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Highlights

- IPM programs are highly variable in funding, structure, services offered, and populations served.
- IPM programs have innovative ways to overcome payment, care coordination and regulatory hurdles.
- Lessons learned from existing programs can inform efforts to expand implementation of IPM.
- Program success is dependent on imparting meaningful benefits to a broad range of stakeholders.
- Payers and health systems need "proof of concept" examples that support IPM return on investment.

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Abstract

Integrated pain management (IPM) programs can help to reduce the substantial population health burden of musculoskeletal pain, but are poorly implemented. Lessons learned from existing programs can inform efforts to expand IPM implementation. This qualitative study describes how health care systems, payers, providers, health policy researchers, and other stakeholders are overcoming barriers to developing and sustaining IPM programs in real-world settings. Primary data were collected February 2020 through September 2021 from a multi-sector expert panel of 25 stakeholders, 53 expert interviews representing 30 distinct IPM programs across the United States, and four original case studies of exemplar IPM programs. We use a consensual team-based approach to systematically analyze qualitative findings. We identified four major themes around challenges and potential solutions for implementing IPM programs: navigating coverage, payment, and reimbursement; enacting organizational change; making a business case to stakeholders; and overcoming regulatory hurdles. Strategies to

address payment challenges included use of group visits, linked visits between billable and non-billable providers, and development of value-based payment models. Organizational change strategies included engagement of clinical and administrative champions and co-location of services. Business case strategies involved demonstrating the ability to initially break even and potential to reduce downstream costs, while improving non-financial outcomes like patient satisfaction and provider burnout. Regulatory hurdles were overcome with innovative credentialing methods by leveraging available waivers and managed care contracting to expand access to IPM services. Lessons from existing programs provide direction on to grow and support such IPM delivery models across a variety of settings.

Perspective

Integrated pain management (IPM) programs face numerous implementation challenges related to payment, organizational change, care coordination, and regulatory requirements. Drawing on real-world experiences of existing programs and from diverse IPM stakeholders, we outline actionable strategies that health care systems, providers, and payers can use to expand implementation of these programs.

Keywords

Qualitative research; chronic pain; health care organizations and systems; integrated delivery systems; payment

Introduction

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Musculoskeletal pain is the most common pain condition in the US, the leading cause of health care spending[18], and a frequent reason for opioid initiation.[9,11,18,41] Musculoskeletal pain has complex psychological, social, and behavioral factors that drive disability and risk for chronic pain development.[50] However, current approaches to caring for musculoskeletal pain are frequently unimodal (i.e., use of single treatments like medication), focused on addressing the physiological aspects of the condition. As a result, current pain management approaches often provide limited benefit[10,18,39] and leave missed opportunities to improve the lives of people with pain.[66]

Inadequate pain management also has implications for the ongoing opioid crisis in the United States (US).[48] For the last several years, policymakers and health systems have taken steps to reduce the societal impact of opioid use, largely through the implementation of guidelines that restrict opioid prescribing. While these efforts have reduced opioid prescriptions[24,58], they have not accompanied an increase in the availability of safe, alternative pain management options. The result is a “silent epidemic” of poorly controlled pain, with many individuals seeking pain management outside the health care system.[1,12,14,53]

Due to the many personal, public health, and financial consequences of poorly managed musculoskeletal pain, health care systems and payers have a strong interest in finding better approaches to treatment. Integrated Pain Management (IPM) incorporates evidence-based treatments across disciplines to address patients’ biopsychosocial and functional needs.[44] IPM prioritizes evidence-based interventions,

such as psychological and behavioral health management, physical and occupational therapy, chiropractic care, and integrative approaches like acupuncture and yoga. Many IPM programs also incorporate pharmacologic interventions (mostly non-opioid) and resources to address social determinants of health.[22] The U.S. Department of Health and Human Services Pain Management Best Practices Inter-Agency Task Force[66], the National Academy of Sciences[50], and the Interagency Pain Research Coordinating Committee (through the National Pain Strategy[67]) have called for better implementation of **comprehensive** care for musculoskeletal pain, including IPM programs.[39] New opioid prescribing guidelines released by the US Centers for Disease Control and Prevention strongly promote the consideration of "*the whole person*" in pain treatment, making IPM implementation a high priority.[21] Pain care advocates have even called for investment of recent opioid settlement funds into efforts that improve IPM implementation.[3] A recent Stanford-Lancet Commission strongly reinforced the need for such initiatives, concluding that "*as long as pain is prevalent and poorly managed, overuse of opioids and attendant harms are more likely."*[39] However, despite interest in IPM programs and considerable evidence for the effectiveness of treatments they deliver[15,19,23,34,56,62], adoption of IPM has lagged as a result of widespread barriers to implementation.

IPM programs have historically faced numerous challenges to implementation[33,45], including poor reimbursement, lack of provider buy-in, and concerns about cost-effectiveness.[16,20,40,55,68] Many of these challenges are well documented[16,44,45]; however, existing literature lacks direction on how to overcome these challenges, especially as health care delivery, policy, and payment have changed

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over time. To make meaningful progress in IPM implementation, we must address knowledge gaps that will inform program implementation in the current health care environment. This paper builds on our prior work to identify contemporary challenges to IPM adoption[44], drawing on qualitative interviews with IPM stakeholders to outline how programs are addressing key barriers to growth**.** The overarching goal is to provide practical guidance on the development, implementation, and sustainability of IPM programs in real-world settings.

Methods

We employed a sequential multi-method qualitative approach to collect and analyze different types of data. We used a consensual team-based qualitative research approach[31] and followed recommendations for complex qualitative reasoning, alternating between inductive and deductive approaches, to build from theory while also synthesizing themes from new data.[17] The first step employed a deductive reasoning approach—reviewing extant literature to identify the state of knowledge about peer-reviewed evidence on IPM programs followed by web searches to identify policy-relevant grey literature and unstudied IPM programs. This focused literature review was used to gain insight that would guide discussion in the second step of convening an expert stakeholder panel. Specifically, the focused literature review helped to craft *a priori* topics important for advancing IPM progress in addition to identifying a diverse set of experts to advise our research. The discussion and meeting notes from this convening[44] fed into the third step of developing a semi-structured interview guide and list of potential key informant interviewees and exemplar IPM programs for case studies.

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Key informant interviews and case studies comprised the fourth step, occurring in parallel to accomplish complementary goals. Key informant interviews represented single interviews with different organizations to capture the breadth of experiences on challenges and solutions to progress in IPM programs, whereas case studies on diverse exemplar IPM programs allowed us to capture the rich, contextual depth of "real-world" IPM examples. Finally, data from the preceding steps were synthesized and debriefed through a rigorous team-based approach to develop themes of new knowledge within *a priori* categories (deductive reasoning) as well as emergently developed new categories (inductive reasoning).[17,32] Below, we describe stages of data collection and analysis in more detail.

Expert stakeholder panel. At the outset of the project, we convened a panel of 25 IPM stakeholders in February 2020 to guide our research approach and provide expert opinion on the topic. We conducted a focused literature review to identify major topics for discussion at the meeting and to develop a briefing packet for participants on the state of knowledge on IPM programs. Participants were selected to represent key perspectives on designing, implementing, and evaluating IPM programs, including health care payers, providers, policymakers, researchers (with pain management, complementary and integrative health, rehabilitation, health services research, and health policy backgrounds), patient representatives and more. The meeting included brief presentations from attendees to spark reflection on specific topics, followed by moderated discussion (**Supplementary File 1**). Topics included the current landscape of IPM programs, major factors challenging or facilitating the success of IPM programs (e.g., regulatory context), the payment landscape, and building a business case for IPM

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65. Tucker H-R, Scaff K, McCloud T, Carlomagno K, Daly K, Garcia A, Cook CE: Harms and benefits of opioids for management of non-surgical acute and chronic low back pain: a systematic review. Br J Sports Med 54:664, 2020.

66. U.S. Department of Health and Human Services: Pain Management Best Practices Inter-Agency Task Force Report: Updates, Gaps, Inconsistencies, and Recommendations [Internet]. 2019. Available from: https://www.hhs.gov/ash/advisory-committees/pain/reports/index.html. Accessed September 28, 2022.

67. Von Korff M, Scher AI, Helmick C, Carter-Pokras O, Dodick DW, Goulet J, Hamill-Ruth R, LeResche L, Porter L, Tait R, Terman G, Veasley C, Mackey S: United States National Pain Strategy for Population Research: Concepts, Definitions, and Pilot Data. J Pain 17:1068–80, 2016.

68. Znidarsic J, Kirksey KN, Dombrowski SM, Tang A, Lopez R, Blonsky H, Todorov I, Schneeberger D, Doyle J, Libertini L, Jamie S, Segall T, Bang A, Barringer K, Judi B, Ehrman JP, Roizen MF, Golubić M: “Living Well with Chronic Pain”: Integrative Pain Management via Shared Medical Appointments. Pain Med 22:181–90, 2021.

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Table 1. Characteristics of Participants

		Expert Stakeholder Panel (n=25)	Key Informant Interviews (n=53)	Case Study Interviews (n=42)
Stakeholder Type	Researcher	9	7	3
	Payer	4	10	6
	Provider	4	28	21
	Advocate/Policymaker	4	5	0
	Other	4	0	12
Setting	Academic health system	5	15	26
	Non-profit health system	0	9	9
	Government agency	5	9	0
	Private payer	1	6	6
	Public payer	1	4	0
	Payer organization	1	2	0
	Research organization	8	2	0
	Advocacy organization	3	6	0
	Employer	1	0	0
U.S. Geographic Region	Northeast	4	7	14
	South	16	21	17
	Midwest	2	12	0
	West	3	10	11

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Table 2. Overview of Case Study IPM Programs

Case Study IPM Program	Setting and Context	Key Program Features	Key Results and Outcomes
West Virginia University Center for Integrative Pain Management	Academic medical center in Morgantown, WV	Co-location of pain services; central case managers to navigate patients through the program; pain assessment measures	High patient satisfaction; increased patient demand; growth in services offered
University of Vermont Medical Center Comprehensive Pain Program	Academic medical center in Burlington, VT	Payment model that bundles pain management services; central role of group visits and group support	Improvements in patient satisfaction, well-being, chronic pain acceptance, ability to recover from stress, self-compassion, physical function, and depression; reductions in health care costs and utilization
People's Community Clinic Integrative Pain Management Program	FQHC in Austin, TX	Implementation in a safety net context; approach focuses on relational health; medical-legal partnership; group medical visits; community-based partnerships	Improvements in patients' quality of life, stress, self-efficacy, and coping skills; increased patient demand
University of New Mexico Pain Center	Academic medical center in Albuquerque, NM	Connections to primary care providers; extending pain management care for medically underserved communities; commitment to provider education	Downstream reductions in health care utilization and costs; high patient satisfaction

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Table 3: Examples of Quality Domains and Measures used by IPM programs

Domain	Example Metrics	Summary and Use
Commonly Used Measures		
Pain and Function/Disability	DoD PASTOR (Pain Assessment Screening Tool and Outcomes Registry)	20-30 minute survey that produces a comprehensive report of a patient's chronic pain; built on the PROMIS tool; helps to track pain over time
	PEG (Pain, Enjoyment of life, and General activity) scale	Assesses average pain intensity, quality of life, and function
	Defense & Veterans Pain Rating Scale	Pain assessment tool with additional prompts to gauge pain levels, including supplemental questions on how pain interferes with function and quality of life.
Health-related Quality of Life	Human Flourishing Measures	Used to assess how pain affects human flourishing in 5 domains: happiness and life satisfaction, mental and physical health, meaning and purpose, character and virtue, and close social relationships
	PROMIS-29 or PROMIS global health	Summary from subset of PROMIS questions to gauge health-related quality of life
Patient Experience/Satisfaction	Net Promoter Score	Likelihood to refer
	Patient satisfaction	Various measures of satisfaction with care
Mental Health	PHQ-9 (Patient Health Questionnaire-9 item)	Screening tool for depression
	GAD-7 (General Anxiety Disorder-7 item)	Screening tool for anxiety
Health care use	Opioid prescribing/morphine milligram equivalent usage	The current focus on reducing opioid prescribing has meant that health care organizations view integrated pain management programs positively if they can prevent initial opioid prescriptions or be an alternative to opioids
	Utilization reductions	For health care organizations paid through more global payments, they will have an incentive to reduce unnecessary utilization. Some sites were interested in seeing reductions in imaging, hospitalizations, or prescriptions.
Less Commonly Used Measures		
Resilience, Self-Efficacy and Pain Coping	Self-compassion scale	Measures various aspects of self-compassion: self-kindness, self-judgment, common humanity, isolation, mindfulness, and over-identification.
	Pain Catastrophizing Scale	Assesses catastrophic thoughts or feelings occurring when experiencing pain
	Patient activation measure	Validated measure of patient's activation or readiness to engage in their health care
	Pain Resilience Scale (and related resilience scales)	Ability to maintain behaviors and regulate emotions and thoughts during prolonged or intense pain
Organizational Metrics	Staff satisfaction	Various satisfaction measures used to show organizational leadership how programs can improve staff satisfaction.
Absenteeism	Return to work	Some delivery systems and workers compensation insurers use return to work as a key outcome measure
Quality Improvement	Adherence to program	Proportion of patients who complete programs

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Table 4. Major challenges facing implementation of IPM programs, current strategies used to overcome those challenges, and opportunities for further work

Theme	Major Challenges	Current Strategies Used	Where Is More Help Needed
Navigating Coverage, Payment, and Reimbursement	ŏ Reimbursement not aligned with value ŏ How to define standard IPM benefit ŏ Utilization management tools and out of pocket costs limit access to IPM services ŏ Lack of consensus on which quality measures should be used to evaluate individual and program performance	ŏ Use group visits to improve access, which enable peer support and empowerment, while requiring fewer providers ŏ Partnerships between payers and health care systems to develop VBP models ŏ Link visits between billable and non-billable providers ŏ Offset costs of providing non-billable care through revenue from facilities fees or interventional services, and appropriate insurer case mix	ŏ More "proof of concept" models showcasing value-based payment arrangements ŏ Develop a consensus on how to measure quality measures to use in IPM programs ŏ Develop standardized definitions of IPM services
Enacting Organizational Change	ŏ Health care delivery is deeply rooted in the medical model, which does not often meet the need of people with pain ŏ Pain care is siloed and often not well coordinated ŏ Many integrative health providers are not familiar with working inside the traditional health care system ŏ Many traditional health care system providers (e.g., doctors, nurses) are not used to working alongside integrative health providers ŏ General lack of knowledge about integrative	ŏ Enlist or engage clinical and administrative champions to spearhead IPM development ŏ Generate provider buy-in by showing improvements in patient satisfaction, outcomes, care decisions and provider burnout ŏ Start incrementally and scale-up based on need ŏ Consider part-time or flexible contracting arrangements to for lesser used services ŏ Partner with community resources (e.g., schools of integrative medicine) to expand low-cost service offerings ŏ Co-locate pain management services to encourage coordination and build provider trust ŏ Use care coordinators to address patients' needs related to scheduling, system navigation,	ŏ Identify best strategies to improve public and stakeholder awareness of IPM programs and their benefits

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	services in health care systems and among patients	referral management, and insurance	
Making a Business Case to Stakeholders	ŏ Need for upfront capital to start programs ŏ Difficulties with accurately estimating ROI ŏ Difficult to deliver care in rural and underserved communities	ŏ Explore opportunities for grant funding and/or charitable donations for upfront and early capital ŏ Demonstrate potential to break even or generate cost savings ŏ Demonstrate non-financial benefits such as improved patient satisfaction with care and reduced provider burnout and attrition	ŏ Determine which patients would benefit from IPM compared to less intensive options ŏ Studies demonstrating cost-effectiveness and return on investment of IPM programs across a variety of settings ŏ Program examples in rural and underserved communities
Overcoming Regulatory Hurdles	• Significant variation in local laws and regulations, workforce availability, and other idiosyncratic reasons why some treatments are included/excluded in various IPM programs • Identifying and credentialing qualified IPM practitioners	ŏ Joint Commission standards around non-pharmacologic approaches for pain management were incentive for some systems to expand their pain management offerings ŏ Pay physician or other billing provider to supervise delivery of the integrative service ŏ Payers credential and contract directly with integrative medicine practitioners ŏ Consider 1115 Medicaid waivers to cover some IPM services	ŏ Understanding how to navigate limitations on telehealth delivery of IPM services

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Table 5. A sample of stakeholder quotes representing each theme

Navigating Coverage, Payment, and Reimbursement
On misaligned incentives within FFS models: "*Anesthesiologists stopped sending patients [to the IPM program] because the patients improved so much they did not need interventions anymore."* On the need for more standardization of IPM programs: *"It would also help to have evidentiary criteria that is operational and can be standardized….For instance, though cognitive behavioral therapy [CBT] seems to be promising, it is hard from a coverage standpoint to define what CBT is and who performs it. It feels like sifting through sand; not as clear as it needs to be."* On overcoming high copays that restrict access to care: *"High out-of-pocket costs are barriers to access. Benefit design plans can help eliminate patient co-pays for certain services, but this requires a lot of patient and provider education to enforce."*
Enacting Organizational Change
On the paradigm shift needed to support IPM programs: *"[We] had a clinical system that was designed in a biomedical find-it-fix-it paradigm. And so initially… the barrier was simply the clinical construct."* *"Really to do it right is a big paradigm shift, and… specialists have been trained and enculturated in doing stuff to people and then getting paid well for it. Empowering individual clients to live out their fullest life, coaching them in that, that's a totally different skillset."* *"Integrated pain management and this whole health system approach to care… it's really a paradigm shift in the way that we view health care and our role in health care, and it can be a little bit of a challenge to adapt to that mindset."* On the importance of securing buy-in of leaders and champions: *"[We] tried to pitch program for years, but only once right leadership fell in place did the program get support"* On garnering physician support: *"One way [to gain support] was to build referral pathways and make physicians' lives easier so that they were motivated to refer their patients to the IPM program."* On the importance of co-location: *"Because providers are collaborating with other clinicians they trust, they grow comfortable recommending certain therapies they may not usually recommend. Providers are co-located and usually are someone the physicians know and trust to manage the patient."*

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Making a Business Case to Stakeholders
On setting early expectations: "*Our initial goal was to break even and then build up from there.*" On the challenges of expanding IPM in rural areas and underserved communities: *"The academic medical center coalesced a range of different practices/disciplines but this will be harder in rural areas… data aggregation at rural site will be harder"* On the importance of non-financial outcomes: *"A big quality indicator for [this payer] was the fact that patients loved the program."*
Overcoming Regulatory Hurdles
On a common regulatory hurdle: "*We would be able to implement telehealth more if there weren't licensing requirements holding them back*" *"An issue [with Medicare] is that more than half of the therapists out there cannot serve Medicare because only licensed social workers and psychologists can. That creates a capacity issue. It creates hiring challenges."* *"This issue of direct access permission [for physical therapists] and if it is permitted for what time and what kind of oversight - I think it can't be overstated how important that is."* *"If we can't credential [yoga therapists], because there's not a formal certification or licensure, how do you build the network? How do you bring that to consumers?"*

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