. The Keele Subgroups for Targeted Treatment (STarT) MSK tool is a valid tool for patients with back, neck, knee, shoulder, and multisite pain, which includes questions that are relevant to self-efficacy, pain catastrophizing, depression, and recovery expectations.[62,63] The STarT MSK tool was implemented for patients entering the IPU to stratify patients by risk of chronicity and disability and match them to evidence-based interventions. Those patients scoring 8 or more on the STarT MSK tool were given the Central Sensitization Inventory (CSI).[64] The CSI has been shown to identify patients that are at high risk for a poor surgical outcome in the spine operation and total joint arthroplasty populations.[65-69] The electronic health record was modified to group the CSI questions and responses into categories that support the SPACE pain impairments and elucidate the potential benefits of a LM intervention to both providers and patients.

Hip and knee OA outcomes are the Hip dysfunction and Osteoarthritis Outcome for Joint Replacement and Knee injury and Osteoarthritis Outcome for Joint Replacement questionnaires, respectively, as well as the Patient-Reported Outcomes Measurement Information System 10 Global Health v1.2 short form.[70-72] Back and neck pain patient outcomes are assessed with the Patient-Reported Outcomes Measurement Information System Physical Function v2.0 and Pain Interference v1.1 questionnaire via Computer Adaptive Testing delivered through the patient portal in the electronic health record.[73-75]

As the IPU model formed, case conferences were a meaningful tool for team learning and improvement. A case conference was designated time by IPU team members to discuss patients who were not improving as expected. Lifestyle medicine was a core conference member, providing insights into patients most appropriate for LM treatment using change readiness assessments to guide this decision. Although only select patients were originally chosen to engage with LM during the formative days of the IPU based on IPU physiatrist recommendation (Table 1), the intention and goal of this collaboration is that all IPU patients enter LM programming by default. Input from physical therapy, pain psychology, and sleep medicine have informed patient care plans and bolstered service line collaboration.

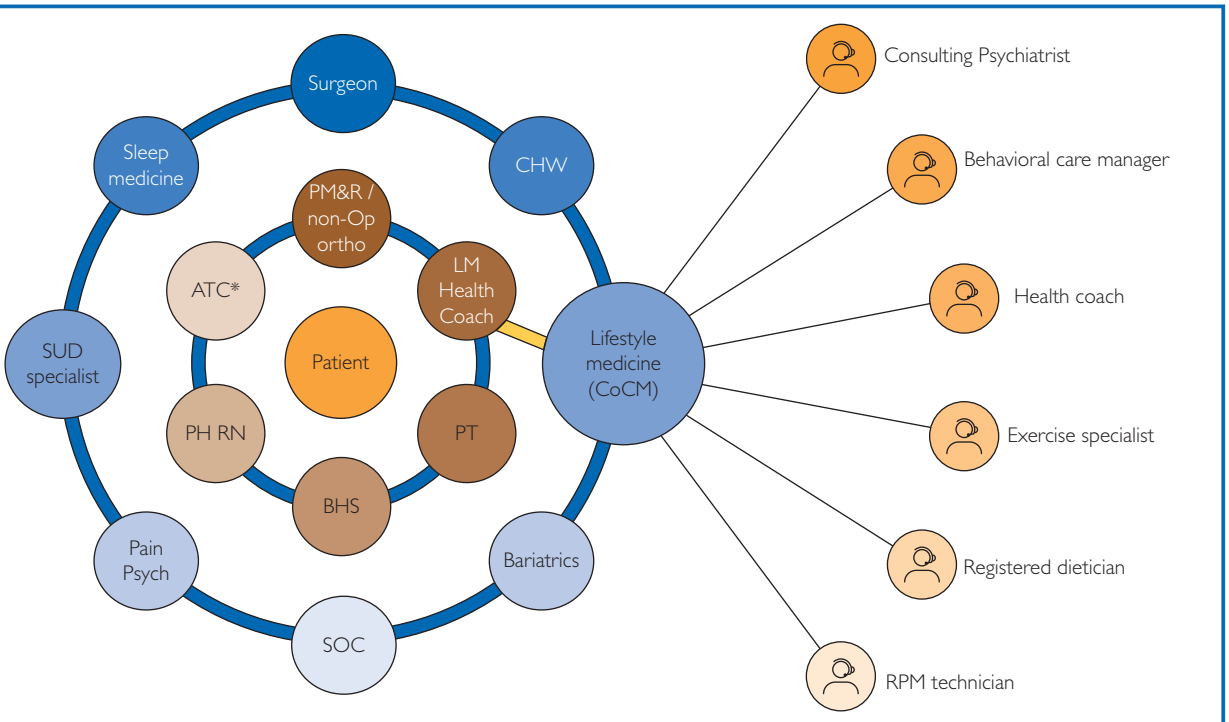

FIGURE 3. Musculoskeletal integrated practice unit (IPU) services with lifestyle medicine embedded health coach and virtual or telephonic collaborative care model (CoCM). Core team: (onsite)—ATC, athletic trainer certified (triage, *virtual); BHS, behavioral health specialist; LM, lifestyle medicine; non-op ortho, nonoperative orthopedic physician; PM&R, physical medicine and rehabilitation; PT, physical therapist; PH RN, population health registered nurse; surgeon. By referral—bariatrics; CHW, community health worker; lifestyle medicine; pain psych, pain psychologist; psychiatry; sleep medicine; SOC, surgical optimization center; SUD specialist, substance use disorder specialist. Lifestyle medicine CoCM: behavioral care manager; exercise specialist; health coach; psychiatrist; registered dietician; RPM technician, remote physiologic monitoring technician.

Implementation of LM in the IPU

Introduction of LM services in the IPU (Figure 3) was communicated to patients as care that would occur "between" regularly scheduled visits with the IPU physiatrist. This would allow patients to engage in longitudinal, multidisciplinary treatment care plans that may start with scheduled physical therapy visits then move into supervised exercise therapy by a lifestyle certified health and wellness coach (CHWC) and exercise specialist. Similarly, patients may be paired with a registered dietitian and CHWC to work on an anti-inflammatory dietary pattern to support a healthy weight and reduce systemic inflammation; or paired with a care manager to focus on stress management and/or sleep hygiene strategies. In all cases, comprehensive interventions offered to patients, including their delivery cadence, were customized to the individual to best address their personal barriers and health goals.

Lifestyle medicine care was delivered using collaborative care model (CoCM), which is a measurement-based treatment model with integrated mental health care.[76] In essence, CoCM takes the theoretical BPS model and establishes operations to deliver care. In a narrative review by Reist et al,[77] CoCM has shown improved access to mental health treatment, improved patient outcomes, and reduction in time-to-treatment of mental health conditions and is adaptable to a variety of patient populations.[77] The integrated CoCM model has been widely supported by the American Medical Association.[78] Lifestyle medicine delivered in a CoCM model uses behavioral activation techniques to support patient improvement in a variety of lifestyle behaviors, thereby treating the co-occurring symptoms of depression

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and anxiety highly prevalent in the CHW MSK population (Figure 3).

After an initial in-person visit with the MSK IPU physiatrist and physical therapist, patients are onboarded into the LM CoCM pathway to engage in supportive, lifestyle-focused care. This care is delivered by CHWC and care managers and includes an integrated psychiatry consultant. Billable CoCM CPT codes are used for time-based minutes of care provided to the patient over the preceding 30 days. In collaboration with the IPU physiatrist, the LM physician oversees the measurement-based, treat-to-target approach of CoCM using validated assessments and treatment pathways in each of the lifestyle areas. Symptom assessment of depression and anxiety is performed using the Patient Health Questionnaire-2/9 and Generalized Anxiety Disorder scale 2/7, respectively.[79,80] Baseline measurement using validated health behavior assessments of dietary quality, physical function, sleep quality, and social isolation occurs when treatment is started and repeated every 4 weeks for 16 weeks in alignment with the selected 16-week comprehensive lifestyle pathway (Figure 4).

Most LM care is delivered using virtual and/or telephonic visits, making care accessible across a wide geographic area. Collaborative care model CPT codes are billed every 30 days based on minutes of care provided to the patient. To enhance longitudinal care, remote physiological monitoring of weight and/or blood pressure is added for patients with corresponding metabolic conditions such as obesity, hypertension, and type 2 diabetes. Clinical and health behavior outcomes are currently being collected; these outcomes will be measured and reported within 12 to 18 months.

Overcoming Barriers to a New Model of Care

Similar to many improvement projects, the process of change and development of the MSK IPU has been nonlinear and iterative, yet notably aligns with Kotter framework for change.[81] Before launching the MSK IPU, the value analysis established a sense of urgency for change. The data told a story of a large population of patients who were struggling with chronic MSK conditions and co-occurring metabolic and mental health diagnoses. Many patients were often not achieving functional improvement with operative management. These data established the need to

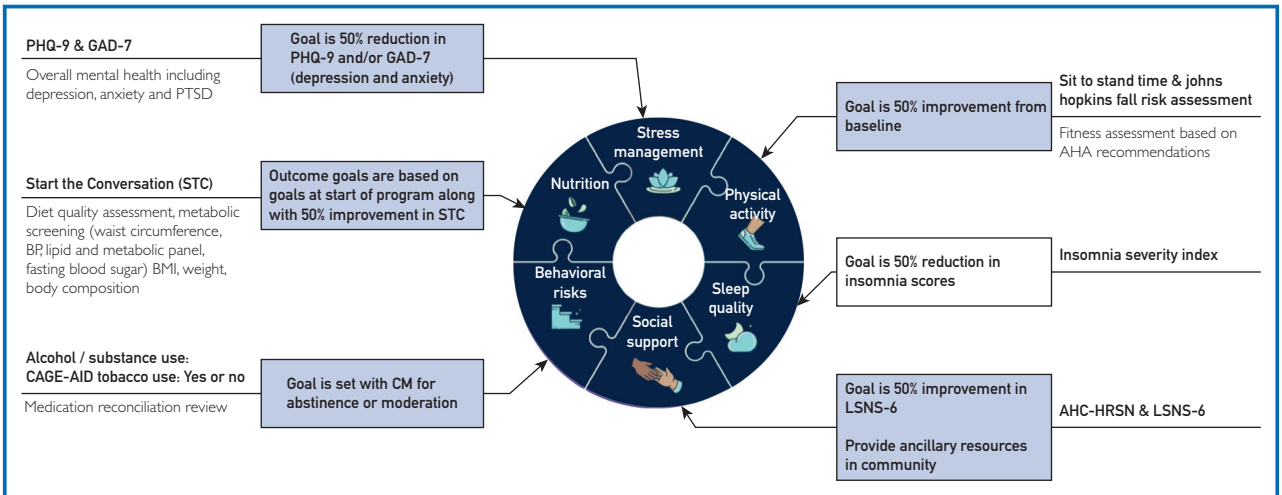

FIGURE 4. Initial and monthly assessments and leading clinical metrics for each of the lifestyle health-related social needs; BMI, body mass index; BP, blood pressure; CAGE-AID, CAGE questions adapted to include drugs; CM, care manager; GAD, Generalized Anxiety Disorder; LSNS, Lubben Social Network Scale; PHQ, Patient Health Questionnaire; PTSD, posttraumatic stress disorder; STC, start the conversation.

create a new longitudinal model of care. The "guiding coalition" for the IPU included diverse perspectives to ensure patient characteristics, or phenotypes, were appropriately identified for nonoperative management. Correspondingly, the importance of communicating the overarching vision was not explicitly to reduce operation; rather, the goal was to get the right patients to the surgeons while optimally managing patients who would fare better with nonoperative treatment.

Removing barriers so that the IPU model could flourish required conversations with our integrated health plan. Patients referred to the MSK IPU are part of our risk contracted population with an attributed Corewell Health primary care physician. Reducing financial barriers through removal of copay and deductible for CoCM charges (for both government and commercial payor products) allowed patients to access services available in the longitudinal LM program. However, we continue to advocate for the removal of copays for follow-up evaluation and management visits with the LM physician for patients with commercial health plan products.

Changing provider practice patterns while straddling fee for service and value models has both informed model development and illustrated lessons along the way. Fee for service practice inertia coupled with patients' preferences for limited problem-focused care continue to sustain imaging, lower extremity joint injections, and spinal pain procedure utilization over whole-person care, which is antithetical to value-based care. Increasing the time spent at the initial IPU visit educating patients regarding their condition, and evidence-based treatment options using the SPACE pain impairment mnemonic aids in engaging patients in lifestyle-focused, whole-person care. Longitudinal care requires initial and ongoing patient and provider engagement to be successful. Supportive communication from the treating provider, such as the IPU physiatrist, is typically necessary to activate patients to initiate and sustain lifestyle-focused care. An explanation of the interaction among lifestyle behaviors, chronic pain sensitization, and a patient's ability to take proactive steps to improve functional recovery creates a patient-centered treatment paradigm.

Achieving clinical consensus regarding the nature of MSK patient impairments and treatment from which they may benefit has opened the door for interesting dialogue. For example, treating OA as a metabolic disease with features of underlying inflammation rather than simply a condition of "wear and tear" is relatively new territory. In this example, the LM approach may include linking features of chronic joint pain to poor dietary quality treated with nutrition intervention from a registered dietitian as an initial step rather than proceeding directly to invasive treatments. Surgical hard stop criteria were also considered as important factors when considering patients for IPU care. Patients entering specialty care with significantly elevated HbA1c and BMI may not be most appropriate to proceed directly with operation. Health optimization is an important aspect of improving patient outcomes. Table 2 provides insight into patient volumes with these conditions, how many of these eligible patients were referred to LM, and how many entered care with LM as a result of this referral. Differences in the referred proportion of eligible patients can be noted between orthopedics and neurosciences. The neurosciences' IPU piloted embedding a health coach from LM to improve patient recruitment. These early findings would suggest that the embedded health coach, which was started in March 2023, does help to improve patient interest and readiness for LM. In addition, although there is greater recognition of anxiety and depression's influence on patient outcomes in the MSK population, assessing and connecting patients to resources to address these disorders has not typically been in the domain of the MSK clinicians. Ongoing education to shift providers' and allied health professionals' understanding of a whole-person, lifestyle-focused care model is a work in progress and has created greater collaboration between clinical teams.

Building the right team to deliver the nonoperative pathway is an ongoing process. Initially, patients were referred to LM after their visit with the IPU physiatrist. However, lag time between initial referral and scheduled visit with LM contributed to low patient engagement rates because there was not a clear connection between their care in the IPU and

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TABLE 2. Biometrics and Referral Trends for Lifestyle Medicine in the MSK IPU

Date	Orthopedics (joint): HbA1c≥8.0	Orthopedics: BMI≥30	Neurosciences (spine): HbA1c≥8.0	Neurosciences: BMI≥30	Orthopedics IPU referrals to LM	Neurosciences IPU referrals to LM	Orthopedics patients in LM	Neurosciences patients in LM
December 2023	8	11	8	25	3 (16)	6 (18)	1	1
January 2024	8	21	10	31	3 (10)	11 (38)	0	4
February 2024	10	14	10	42	8 (33)	17 (71)	0	1
March 2024	10	18	9	42	6 (21)	22 (78.5)	0	5
April 2024	10	23	10	38	2 (6)	20 (61)	0	8
May 2024	13	19	11	37	4 (12.5)	18 (56)	0	5

BMI, body mass index; HbA1c, hemoglobin A1c; IPU, integrated practice unit; LM, lifestyle medicine.

the services offered by LM. The teams also struggled with clear communication in coordination of care due to lack of standardized documentation and approach to comanaging these patients within each department. Owing to the resulting suboptimal patient engagement into the longitudinal lifestyle-focused care, a change was made to embed the CHWC into the IPU team to aid in patient assessment of readiness and engagement in the longitudinal model. By embedding the CHWC onsite into the IPU in a "warm handoff" capacity, conversion rates, shared documentation, and patient-centric goal setting have continued to improve, and metrics of success are being closely monitored.

CONCLUSION

The journey toward delivering a lifestyle and behavior change focused model of care in the MSK population has offered both opportunities and challenges. Designing a model of care aligned to meet the population's health needs is imperative in any value-based arrangement. Overcoming practice inertia is a real and substantive challenge, for both providers and operators. Lifestyle medicine has been a remarkable change agent for this work both by providing peer support to providers and as staff resources in the form of a CHWC to provide real-time support to patients and the team. The LM pillars of care align perfectly with the SPACE impairments of the MSK population coping with significant pain. Partnership with a payor who will understand the value of these services and is willing to provide the appropriate benefit design to make them accessible to all patients is of critical importance. Health systems interested in value arrangements would benefit from adding LM services to their organization. These services can support multiple clinical service lines in efforts to improve patient health, reduce total cost of care, and drive greater value for patients and health systems.

POTENTIAL COMPETING INTERESTS

Dr Artz is a board member of the American College of Lifestyle Medicine and an advisory board member for Nudj Health. The other authors report no competing interests.

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Abbreviations and Acronyms: **BPS,** biopsychosocial; **CHW,** Corewell Health West; **CHWC,** certified health and wellness coach; **CMS,** Center for Medicare and Medicaid Services; **CoCM,** collaborative care model; **IPU,** integrated practice unit; **LBP,** low back pain; **LM,** lifestyle medicine; **MSK,** musculoskeletal; **OA,** osteoarthritis; **SPACE,** sleep, pain, affect, cognition, energy

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