

Overcoming barriers to chronic pain management in primary care: a narrative review of multimodal strategies, opioid stewardship, and specialty referral pathways

Abstract

Chronic pain is a leading cause of global disability and a major public health concern, imposing massive socioeconomic burdens. Primary care physicians (PCPs) are central to managing this heterogeneous population, yet they routinely face severe clinical, educational, and systemic challenges. This narrative review outlines the scope of chronic pain management in primary care, examines key barriers faced by PCPs, and provides an evidence-based framework for multimodal treatment, opioid stewardship, and specialist referral. A comprehensive literature search was conducted across PubMed, EMBASE, and Google Scholar for English-language systematic reviews, clinical guidelines, and observational studies published between 2005 and 2026. Effective primary care pain management relies on a holistic, multimodal strategy prioritizing non-pharmacological interventions and non-opioid pharmacotherapy. Key barriers to optimal care include deficient medical school education on pain, brief consultation times, poor insurance reimbursement for non-procedural services, and limited interdisciplinary resources. Opioids should remain a non-first-line option, utilized only when functional benefits outweigh risks, and managed via strict risk-mitigation strategies. Clear pathways for pain specialist referrals are indicated for diagnostic uncertainty, refractory pain, or complex opioid management. Being a narrative review, there might be a risk of selection bias in this paper as well as lack of quantification of results. The limitations of the study include heterogeneity among the studies, guidelines, and healthcare setting, which may lead to non-generalization of the study findings. Further research conducted after the completion of the study period can also impact future clinical practice. PCPs are integral to chronic pain management but remain constrained by structural and educational limitations. Improving patient outcomes requires systemic shifts toward integrated care models, enhanced clinician education, and robust collaboration between primary care and specialty pain services to support effective multimodal treatment and opioid stewardship.

Keywords: chronic pain, primary care, pain management, opioid stewardship, pain specialists

Volume 17 Issue 5 - 2026

Roy Sebastian MD, DPT, MBA,¹ Jonathan Saju BS,² Thelma Wright MD, JD, MBA, FASA³

¹Department of Anesthesiology, University of Maryland School of Medicine, Baltimore, USA

²Campbell University Jerry M. Wallace School of Osteopathic Medicine, Buies Creek, USA

³Department of Anesthesiology, University of Maryland School of Medicine, Baltimore, USA

Correspondence: Roy Sebastian MD, Dept. of Anesthesiology, University of Maryland School of Medicine, 22 S. Greene Street, Room S11C, Baltimore, MD 21201, USA

Received: September 29, 2026 | **Published:** October 06, 2026

Abbreviations: PCP, primary care physician; OUD, opioid use disorder; CBT, cognitive behavioral therapy; CoCM, collaborative care model; ECHO, extension for community healthcare outcomes

Introduction

Chronic pain is considered the main cause of disability worldwide and a major public health concern. It affects approximately 50 million adults in the USA; almost 20 million of them suffer from chronic pain, interfering significantly with work ability, personal care, and social activities.^{1,2} The socioeconomic burden of this condition is vast, estimated at more than \$560 billion per year in the United States, which exceeds the annual economic costs of cancer, diabetes, and heart disease combined.³

Given its prevalence, primary care serves as the principal venue for diagnosing and managing chronic pain. The PCP is responsible for performing the initial evaluation, organizing conservative treatment, and establishing a sustainable therapeutic relationship with the patient. The over-representation of pain management among the core duties of primary care clinicians can largely be attributed to a critical global shortage of specialized pain clinics and certified specialists. Consequently, patients frequently face debilitating wait-times, often

ranging from several months to over a year to secure a specialty consultation. This systemic bottleneck forces PCPs to serve as default, long-term managers for highly complex, refractory cases that ideally require specialized, interdisciplinary interventions.

Nevertheless, chronic pain management in primary care remains exceptionally difficult. It must be executed within highly compressed consultation windows amidst wide clinical heterogeneity, complex psychiatric comorbidities, and the ongoing medical and regulatory ramifications of the opioid epidemic. Many studies confirm that PCPs routinely regard chronic pain management as one of the most difficult, stressful, and frustrating aspects of their professional activity due to clinical uncertainty and systemic constraints.^{4,5}

Material and methods

Objectives

The goal of this narrative review is to outline the scope of chronic pain management in primary care, systematically discuss the major educational and structural challenges facing PCPs, and provide an integrated, evidence-based approach to multimodal treatment, opioid stewardship, and specialty referral pathways.

Methods

A comprehensive literature search was performed in PubMed, EMBASE, and Google Scholar for peer-reviewed literature published between 2005 and 2026. Search fields utilized Medical Subject Headings (MeSH) terms and targeted keywords, including: ‘Chronic Pain’, ‘Primary Health Care’, ‘Opioid Stewardship’, and ‘Pain Management Barriers’. The scope of inclusion was restricted to English-language articles, specifically encompassing systematic reviews, clinical practice guidelines, and observational studies.

Results and discussion

The scope of chronic pain management in primary care

PCPs play an indispensable role in pain management due to their clinical accessibility, long-term patient continuity, and holistic orientation to medicine. The initial primary care evaluation focuses on differentiating non-specific chronic pain from serious underlying pathologies such as infection, malignancy, inflammatory disorders, or progressive neurological deterioration. In standard primary care settings, the vast majority of chronic low back pain and musculoskeletal disorders are non-specific; clinical guidelines dictate that diagnostic imaging and invasive procedures are unnecessary unless explicit clinical “red flags” are identified.⁶ Obesity is consistently associated with a greater prevalence and severity of chronic pain, particularly musculoskeletal pain, with evidence suggesting that the relationship is multifactorial and involves mechanical loading, systemic low-grade inflammation, metabolic dysfunction, and behavioral factors.⁷ Recent meta-analytic evidence further indicates that adults with obesity report higher pain intensity than individuals with normal weight, supporting the consideration of weight-related factors within comprehensive chronic pain management.⁸

Once secondary causes are excluded, a multimodal treatment strategy serves as the cornerstone of effective primary care management. Non-pharmacological which include cognitive behavioral therapy (CBT), physiotherapy, structured exercise, and weight loss programs demonstrate significant efficacy in enhancing functional status and quality of life across diverse chronic pain conditions.^{9–11} These modalities carry a substantially lower risk profile than traditional pharmacotherapy and are widely endorsed as foundational care by international medical guidelines.¹²

When pharmacological management is necessary, regimens should initiate with non-opioid medications, including nonsteroidal anti-inflammatory drugs (NSAIDs), acetaminophen, serotonin-norepinephrine reuptake inhibitors (SNRIs), or anticonvulsants (gabapentinoids), tailored to the specific pain phenotype and patient comorbidity profile. Frontline management must also actively address highly prevalent, co-occurring psychological and metabolic barriers, such as major depression, generalized anxiety, chronic insomnia, and obesity, as their presence actively exacerbates pain severity and compromises clinical outcomes.^{13,14} Routine follow-up visits should focus on monitoring compliance, re-evaluating objective functional status, modifying therapies, and reinforcing patient-led self-management strategies.

Educational and structural barriers in primary care

Despite their central responsibility, PCPs face profound educational, systemic, and structural bottlenecks that limit their capacity to deliver high-quality, multimodal care.

Educational Deficits: A primary barrier is the persistent lack of comprehensive training in pain medicine. Globally, undergraduate medical curricula dedicate a disproportionately low number of hours to pain assessment—often totaling fewer than ten hours across four years of medical school.^{15–19} This deficit leaves trainees with a fragmented understanding of neuroanatomy, pain phenotyping, and the biopsychosocial model, directly translating into low provider confidence and high clinical anxiety.

Time Constraints: The structural model of modern primary care is poorly aligned with complex, multi-morbid conditions. Standard consultation models allow only brief, 15-to-20-minute intervals per patient.^{5,15,20} Within this highly compressed timeframe, a PCP must simultaneously address acute complaints, manage multiple competing chronic illnesses, review diagnostic data, and unpack the deeply complex psychosocial dimensions of a patient’s pain.

Systemic and Geographic Fragmentation: True interdisciplinary care requires seamless integration with allied health professions, yet modern insurance reimbursement models routinely penalize non-procedural and non-pharmacological interventions. This creates cost-prohibitive barriers for patients seeking CBT, acceptance and commitment therapy (ACT), or specialized physical therapy. These structural gaps are severely magnified in rural and medically underserved communities, effectively creating an “interdisciplinary desert” where physical therapists, psychologists, and pain clinics are entirely scarce.²¹

Managing patient expectations and reframing treatment goals

Setting realistic patient expectations during early primary care consultations is essential to shifting the chronic pain paradigm away from an unattainable target of absolute pain elimination. When clinicians present chronic pain within a comprehensive biopsychosocial framework, it helps patients understand that persistent discomfort often occurs without active, ongoing tissue injury.²² Aligning a patient’s predicted expectations with achievable clinical benchmarks requires prioritizing measurable functional markers—such as improved sleep quality, return to employment, and enhanced mobility—over subjective pain rating scores.^{23,24} Proactively establishing these boundaries fosters an essential clinical alliance, equipping patients with adaptive coping strategies that emphasize long-term self-management and functional independence rather than relying solely on pharmacological interventions.^{22,24}

Establishing these functional boundaries early on acts as a critical clinical deterrent against requests for opioid escalation. When patients view opioids as a complete cure for pain, they are significantly more prone to request ongoing dose increases, which can paradoxically trigger opioid-induced hyperalgesia or result in a high prevalence of problematic drug-seeking behavior.^{22,23} Longitudinal data confirm that escalating opioid therapies fails to provide superior long-term pain control compared to non-opioid options, while drastically inflating the risk of severe side effects and opioid use disorder.^{22,23} By integrating patient agency into a collaborative model and clearly communicating these dose-dependent neurological risks from day one, primary care providers can reduce the likelihood of a nocebo response during future treatment adjustments and preserve long-term patient safety.²⁵

Framework for opioid stewardship in primary care

In response to the historic and ongoing opioid epidemic, prescribing frameworks in primary care have undergone a strict paradigm shift, heavily informed by contemporary clinical mandates

such as the CDC Clinical Practice Guideline for Prescribing Opioids for Pain.²² Current evidence-based consensus establishes that opioids must not be utilized as first-line therapies for chronic non-cancer pain. Longitudinal data have failed to demonstrate sustained functional improvement or superior long-term pain relief with chronic opioid therapy compared to non-opioid regimens, while conversely confirming dose-dependent escalations in risks, including opioid use disorder (OUD), hyperalgesia, endocrinopathies, and fatal respiratory depression.²⁶ Consequently, initiating opioid therapy is only justified when non-opioid and behavioral modalities have been thoroughly optimized yet fail, and when anticipated functional benefits clearly outweigh the safety risks.

When opioid therapy is clinically indicated, the entire framework of care must prioritize objective functional milestones (e.g., returning to work, improved sleep quality, increased mobility) over subjective complete pain eradication. Clinicians should initiate therapy with the

lowest effective dose of immediate-release formulations, keeping total daily doses well below thresholds where risks rise exponentially—typically avoiding escalations above 50 morphine milligram equivalents (MME) per day without rigorous risk-benefit justification.

To safely operationalize opioid therapy, PCPs must implement structured, multi-layered risk-mitigation protocols. These include mandatory consultation of state Prescription Drug Monitoring Programs (PDMPs), baseline and random urine drug screens (UDS), and the execution of formal, shared-decision-making patient-provider agreements. Importantly, if a patient fails to achieve meaningful functional progress or exhibits signs of aberrant drug-related behavior, clinicians must implement a compassionate, patient-centered, individualized tapering strategy. Involuntary, abrupt discontinuation must be strictly avoided, as forced cessation is heavily associated with severe withdrawal syndromes, profound psychological distress, illicit drug substitution, and increased risk of suicide (Table 1).

Table 1 Recommended key structural interventions for chronic pain management in primary care

Clinical phase	Core strategy / Guideline recommendation	Primary operational tool
Pre-Initiation	Complete a biopsychosocial risk assessment; exhaust non-opioid and non-pharmacological modalities first.	Opioid Risk Tool (ORT) / DIRE Score
Initiation	Start with immediate-release formulations at the lowest effective dose; establish explicit functional goals.	Patient-Provider Controlled Substance Agreement
Surveillance	Monitor treatment compliance, evaluate diversion risks, and screen for metabolic or psychiatric comorbidities.	PDMP tracking, Routine Urine Drug Screening (UDS)
Discontinuation	Pivot to gradual, multi-disciplinary tapering if therapy fails to meet functional milestones or risks escalate.	Individualized micro-tapering schedules + behavioral support

Intentional pathways for specialty pain referral

Referral to a specialized pain physician or interdisciplinary clinic is indicated when chronic pain remains refractory despite optimal, well-monitored primary care multimodal treatment, when diagnostic ambiguity persists, or when advanced interventional procedures are required. Pain specialists can provide targeted diagnostic or therapeutic procedures—such as image-guided regional injections, radiofrequency ablation, spinal cord stimulation, or intrathecal drug delivery systems—that fall outside the scope of general primary care practice.

Furthermore, specialist referral is critical when managing highly complex opioid regimens involving severe adverse effects, profound tolerance, suspected chemical coping or diversion, or when clinical indications require the prescription of high-risk formulations. Multidisciplinary pain clinics are uniquely equipped to treat patients with severe co-occurring psychological disorders, dysfunctional coping mechanisms, or a background of trauma.¹⁷ To optimize outcomes, PCPs and pain specialists must maintain close, collaborative communication loops throughout the patient's care continuum.

A critical paradox in modern health systems

Primary care providers are positioned as the definitive frontline managers for chronic pain, yet they are systematically under-educated, under-resourced, and structurally constrained from delivering the multi-modal care required to treat this population effectively. With chronic pain driving global disability and generating significant annual socioeconomic costs, the modern reliance on an isolated primary care infrastructure represents an unsustainable public health model. Bridging the gap between guideline-driven recommendations and the stark realities of frontline clinical practice requires a comprehensive

understanding of how these educational, structural, and regulatory pressures intersect.

Historically, chronic pain management has demonstrated heavy reliance on pharmacotherapy, a pathway heavily complicated by the ongoing consequences of the opioid epidemic. Modern opioid stewardship guidelines, such as those issued by the CDC, demand a rigorous, highly vigilant approach to prescribing: establishing baseline functional goals, performing routine urine drug screens, utilizing prescription drug monitoring programs (PDMPs), and navigating complex, individualized tapering protocols when risks outweigh benefits.^{22,23} While these risk-mitigation strategies are clinically vital, they place an immense cognitive and administrative burden on PCPs. When this intensive surveillance model is superimposed onto a provider population that receives fewer than ten hours of formal pain education throughout medical school,¹⁶ the result is a pervasive climate of clinical uncertainty, frustration, and therapeutic nihilism.^{6,7} PCPs are trapped between the clinical imperative to relieve profound patient suffering and the systemic pressure to strictly restrict controlled substances, often without the specialized training necessary to manage that tension.

Consequently, sustainable advancements in chronic pain outcomes cannot be achieved by simply demanding greater vigilance or administrative compliance from frontline providers. Instead, systemic health reforms must actively lower the barriers identified in this review. Medical education must be radically modernized to incorporate robust, longitudinal pain curricula that focus on phenotyping and the biopsychosocial model from day one. Furthermore, healthcare systems must transition toward integrated care models—such as the Collaborative Care Model (CoCM) and Project ECHO (Extension for Community Healthcare Outcomes)—which embed behavioral health and virtual specialist consultation directly into the primary care

infrastructure.^{27,28} By dismantling reimbursement barriers for non-pharmacological therapies and creating formalized, seamless referral communication channels between PCPs and multidisciplinary pain clinics, we can shift the burden of pain management from an isolated, struggling clinician to a cohesive, integrated network.

Future directions and challenges in primary care pain management

The future of primary care chronic pain management lies in the digital integration of specialized medical networks and the mainstream adoption of personalized, phenotype-driven medicine. Leveraging tele-mentoring ecosystems like Project ECHO alongside the CoCM will allow PCPs to co-manage complex, refractory pain conditions via real-time asynchronous specialist input, effectively dismantling the geographical isolation of rural practices. Furthermore, digital health platforms—including virtual reality (VR) mindfulness training, AI-driven CBT applications, and remote wearable movement trackers—will offer accessible alternatives to traditional, costly interdisciplinary care. Clinically, treating pain will transition from an empirical trial-and-error approach to precise phenotyping, where biomarkers and advanced genetic risk-stratification tools will guide clinicians toward the exact non-opioid or non-pharmacological pathway tailored to a patient’s neurobiology, radically refining front-line clinical efficacy.

However, operationalizing these advancements introduces formidable systemic and structural challenges. The integration of advanced artificial intelligence and digital therapeutic tools risks deepening the digital divide, leaving socioeconomically disadvantaged and older patient populations with limited access to modern care modalities. Furthermore, while digital applications and tele-health infrastructure offer scalability, modern insurance reimbursement structures remain stubbornly fixed on traditional, volume-based procedural billing, offering little financial incentive for primary care clinics to adopt resource-intensive collaborative networks. Finally, embedding data streams from digital health tech and risk-prediction algorithms into already overcrowded electronic health records will exacerbate information overload, threatening to increase provider burnout within a primary care infrastructure that is already severely constrained by brief consultation times.²⁹

Integration of telementoring in resource-constrained environments

The integration of Project ECHO into rural and underserved pain management paradigms introduces a crucial mechanism for healthcare equity, though it faces structural and methodological headwinds (Table 2).

Table 2 Risks and benefits of integration of telementoring in resource-constrained environments

Dimension	Opportunities & benefits	Risks & systemic limitations
Clinical Capacity	Force Multiplication: Empowers local PCPs with interdisciplinary pain expertise; reduces professional isolation; drives non-pharmacological and non-opioid multimodal management.	Knowledge Disconnect: Risk of overconfidence where improved provider self-efficacy outpaces actual clinical competency in complex interventional or refractory pain cases.
Patient Access	Mitigation of Travel Burden: Decentralizes tertiary-level guidance; allows socioeconomically vulnerable populations to receive specialized care within their trusted local medical homes.	The "Digital Divide": Unequal broadband infrastructure in deep rural pockets can disrupt synchronous, case-based video communication and limit engagement.
Evidence & Logistics	Guideline Dissemination: Fast-tracks the translation of complex opioid prescribing and tapering guidelines directly to front-line practice.	Methodological Gaps: Literature relies heavily on self-reported survey data; sparse high-quality, randomized controlled data demonstrating objective patient-level functional improvements.

Clinical practice & patient-level recommendations

These are immediate changes a practicing PCP can implement during an evaluation:

- **De-escalate routine diagnostics:** Use the initial evaluation to rule out explicit “warning signs” (red flags) rather than ordering default imaging or invasive procedures for non-specific musculoskeletal pain.
- **Prioritize function over pain elimination:** When establishing treatment goals (especially involving pharmacotherapy or opioids), use objective functional milestones (e.g., returning to work, improved sleep, mobility) rather than a subjective complete eradication of pain.
- **Operationalize multilayered risk-mitigation:** Frontline clinicians must utilize state PDMPs, run baseline/random urine drug screens (UDS), and implement patient-provider agreements before prescribing controlled substances.
- **Compassionate, individualized tapering:** Avoid forced, abrupt opioid cessation due to withdrawal and suicide risks. Use gradual, patient-centered micro-tapering instead.

Educational system recommendations

These recommendations target the root cause of provider anxiety and uncertainty:

Radical Curriculum Modernization: Overhaul undergraduate medical training to far exceed the current historical standard of fewer than 10 hours of pain education.

Biopsychosocial Phenotyping Focus: Shift the training paradigm away from purely anatomical/procedural models toward pain phenotyping, neuroanatomy, and psychological comorbidity management (depression, anxiety, insomnia).

Healthcare infrastructure & policy recommendations

These address the structural limitations making 15-minute consultations unviable:

- **Transition to integrated care models:** Adopt specific clinical frameworks like the CoCM and Project ECHO to embed behavioral health and virtual specialist consulting into primary care.

- **Reimbursement reform:** Dismantle modern insurance reimbursement barriers that currently penalize non-procedural and non-pharmacological interventions (CBT, ACT, physical rehabilitation).
- **Formalized referral pathways:** Establish tighter communication loops and bidirectional referral pathways between isolated PCPs (especially in rural “interdisciplinary deserts”) and multidisciplinary pain clinics (Figure 1).

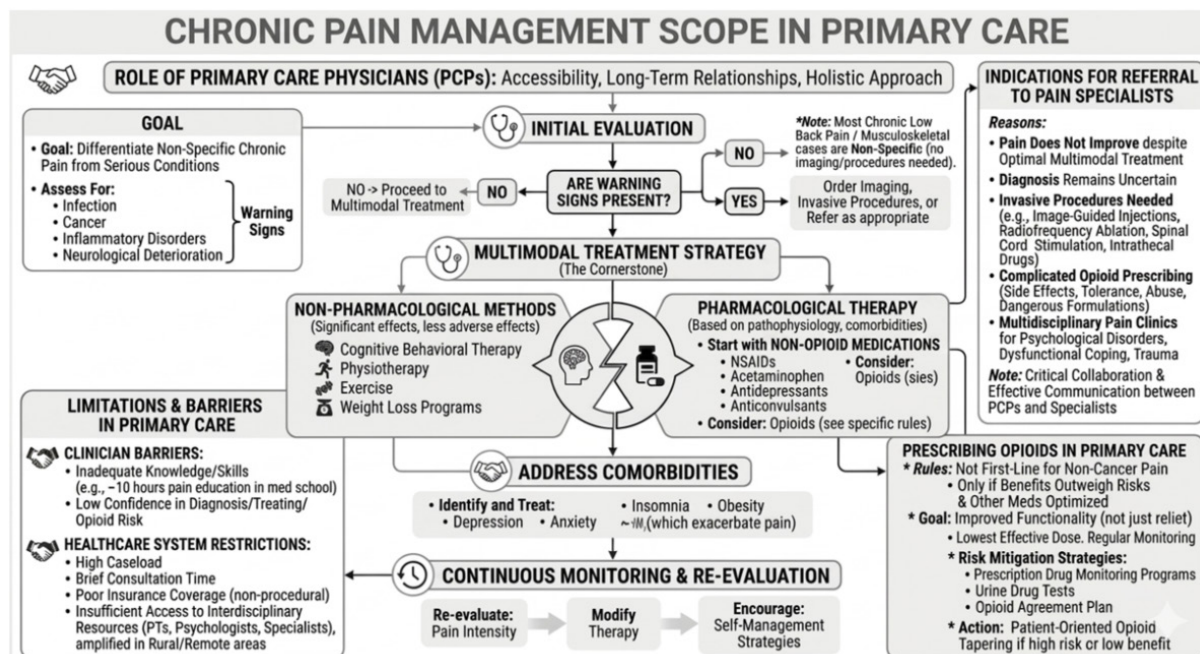


Figure 1 Scope of chronic pain management in primary care-Summary.

Limitations

As this review is based on a narrative approach and analysis of previously published literature, some limitations exist. First of all, there is a risk of selection bias due to the different search strategies and criteria of inclusion used across the source studies. In addition, it is impossible to make any quantitative analyses or draw cause-and-effect conclusions. Finally, because health insurance structures, access to multidisciplinary resources, and legal regulations regarding opioid prescribing vary drastically by country and state, the generalizability of these structural solutions may differ across diverse clinical environments.

Conclusion

Primary care providers are integral to the management of chronic pain yet face substantial educational, structural, and systemic barriers that limit optimal care delivery. Emphasizing multimodal treatment strategies, addressing psychosocial contributors, strengthening opioid stewardship, and establishing clear referral pathways to pain specialists are critical to improving outcomes. Sustainable advancements in chronic pain care will depend on integrated care models, enhanced education, and robust collaboration between primary care and specialty pain services.

Acknowledgments

None

Conflicts of interest

The authors declare that they have no conflicts of interest that could have influenced the research, authorship, or publication of this manuscript.

References

1. Pitcher MH, Von Korff M, Bushnell MC, Porter L. Prevalence and profile of high-impact chronic pain in the United States. *J Pain*. 2019; 20(2):146–160.
2. Dahlhamer J, Lucas J, Zelaya C, et al. Prevalence of chronic pain and high-impact chronic pain among adults—United States, 2016. *MMWR Morb Mortal Wkly Rep*. 2018; 67(36):1001–1006.
3. Guy GP Jr, Miller GF, Legha JK, et al. Economic costs of chronic pain—United States, 2021. *Med Care*. 2025;63(9): 679–685.
4. Matthias MS, Krebs EE, Collins LA, et al. “I’m not abusing or anything”: Patient–physician communication about opioid treatment in chronic pain. *Patient Educ Couns*. 2013; 93(2):197–202.
5. Upshur CC, Luckmann RS, Savageau JA. Primary care provider concerns about management of chronic pain in community clinic populations. *J Gen Intern Med*. 2006; 21(6):652–655.
6. Chou R, Qaseem A, Snow V, et al. Diagnosis and treatment of low back pain: A joint clinical practice guideline from the American College of Physicians and the American Pain Society. *Ann Intern Med*. 2007;147(7):478–491.

7. Narouze S, Souzdalnitski D. Obesity and chronic pain: systematic review of prevalence and implications for pain practice. *Reg Anesth Pain Med*. 2015;40(2):91–111.
8. Chin SH, Huang WL, Akter S, et al. Obesity and pain: a systematic review. *Int J Obes (Lond)*. 2020;44(5):969–979.
9. Geneen LJ, Moore RA, Clarke C, et al. Physical activity and exercise for chronic pain in adults: An overview of Cochrane reviews. *Cochrane Database Syst Rev*. 2017; 4:CD011279.
10. Williams AC, Eccleston C, Morley S. Psychological therapies for the management of chronic pain (excluding headache) in adults. *Cochrane Database Syst Rev*. 2012; 11:CD007407.
11. Kamper SJ, Apeldoorn AT, Chiarotto A, et al. Multidisciplinary biopsychosocial rehabilitation for chronic low back pain: Systematic review and meta-analysis. *BMJ*. 2015; 350:h444.
12. Qaseem A, Wilt TJ, McLean RM, et al. Noninvasive treatments for acute, subacute, and chronic low back pain: A clinical practice guideline from the American College of Physicians. *Ann Intern Med*. 2017; 166(7):514–530.
13. Roughan WH, Campos AI, García-Marín LM, et al. Comorbid chronic pain and depression: Shared risk factors and differential antidepressant effectiveness. *Front Psychiatry*. 2021;12:643609.
14. Finan PH, Goodin BR, Smith MT. The association of sleep and pain: An update and a path forward. *J Pain*. 2013; 14(12):1539–1552.
15. National Academies of Sciences, Engineering, and Medicine. Pain management and the intersection of pain and opioid use disorder. Washington (DC): National Academies Press; 2017.
16. Dowell D, Haegerich TM, Chou R. CDC guideline for prescribing opioids for chronic pain—United States, 2016. *JAMA*. 2016; 315(15):1624–1645.
17. Gatchel RJ, McGeary DD, McGeary CA, et al. Interdisciplinary chronic pain management: Past, present, and future. *Am Psychol*. 2014; 69(2):119–130.
18. American Board of Medical Specialties. ABMS officially recognizes addiction medicine as a subspecialty. Published March 14, 2016.
19. Mezei L, Murinson BB, Johns hopkins pain curriculum development team. pain education in north american medical schools. *J Pain*. 2011; 12(12):1199–1208.
20. Tai-Seale M, McGuire TG, Zhang W. Time allocation in primary care office visits. *Health Serv Res*. 2007; 42(5):1871–1894.
21. Fogarty CT, Byun H, Huffstetler AN. Family physician workforce trends: The toll on rural communities. *Ann Fam Med*. 2025; 23(6):535–538.
22. Amin JR. Expectations and communication in opioid pain management: A qualitative study of patients' experience. *BMC Prim Care*. 2026; 27(1):12–21.
23. Dowell D, Ragan KR, Jones CM, et al. CDC clinical practice guideline for prescribing opioids for pain—United States, 2022. *MMWR Recomm Rep*. 2022; 71(3):1–95.
24. Owen GT, Bruel B M, Schade CM, et al. Evidence-based pain medicine for primary care physicians. *Baylor Univ Med Cent Proc*. 2018; 31(1):37–47.
25. Darnall BD, Fields HL. Clinical and neuroscience evidence supports the critical importance of patient expectations and agency in opioid tapering. *Pain*. 2021; 163(5):824–826.
26. Paul AK, Smith CM, Rahmatullah M,, et al. Opioid analgesia and opioid-induced adverse effects: A review. *Pharmaceuticals (Basel)*. 2021;14(11):1091.
27. Kordon A, Carroll AJ, Fu E, et al. Multilevel perspectives on the implementation of the collaborative care model for depression and anxiety in primary care. *BMC Psychiatry*. 2024; 24(1):519.
28. Maizel J, Filipp SL, Zori G, et al. Project Extension for Community Healthcare Outcomes intervention evaluations: A scoping review of research methods. *J Contin Educ Health Prof*. 2025; 45(2):89–100.
29. Budd J. Burnout related to electronic health record use in primary care. *J Prim Care Community Health*. 2023; 14:21501319231166921.