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Alternatives to Opioids

A Missing Piece of the Strategy

Opioid-related lawsuits are expected to generate more than \$50 billion in settlement funds for states and localities to remediate the catastrophic consequences of the opioid crisis (Mermin, Falkner, and Greene, 2022). Guidance on the distribution of settlement funds has primarily focused on reducing opioid-related deaths and other opioid-related harms and on improving treatment for substance use disorders. However, an effective approach to this crisis will also require primary prevention strategies to reduce unnecessary opioid initiation, particularly through effective pain management. Although numerous strategies have been implemented to slow the issuance of opioid prescriptions, little attention has been given to providing effective nonopioid alternatives for people in pain at the point when they initially seek care. This lack of a preventive focus represents a dangerous gap given that pain remains a leading reason people seek health care. One in six Americans continues to receive prescribed opioids against guideline recommendations for acute back pain and other nonchronic conditions (Mikosz et al., 2020), and among the one in five Americans who report chronic pain, many

Abbreviations

FQHC	federally qualified health center
NPT	nonpharmacological therapy
OD	opioid use disorder

continue to receive prescribed opioids despite their limited effectiveness (Zelaya et al., 2020).

Upstream prevention strategies are a vital aspect of any successful multidimensional plan to stem the tide of the opioid crisis and to make communities whole. In this Perspective, we suggest that opioid settlement funds should also be directed toward strategies that decrease clinically unnecessary opioid use, specifically by better leveraging evidence-based, nonpharmacological pain management.

Settlement Fund Distribution

Opioid settlement funding ranks as the second largest legal class action settlement in U.S. history after the tobacco settlement of 1999 (Jones and Silvestri, 2010). To ensure that states, cities, and localities spend funding on strategies that mitigate harms related to opioids, settlement agreements have identified specific interventions or dispersals that are categorized as approved uses (National Opioid Settlement, 2023). These strategies are wide-reaching and provide informal guardrails for how settlement funding should be considered. Funding is intended to be used for direct investments that save and improve individuals' lives, to follow a comprehensive and transparent process, and to adhere to evidence and equity (Bloomberg School of Public Health, undated). Although supporting and expanding

access to nonpharmacological therapy (NPT) is included as an approved use for settlement funding, it is largely absent from policy guidance.

Policy guidance from experts at various research institutions has included recommendations for jurisdictions on the distribution of opioid settlement funding, including guidance from Johns Hopkins University (Bloomberg School of Public Health, undated), RAND-University of Southern California (RAND-USC Schaeffer Opioid Policy Tools and Information Center, undated), and national organizations (National Academy for State Health Policy, 2023). This guidance has coalesced around several key principles and recommendations to inform the appropriation of these monies.

Broadly, these recommendations include

- treatment for individuals with opioid use disorder
- expanding the use and availability of medications, such as naloxone, methadone, and buprenorphine
- harm reduction initiatives, such as safe syringe programs, detection and treatment of fentanyl-related use, and fentanyl test strips
- investments in social services, such as early childhood home visiting programs and related care management for children with neonatal opioid exposure.

The Gap in Multifaceted Prevention Strategy

Although these policy recommendations are essential to mitigating the ill effects of the opioid crisis, the recommendations are focused primarily downstream by targeting individuals and families who are already affected by

opioid misuse. Exclusively addressing these secondary and tertiary prevention needs bypasses primary prevention: the measures to prevent individuals in pain from needing or using opioids to begin with. This creates a critical gap in a crisis that demands a broad, multifaceted strategy. It is important to invest in upstream strategies that reduce or eliminate common causes of individuals initiating opioid analgesic use. For many people, their underlying reason for opioid initiation is the management of a pain-related condition. Adequately treating pain with nonopioid alternatives creates an upstream prevention strategy for opioid use reduction. Recommendations for distributing opioid settlement funding should include guidance for strategies to promote the effective nonopioid treatment of pain.

Pain Remains a Precursor to Opioid Use

Noncancer pain one of the most prevalent health conditions in the United States; it is also among the most poorly managed (Yong, Mullins, and Bhattacharyya, 2022). After a massive provider education initiative in 1995 recommended that doctors treat pain as the “fifth vital sign” (Scher et al., 2018, p. 1), health care providers began to routinely assess patients’ pain. This well-intended recommendation led doctors across the country to ask all patients what their pain levels were, even when pain was not the chief complaint for their visit. Over the course of several decades, common pain disorders began to be treated pharmacologically in an aggressive manner, especially through prescribed opioids, such as OxyContin (Van Zee, 2009). By 2012, opioid prescriptions peaked at more than

Reductions in opioid prescribing have outpaced increases in the availability and accessibility of nonopioid and nonpharmacological pain treatment, creating a gap in pain relief.

255 million—a rate of 81.3 prescriptions per 100 persons living in the United States (Mattson et al., 2017).

Despite the risks, opioids could be the best option for some individuals, including those who are suffering from cancer-related pain. However, safe and adequate pain management remains elusive for 20 percent of Americans (Dahlhamer et al., 2018). The lived experience of pain and the resulting disability creates tension between policies that are meant to reduce opioid exposure and policies to provide sufficient pain relief. Unfortunately, reductions in opioid prescribing have outpaced increases in the availability and accessibility of nonopioid and nonpharmacological pain treatment, creating a gap in pain relief for millions (Bandara, Bicket, and McGinty, 2022). People who have trouble accessing appropriate pain management often

suffer with significant social and economic consequences, including a reduced quality of life, impaired physical function, lost productivity, and increased risk of long-term pain (Jukić and Puljak, 2018; Sinatra, 2010). Tragically, an unintended consequence of this gap in pain relief has been a rise in illicit drug use, most notably heroin, among pain patients who chose to self-medicate as access to prescription opioids became more difficult (Compton, Jones, and Baldwin, 2016). The personal and societal impact of pain and its underlying causes remain problematic.

Although the United States has achieved considerable progress in the reduction of prescription opioids, use remains higher than would be expected given the few conditions for which opioids are found to be effective, such as pain treatments within cancer or palliative care (Mann, 2020; Centers for Disease Control and Prevention, 2021). Opioid prescribing continues despite growing evidence of its ineffectiveness for many pain conditions (Krebs et al., 2018), existing guidelines discouraging opioid use in individuals experiencing pain (Tucker et al., 2020; Sandbrink et al., 2023), and the widely acknowledged risk of harm (Dowell et al., 2022; Adewumi et al., 2018). Recent health insurance claims data indicate that 20 percent of acute back pain patients are prescribed opioids (Raad et al., 2020). National Health Survey Data indicate that 22 percent of adults with chronic pain reported using a prescription opioid in the previous three months (Dahlhamer et al., 2018). Individuals using opioids for chronic pain have a 21–29 percent risk of misusing opioids and an 8–12 percent chance of developing an opioid addiction (Vowles et al., 2015). Individuals with high-impact (i.e., limiting life or work most days) chronic spinal pain use opioids at nearly four times the rate of those with low-impact pain—and at

five times the morphine-equivalent daily dose (Herman et al., 2019a).

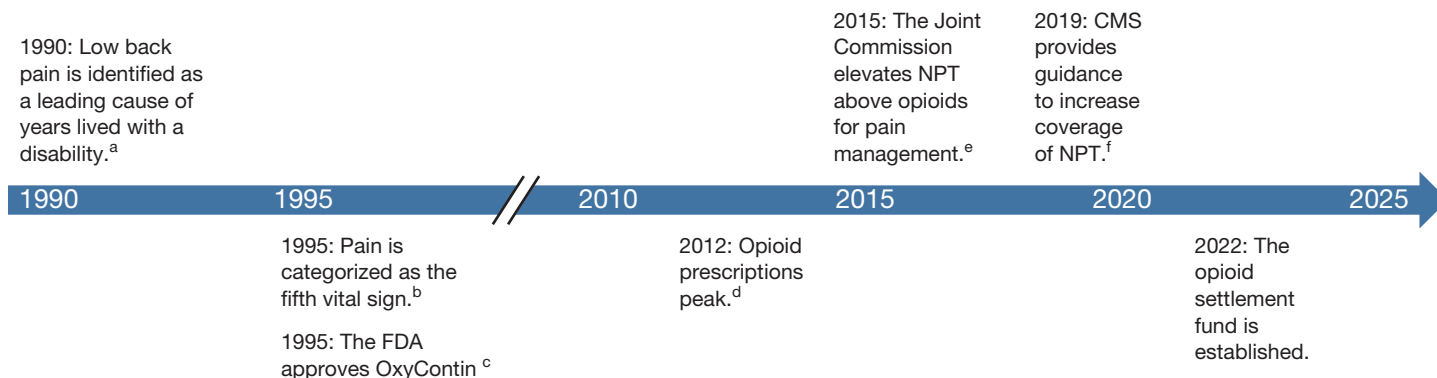
In many ways, the trajectory of opioid misuse parallels the emergence of musculoskeletal pain as a public health concern (see Figure 1). Back pain is among the most common causes of chronic pain and is the leading cause of years lived with disability; neck pain and other musculoskeletal complaints also constitute a significant societal burden (Vos and Global Burden of Disease 2015 Disease and Injury Incidence and Prevalence Collaborators, 2016). Musculoskeletal conditions, particularly back pain, have been top drivers of opioid prescriptions for decades (Deyo, Von Korff, and Dührkoop, 2015; Stokes et al., 2019).

Nonpharmacological Therapies for Pain as an Upstream Preventive Strategy

Policies that restrict opioid prescribing are insufficient on their own; providing accessible, effective alternatives for pain management are also required (Lee et al., 2021). NPTs offer an effective evidence-based alternative to opioids. The Joint Commission first issued guidance advising the use of NPT in 2015 (Joint Commission, 2014). Current guidelines recommend meditation, acupuncture, massage therapy, and spinal manipulation as evidence-based, nonopioid treatments for both acute and chronic pain (Joint Commission, 2018). Guidelines from the Centers for Disease Control and Prevention (Dowell et al., 2022) are among the many contemporary systematic reviews and clinical guidelines that overwhelmingly recommend a trial of NPT for acute and chronic pain management prior to

FIGURE 1

Timeline of Opioid Use Relative to Recommendations for Nonpharmacological Therapy for Pain



^a Wu et al., 2020; ^b Scher et al., 2018; ^c U.S. Food and Drug Administration, 2023; ^d Mattson et al., 2017; ^e Joint Commission, 2014; ^f Traylor, 2019.

NOTE: CMS = Centers for Medicare and Medicaid Services; FDA = Food and Drug Administration.

opioid initiation. These recommendations are made on the basis of results from clinical trials on NPT for the most prevalent pain presentations, including back pain (Qaseem et al., 2017; Diagnosis and Treatment of Low Back Pain Work Group, 2022; Skelly et al., 2018), neck pain (Corp et al., 2021; Skelly et al., 2018), and other musculoskeletal conditions (Flynn, 2020). Guideline-concordant, stepped-care approaches, especially in spine care, have been shown to both decrease opioid prescribing and lower costs (Rhon, Greenlee, and Fritz, 2019; Herman et al., 2019b), demonstrating that NPT is an effective upstream strategy to decrease unnecessary opioid use.

Despite this evidence, spine care in most health care systems remains discordant with the recommended guidelines (George et al., 2020). Prescribing providers report limited knowledge about the effectiveness of NPT

modalities and uncertainty about the referral process. Furthermore, they are unsure about how to integrate these services alongside conventional treatments. These uncertainties hinder multidisciplinary and multimodal pain care (Aizuddin et al., 2022). Because insurance coverage and cost-sharing vary widely for NPTs, care coordination and the integration of NPTs into existing care systems is particularly challenging (Penney et al., 2017). CDC guidelines note that increasing insurance coverage and decreasing out-of-pocket expenditures for NPT should be priorities in the strategy to mitigate opioid use (National Center for Injury Prevention and Control, 2018). Although opioid prescription rates for musculoskeletal conditions had been trending downward, recent evidence suggests that non-pharmacological interventions used to manage uncomplicated back and neck pain were replaced by opioid prescrip-

tions during the coronavirus disease 2019 pandemic (Lee et al., 2021). However, as in-person patient care increases with the easing of social distancing restrictions, there is renewed urgency to expose pain patients to NPTs as a first-line treatment instead of opioids.

Health systems and plans that have improved access to NPTs through increased availability and/or coverage have demonstrated reductions in opioid prescribing and utilization. (Commonly recommended nonpharmacological therapies for pain are described in the text box.) Veterans who choose to receive chiropractic care through the Veterans Affairs health care system are prescribed significantly fewer opioids for pain management compared with those

who do not access chiropractic services (Lisi et al., 2018). Similar results were found among Medicare beneficiaries, with chiropractic users filling an opioid prescription 56 percent less often (Whedon et al., 2022). In the private sector, UnitedHealthcare reports lower odds of opioid use in both the short and long term for beneficiaries who initiate care for back pain with chiropractors or physical therapists (Kazis et al., 2019).

Multiple states have also mandated care pathways that direct care toward NPTs prior to opioid initiation. In Washington state, officials have revised pain management guidelines, incentivized the use of NPTs, and analyzed outcomes in real time among individuals receiving treatment

National Center for Complementary and Integrative Health Descriptions of Commonly Recommended Nonpharmacological Therapies for Pain

- **Acupuncture:** uses needles to stimulate specific areas of the body to reduce pain, including chronic low back pain, fibromyalgia pain, knee pain, and headaches.
- **Spinal manipulation:** one of the most commonly used complementary health treatments in the United States, often performed by a chiropractor or other health professional. Spinal manipulation could be a helpful nondrug treatment for people with chronic low back pain, neck pain, headaches, and certain migraines.
- **Meditation and mindfulness:** can involve focusing the mind on a particular sensation (such as breathing), a sound, a repeated word or phrase, or an image. Mindfulness helps focus attention or awareness on the present moment. Recent research has shown that using mindfulness to help patients with chronic pain and dependence on opioids has promise.
- **Yoga:** a series of poses, movements, and deep breathing exercises. Studies show that yoga can be helpful for low back pain, with effects similar to those of exercise. Research on yoga for neck pain and arthritis has been limited, but some studies have had promising results.
- **Dietary supplements and natural products:** includes herbs, vitamins, minerals, and probiotics. Early results of studies using probiotics to ease irritable bowel syndrome pain have been promising. Omega-3 fatty acids, such as those found in fish oil, could help rheumatoid arthritis symptoms.

SOURCE: National Center for Complementary and Integrative Health, 2023.

for workplace injuries (Office of the Medical Director, 2013). The culmination of these interagency policies has resulted in the increased use of NPTs and a decrease in opioid prescriptions, chronic opioid use, opioid adverse events, and opioid-related deaths (Franklin et al., 2015). Oregon introduced a policy to cover NPTs for all Medicaid patients with back pain. This policy accompanied several statewide policies to reduce or discourage the initiation of opioid therapy, a notable shift from prior guidance (Eaves et al., 2019).

Nonpharmacological Therapies as Secondary Prevention

Although our focus is on the use of NPTs to prevent unnecessary opioid initiation, pain management can remain problematic for people who have or are recovering from addiction to opioids (Coluzzi et al., 2017). Tolerance and dependence on opioids or other narcotics can limit analgesic options, particularly for those who are experiencing opioid use disorder (OUD). Two-thirds of adults who misuse opioid prescriptions report that their motivation for opioid use is to relieve physical pain (Han et al., 2018). In these circumstances, evidence-based NPT options for pain have an important role as a secondary prevention measure to both manage pain and prevent the relapse of those in recovery (Turner et al., 2022). Unrelieved pain is a risk factor for relapse and has been linked to increases in heroin and fentanyl use (Pitt, Humphreys, and Brandeau, 2018). This underscores the imperative to develop evidence-based opioid tapering strategies in combination with nonopioid and, ideally, nonpharmacological comanagement strategies for pain.

Experts and guidelines have identified an acute need for research to inform safe and effective pain management strategies for individuals being treated for OUD (Barth et al., 2017; Wiens et al., 2022), including NPTs and the use of multidisciplinary teams (Hargett, Criswell, and Palokas, 2022; White, 2019; Shreffler, Genova, and Huecker, 2022; Chen et al., 2018). The Substance Abuse and Mental Health Services Administration lists NPTs, including chiropractic, acupuncture, massage, and exercise, as evidence-based alternatives for pain management in its public-facing *You Can Manage Your Chronic Pain to Live a Good Life: A Guide for People in Recovery from Mental Illness or Addiction* (Substance Abuse and Mental Health Services Administration, 2013).

To address OUD directly, it would be worthwhile to build on promising preliminary evidence to determine how NPT can best be used to support treatment and recovery. Early research suggests that various acupuncture and exercise interventions, such as yoga and tai chi, can alleviate withdrawal symptoms, reduce opioid cravings, and decrease anxiety and depression often associated with rehabilitation (Wiens et al., 2022; Hu et al., 2022; Shreffler, Genova, and Huecker, 2022; Chen et al., 2018). Alongside this evolving evidence base, interdisciplinary rehabilitative teams have been recommended to support recovery (Gilliam et al., 2018).

Ensuring Equity of Access to Nonpharmacological Therapies

Discrimination and socioeconomic disparities decrease access to health care, cause the underrepresentation of marginalized populations in research, and negatively affect

health outcomes (Morales and Yong, 2021). Another result is the undermanagement of pain in people of color and other disadvantaged populations (Morales and Yong, 2021). High-impact chronic pain has a higher prevalence within many of these communities, increasing the likelihood of opioid misuse, abuse, and addiction (Dahlhamer et al., 2018). Furthermore, opioid overdose and death disproportionately affect people of color and socioeconomically disadvantaged populations (Substance Abuse and Mental Health Services Administration, 2020). Access to NPTs is inversely associated with opioid prescription rates across zip codes (Elton, Zhang, and Okaya, 2022), and the use of NPTs is lower among communities of color compared with non-Hispanic whites (Johnson et al., 2019). A myriad of barriers impede access to care for these groups beyond lack of awareness and deficient insurance coverage for NPTs. These barriers include the inability to pay high out-of-pocket expenses for care, transportation constraints, and

Automated treatment guidance at the point of care (nudges) to encourage providers to consider NPTs before opioid initiation should be explored.

limited available time beyond what is already committed to work and family obligations (Overstreet et al., 2023).

There is a dearth of research that assesses how inequities affect the use of NPTs (Johnson et al., 2019). For many individuals, insurance coverage dictates their ability to seek a health service. This is especially true for those covered by Medicaid, who have a greater prevalence of high-impact chronic pain but often limited or no coverage of NPTs (Dahlhamer et al., 2018; Heyward et al., 2018). In 2019, the Centers for Medicare and Medicaid Services outlined the important role of NPTs within primary and secondary prevention of opioid use. Included within this guidance were mechanisms that states could use to expand coverage options for NPTs through federal waivers or state plan amendments (Traylor, 2019).

Another avenue to improve equity of access to NPTs is to increase the availability of these services within federally qualified health centers (FQHCs). This might include hiring care providers who specialize in NPT, educating patients about NPT alternatives to opioids, and aligning systems to deliver guideline-concordant pain management for patients served by FQHCs. For example, after securing federal grant funding to increase access to NPTs within an integrative pain management program, one FQHC reported improvements in quality of life, increased self-efficacy, and new coping skills for pain management among patients (Huber, 2021).

Integrating Nonpharmacological Therapies

Emerging advancements in health technologies present new mechanisms to integrate NPTs into clinical care

decisionmaking and present straightforward pathways to alternatives that bypass clinically unnecessary opioids (Elton et al., 2022). Clinical decision support tools have been effective at reducing the use of opioids within primary care and emergency departments by detecting patients with risk factors for opioid misuse or potential abuse (Bart et al., 2020). Building on these early successes, automated treatment guidance at the point of care (nudges) to encourage providers to consider NPTs before opioid initiation should be explored. Federal agencies are offering grants to further develop health technology tools that leverage health data and optimize the introduction of NPTs into direct care pathways, further avoiding opioid prescribing (HEAL Initiative, 2022). Settlement funding should prioritize local innovations to further analyze care pathways and direct them to NPTs and away from opioids, including provider education to enable providers to make appropriate referrals and enhanced mechanisms for interdisciplinary communication to improve care coordination.

Collaborative care models have been used to successfully integrate behavioral health into primary care for substance use disorders (American Psychiatric Association and Academy of Psychosomatic Medicine, 2016; Watkins et al., 2017). Individuals with mental health disorders are at greater risk of using opioids and more than half of all opioid prescriptions are written for the 16 percent of U.S. adults who have a diagnosed mental health disorder (Davis et al., 2017). Furthermore, using opioids for pain is associated with behavioral health conditions, such as suicidal ideation, heroin and cocaine use disorders, and the misuse of other psychotropic medications (Han et al., 2018). Given these associations, an expansion of the collaborative care model should be considered to incorporate NPTs for pain

management. Doing so offers an important opportunity to maximize the effectiveness of collaborative care models and bridge the disjointed care often experienced by individuals with co-occurring chronic pain and mental or behavioral health conditions (Leasure and Leasure, 2017).

Not all evidence-based NPTs are always provider-led or need to be delivered in person. Examples of nonclinical NPTs include yoga, tai chi, meditation, therapeutic exercise, and mindfulness-based stress reduction. Pandemic-era innovations in telehealth and remote health care can be leveraged to increase access to NPTs, integrate mind-body techniques into care plans to manage pain or reduce opioid use, and increase the convenience of care. Live stream videos, on-demand content, applications (“apps”), and online forums can be used to provide NPTs to support pain management and opioid recovery.

Recommendations to Increase Nonpharmacological Therapy for the Prevention of Opioid Use

The disbursement of opioid settlement funds is under the control of state, regional, tribal, county, and municipal entities. Therefore, these recommendations are directed toward decisionmakers at a variety of jurisdictional levels.

Increase Awareness of Nonpharmacological Therapy Use for Pain

Given that pain will affect all people at some time during their life, a greater societal understanding of the benefits of NPTs and supporting evidence is necessary. Key

stakeholders across the health sector, including payers, providers, hospital administrators, and legislators, have a responsibility to increase awareness within their organizations and among the public. Summits are one mechanism for coordinating community health messaging within stakeholder spheres of influence. In addition, decisionmakers should prioritize public announcements using trusted community voices to educate about the appropriate use of NPTs for managing pain.

Expand Coverage of Nonpharmacological Therapies, Especially Under Medicaid

Given that many state Medicaid programs have limited coverage of NPTs, state leaders should direct settlement funding to cover NPTs within Medicaid using state plan

Decisionmakers at all jurisdictional levels should consider increasing access to evidence-based therapeutic interventions that address pain and reinforce opioid misuse recovery.

amendments or other federal waiver authorities. Expanded NPT services would be multiplied by the receipt of additional federal funds via the federal match, further enabling states to deliver these services. Settlement funds can also be used to eliminate copayments for NPT services in state-funded programs. Finally, states should pursue insurance regulation to similarly expand access to NPTs without copayments in other health care plans.

Enhance Equity of Access, Including Through Community-Informed Access

At all jurisdictional levels, those responsible for allocating settlement funds should prioritize improving pain management programs, research, and care delivery for underserved populations. Ensuring equity could include funding the delivery of NPTs within FQHCs, community-based health clinics, and health clinics on tribal lands. Leaders and elders from underserved communities should be engaged when conducting needs assessments and for facilitating the successful implementation of new initiatives.

Support Nonclinical, Nonpharmacological Therapy Interventions for Pain Management

Decisionmakers at all jurisdictional levels should consider increasing access to evidence-based therapeutic interventions that address pain and reinforce opioid misuse recovery, including such mind-body therapies as yoga and tai chi. This access should be developed and supported at existing community centers, local health departments, fitness centers, and local schools. Technology could be lever-

aged to further increase access through the development of web-based videos and apps.

Reduce Barriers to Accessing Provider-Led Nonpharmacological Therapies

Health care ecosystems vary by area; therefore, barriers to access also vary. Decisionmakers who are responsible for managing settlement funding should direct funds toward supporting analyses of the ability of pain patients to access NPTs. They should also allocate additional funding to support specific corrections to expand access to NPT.

These corrections can include

- enacting and enforcing policies that eliminate copayments and arbitrary limits on the amount of NPT care allowed
- creating grants and loan forgiveness programs to incentivize practitioners to provide NPT in underserved communities
- providing public transportation to facilitate adherence to NPT.

Illuminate Gaps in Guideline-Adherent Care Pathways for Pain

Decisionmakers who are responsible for settlement funding should consider funding needs assessments of local delivery systems to identify misalignment with The Joint Commission guidance on pain management and identify clinical care pathways where guideline-adherent NPT could be encouraged as first-line interventions before opioid initiation. Emergency departments, urgent care clinics, primary care clinics, and dental clinics should be

prioritized for these assessments as facilities where opioid initiation is most common.

Fund Pilot Projects That Integrate Nonpharmacological Therapy into Opioid Use Disorder Treatment Programs

Where possible, decisionmakers who are responsible for settlement funding should consider funding innovative initiatives that integrate NPT alongside OUD medical treatment and mental or behavioral health programs for substance abuse rehabilitation. This might include collaborative care models to integrate NPT across different phases of care in addiction recovery, including inpatient and outpatient programming, and virtual or home-based care to support long-term recovery and reduce recidivism over the arc of a lifetime.

Build Infrastructure to Facilitate Nonpharmacological Therapy Use

Pain management often involves disjointed care delivery systems and health records with little interoperability. These inefficiencies are detrimental to clinical outcomes and increase costs. As states and health networks make other investments in health technology and informatics, settlement funds should be used to supplement these investments' capacity to reduce the use of unnecessary opioids for the treatment of common pain disorders. Examples of this capacity supplementation should include design improvements to inform clinical care pathways, the creation of clinician-targeted nudges, and direct referrals to high-value NPTs instead of opioids.

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About This Perspective

This Perspective provides recommendations to fill an important gap in the published guidance about the distribution of opioid settlement funds. Guidance on the distribution of settlement funds has primarily focused on reducing opioid-related deaths and other opioid-related harms and on improving treatment for substance use disorders. However, an effective approach to this crisis will also require primary prevention strategies to reduce unnecessary opioid initiation, particularly through effective pain management. We suggest that opioid settlement funds should be directed toward strategies that decrease clinically unnecessary opioid use, specifically by better leveraging evidence-based, nonpharmacological pain management.

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