

Breaking barriers: addressing opioid stigma in chronic pain and opioid use disorder

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1. Introduction

Opioid stigma is an overlooked barrier to public health efforts targeting the opioid overdose epidemic.^{15,70} Opioid stigma is stigma because of the use of opioids and can occur regardless of opioid type (pharmaceutical or illicit), reason for use (medical or nonmedical),⁶⁵ and presence of substance use disorders (SUDs).⁶ Stigma is a social process that entails stereotyping, judgment, status loss, and discrimination and is a fundamental cause of health inequities.^{40,59} While there is extensive literature describing stigma related to HIV, mental illness, and SUDs,^{24,79} literature on opioid stigma is just beginning to emerge. Opioid stigma is particularly salient among people with chronic pain and opioid use disorder (OUD). Despite limited evidence of benefit,^{18,49} guidelines acknowledge opioids may be beneficial in select chronic pain cases.³⁰ Chronic pain and OUD also have a reciprocal relationship,²⁸ made more complex by opioid stigma.

This perspective paper describes opioid stigma relating to OUD and medications for OUD (MOUD) among patients with comorbid chronic pain. Using the Health Stigma and Discrimination Framework (HSDf),⁹⁰ we outline key drivers, facilitators, experiences, and outcomes of opioid stigma and highlight strategies to reduce harms including overdose deaths.

1.1. Health stigma and discrimination framework

The HSDf is a cross-cutting framework that describes how stigma unfolds from a socioecological perspective.⁹⁰ The framework consists of 4 broad domains: (1) drivers and facilitators (factors that directly impact whether a person experiences health-related stigma); (2) intersecting stigmas (stigmatized personal characteristics, eg, race); (3) stigma experiences (eg, discrimination) and practices (eg, negative beliefs, attitudes, or actions); and (4) outcomes at the federal, clinic, clinician, and patient level.

Here, we apply the HSDf domains to people with OUD and chronic pain to inform intervention efforts (Fig. 1).

1.2. Drivers and facilitators

Policy restricting access to evidenced-based OUD treatment has fueled widespread opioid stigma,²¹ which significantly impacts those with OUD and chronic pain. Medications for OUD (MOUD; eg, methadone, buprenorphine) improve opioid craving and overdose^{7,101} and can also have small analgesic effects for some patients making it a useful tool for OUD and pain management.^{38,58} However, only 25% of patients with OUD ever receive MOUD.²⁹ Federal policy requires methadone dispensing within opioid treatment programs, yet in 2019, 78% of US counties did not have a program leaving most patients without available treatment options.²⁵ Opioid treatment programs are also often separated from medical facilities and use a highly regulated approach derived from carceral settings,⁷¹ which increases treatment burden and worsens outcomes. For example, when daily dosing regulations were relaxed across 8 programs during the COVID-19 emergency, treatment retention and opioid use improved without an increase in methadone overdoses.^{13,43} Current research⁵⁰ and policy efforts⁸⁷ are underway to improve methadone access by increasing availability in other outpatient settings and pharmacies. These strategies are used in other countries experiencing high rates of overdose (eg, Canada, Australia, United Kingdom²⁰) and can reduce stigma by improving treatment access, burden, and privacy. Buprenorphine, on the other hand, is available across a range of settings, including primary care and community clinics. However, despite increased availability, access and utilization varies widely between states and urban and rural settings,^{23,45} driven in part by limiting state policies³ and insurance payment barriers (eg, patient cost, provider reimbursement).¹¹

Restrictive policies and carceral practices also promote negative attitudes towards OUD and MOUD, which exist among patients,⁶⁵ clinicians,⁶⁰ and the public.⁹⁹ A national survey of US adults (N = 947) showed that having negative attitudes toward people with OUD was associated with endorsing punitive policies towards OUD services.⁹⁹ Another national survey of 361 clinicians found that a majority held stigmatizing views towards people with OUD, which was associated with stigma practices, including lower willingness to prescribe MOUD.⁹¹ Clinicians holding stigmatizing views towards MOUD (eg, “switching one opioid for the other”)^{1,27,36} are more likely to prematurely discontinue MOUD, increasing overdose and mortality risk.^{14,17,89,103} Myths are also shared within mutual support groups, which hinders recovery⁶³ and worsens shame, depression, and isolation.^{27,65} Restrictive policies and opioid stigma have contributed to widespread OUD treatment inequities among

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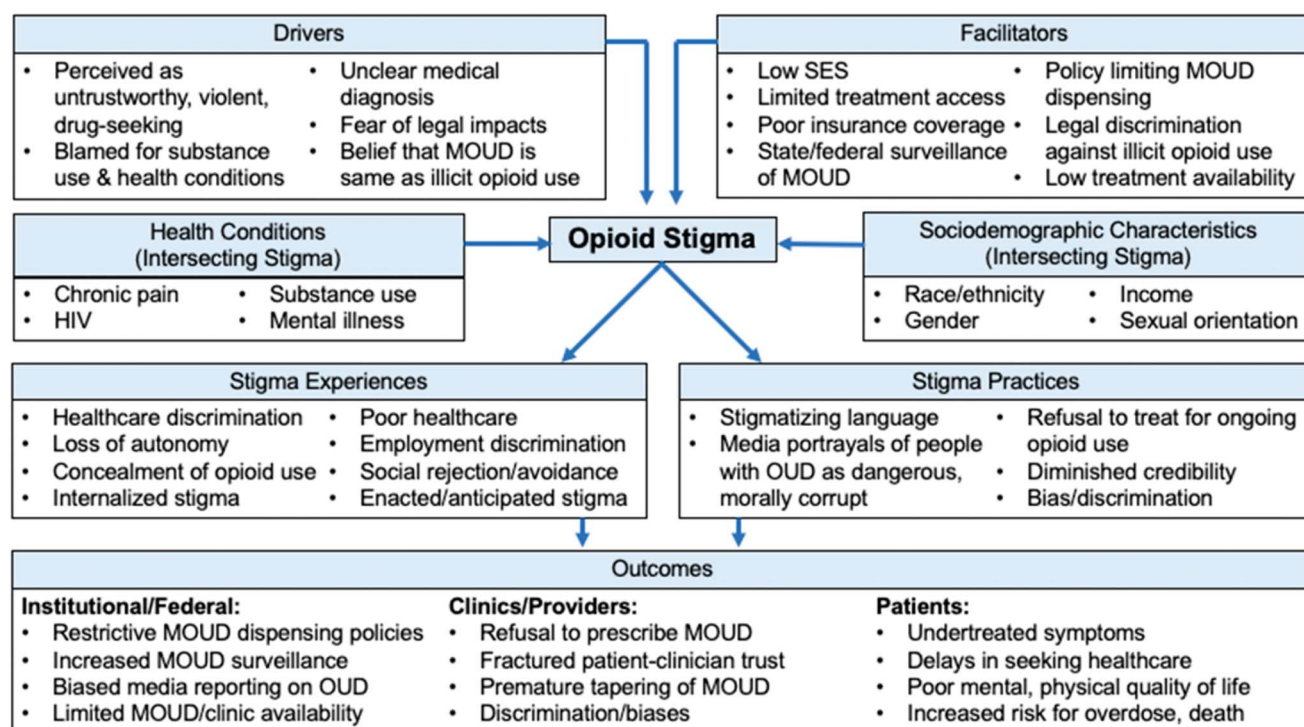


Figure 1. Opioid stigma in opioid use disorder (adapted from the Health Stigma and Discrimination Framework; Stangl et al., 2019). Above are examples and are not meant to be comprehensive. OUD, opioid use disorder; MOUD, medications for opioid use disorder.

women, people from racialized and rural backgrounds, and those who use intravenous methods.^{27,37,64,76,82}

1.3. Chronic pain: an intersecting stigma

Over half of people with an OUD have comorbid chronic pain,⁴⁴ which can precede or follow an OUD diagnosis.^{47,106} Chronic pain worsens opioid withdrawal¹⁰⁵ and increases risk for overdose,³⁹ yet most opioid treatment programs do not offer evidenced-based pain care.³⁴ Having an OUD diagnosis can also make it harder to access quality care in other settings,^{41,89} limiting pain treatment options. Fear of uncontrolled pain is also cited as a barrier to entering addiction treatment,⁹⁴ highlighting the intersectional nature of pain and OUD and the need to treat both conditions. Patients report being perceived as difficult, lazy, or drug-seeking,⁶⁵ especially when there is no clear medical explanation for their pain.⁷⁴ Intergroup stigma is also present among people with chronic pain and OUD. Some patients who cite pain as their primary reason for developing OUD distance themselves from people who report developing OUD for other reasons (eg, seeking euphoria, relieve emotional distress), who are seen to have greater responsibility for their OUD.^{33,77,94}

1.4. Patient experiences and outcomes

A systematic review of 49 qualitative studies showed patients with comorbid OUD and chronic pain describe experiencing unfair treatment, such as having to comply with burdensome demands (eg, drug screens, pill counts, daily dosing) that reduce autonomy, self-efficacy, and sense of control, which are important predictors of health outcomes.^{20,65} Several qualitative studies also showed patients with comorbid chronic pain and OUD describe being perceived as morally weak, untrustworthy, drug-seeking, and orphaned by the medical system.^{6,9,65} As a result, pain concerns are often dismissed and undertreated.⁸

People from racialized backgrounds also experience harmful myths about pain (eg, higher pain tolerance) and receive inadequate pain care.⁹⁸ These experiences promote mistrust and avoidance of medical treatment.^{8,9} Outcomes of these stigma experiences include poor physical and mental health, social support, treatment engagement, retention, and greater pain severity.^{4,8,9,32,57} Internalized stigma, or negative beliefs about oneself, is also associated with worse pain coping and recurrent OUD symptoms.^{31,86}

1.5. A call to action

A multilevel, health equity-orientated approach is needed to reduce opioid stigma (**Table 1**). The *Stanford-Lancet* Commission proposed an evidenced-based national policy agenda to reduce overdose deaths,⁴⁶ including strategies to destigmatize opioid use and improve systems of care for people with pain and OUD.

1.5.1. Treatment access

Increasing treatment access and provider education are crucial steps towards reducing stigma towards all forms of substance use treatment. Insurance reform and reducing MOUD regulations (eg, daily dosing)^{46,66,71} are necessary steps towards achieving health equity. Brief training sessions with medical residents can increase confidence, evidenced-based prescribing practices, and treatment referrals.⁸⁴ Support tools, educational programming, visual campaigns, and short vignettes have also reduced clinician opioid stigma and improved access to SUD treatment.^{10,53} Integrated care models, telehealth services, and digital interventions can increase access and quality of medical care.^{46,56,68} Providers Clinical Support System offers trainings on MOUD prescribing and evidenced-based SUD and chronic pain treatment.⁷⁸ Use of engagement strategies, such as patient-

Table 1		
Multilevel recommendations to destigmatize opioid use in people with opioid use disorder and chronic pain.		
Topic area	Recommendation	Strategies
Policy	Improve treatment access	<ul style="list-style-type: none">• Reduce MOUD daily dosing requirements^{15,54}• Expand MOUD dispensing into pharmacies¹⁵• Insurance reform to cover addiction and pain management services^{53,54}
Education	Increase addiction and pain workforce	<ul style="list-style-type: none">• Require addiction and pain management training in medical school⁵⁵• Clinician training in MOUD prescribing^{55–57,60}• Clinician training in stigma reduction^{56–58,68,69}
	Improve public understanding of chronic pain and addiction	<ul style="list-style-type: none">• National education campaign focused on pain and nonopioid treatments⁷⁰• Increase knowledge of SUD as a treatable medical condition⁵⁸• Increase awareness of SUD and pain stigma^{58,70}
Care delivery	Effectively engage patients in treatment	<ul style="list-style-type: none">• Shared decision making^{61,63}• Patient centered communication⁶²• Telehealth services and digital interventions^{59,60,81}• Integrated care models⁵⁹• Nonabstinent treatment models⁷⁴
Patient coping	Develop and implement effective behavioral interventions to improve coping	<ul style="list-style-type: none">• Motivational interviewing^{75,78}• Mindfulness-based relapse prevention^{76,77}• Peer support services^{86,87}• Development and tailoring of interventions to target internalized stigma^{66,79,80}• Develop integrated interventions target pain, SUD, and common comorbid mental health conditions

MOUD, medications for opioid use disorder; SUD, substance use disorder.

centered communication and empowering patient autonomy, can increase patients’ understanding and confidence in their treatment plan and reduce stigma.^{48,92} Bringing Recovery Supports to Scale offers shared decision-making tools to help providers engage in patient-centered discussions about MOUD.⁹⁵

1.5.2. Dispelling myths

Stigma and shame-based messages are commonly used to raise awareness about opioid harms. However, shame-based messaging reinforces false messages of individual responsibility, contributes to overly punitive treatment policies, and causes treatment options to be inconsistently applied¹⁴ exacerbating health inequities.¹² Public education designed to eliminate stigmatizing language (eg, “abuser,” “addict,” “drug-seeker”) and shame-based messaging can improve understanding of OUD as a treatable medical condition, which is crucial for reducing negative stereotypes and blame.^{52,60} The Opioid Response Network offers clinician resources on reducing stigma in OUD care.⁹⁷ A national pain education campaign could improve understanding of pain as a biopsychosocial (as opposed to purely biomedical) phenomenon and increase use of nonopioid treatments.¹⁶

1.5.3. Supporting multiple pathways towards recovery

Most opioid treatment programs use abstinence-based programming, which defines treatment success as achieving and sustaining abstinence from all substances.⁵⁵ Yet, a highly cited barrier to entering SUD treatment is that patients are not ready to stop their substance use contributing to stigma and shame.⁹⁶

Those who do engage in SUD treatment need 3 to 4 treatment episodes, on average, to sustain recovery.²⁶ Given this, prior work has called for widespread integration of harm reduction models to improve stigma and treatment engagement and retention.⁷⁵ These approaches conceptualize SUD treatment and recovery using a whole-person approach with goals focusing on any health behavior change. Evidence-based behavioral treatments that align with abstinence and nonabstinence goals, and are effective among pain populations, include motivational interviewing and mindfulness-based relapse prevention.^{2,83,85,102}

1.5.4. Improve coping

Behavioral interventions can improve internalized stigma and shame.^{62,88} Effective digital interventions for SUD and comorbid pain or mental health conditions exist.^{54,61,67,80,81} Peer support services can reduce distress and increase self-efficacy and social support.^{5,35} Development and tailoring of stigma interventions are vital to improving treatment engagement, retention, and outcomes. International¹⁰⁰ and federal^{22,42,69,72,73,93} initiatives have prioritized stigma research to improve treatment access and outcomes. To create an effective multilevel approach, we must mobilize key collaborators from diverse disciplines. Most importantly, including diverse patients with lived experience is vital to ensuring efforts are patient-centered and stigma-free.^{51,104} Engaging experts in stigma, pain, SUD, implementation science, social science, policy, and healthcare delivery will ensure that strategies are responsive to varied clinical needs. By adopting these multilevel, patient-centered strategies, we can reduce opioid stigma and save countless lives impacted by the overdose crisis. The time to act is now; the lives of those suffering depend on our collective commitment to change.

Conflict of interest statement

B. D. Darnall is Chief Science Advisor at AppliedVR and she receives consulting fees for this role. B. D. Darnall receives royalties for four pain treatment books she has authored or coauthored. She is the principal investigator for two pain research awards from the Patient-Centered Outcomes Research Institute. B. D. Darnall is principal investigator for two NIH grants. B. D. Darnall serves on the Board of Directors for the American Academy of Pain Medicine, is on the Board of Directors for the Institute for Brain Potential, and is on the Medical Advisory Board for the Facial Pain Association. B. D. Darnall is a scientific member of the NIH Interagency Pain Research Coordinating Committee, a former member of the Centers for Disease Control and Prevention Opioid Workgroup (2020–2021), and a current member of the Pain Advisory Group of the American Psychological Association. The remaining authors have no conflict of interest to declare.

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References

- [1] Allen B, Harocopos A. Non-prescribed buprenorphine in New York city: motivations for use, practices of diversion, and experiences of stigma. *J Subst Abuse Treat* 2016;70:81–86.
- [2] Alperstein D, Sharpe L. The efficacy of motivational interviewing in adults with chronic pain: a meta-analysis and systematic review. *J Pain* 2016;17:393–403.
- [3] Andraka-Christou B, Golan OK, Williams M, Buksbaum S, Gordon AJ, Stein BD. A systematic review of state office-based buprenorphine treatment laws effective during 2022: counseling, dosage, and visit frequency requirements. *Substance Use Addict J* 2024;45:278–291.
- [4] Andraka-Christou B, Totaram R, Randall-Kosich O. Stigmatization of medications for opioid use disorder in 12-step support groups and participant responses. *Subst Abuse* 2022;43:415–424.
- [5] Andrae SJ, Andrae LJ, Richman JS, Cherrington AL, Safford MM. Peer-delivered cognitive behavioral therapy-based intervention reduced depression and stress in community dwelling adults with diabetes and chronic pain: a cluster randomized trial. *Ann Behav Med* 2021;55:970–980.
- [6] Antoniou T, Ala-Leppilampi K, Shearer D, Parsons JA, Tadrous M, Gomes T. “Like being put on an ice floe and shoved away”: a qualitative study of the impacts of opioid-related policy changes on people who take opioids. *Int J Drug Pol* 2019;66:15–22.
- [7] Baxley C, Borsari B, Reavis JV, Manuel JK, Herbst E, Becker W, Pennington D, Batki SL, Seal K. Effects of buprenorphine on opioid craving in comparison to other medications for opioid use disorder: a systematic review of randomized controlled trials. *Addict Behaviors* 2023;139:107589.
- [8] Bean DJ, Dryland A, Rashid U, Tuck NL. The determinants and effects of chronic pain stigma: a mixed methods study and the development of a model. *J Pain* 2022;23:1749–1764.
- [9] Benintendi A, Kosakowski S, Lagisetty P, Larochelle M, Bohnert ASB, Bazzi AR. “I felt like I had a scarlet letter”: recurring experiences of structural stigma surrounding opioid tapers among patients with chronic, non-cancer pain. *Drug Alcohol Depend* 2021;222:108664.
- [10] Bielenberg J, Swisher G, Lembke A, Haug NA. A systematic review of stigma interventions for providers who treat patients with substance use disorders. *J Subst Abuse Treat* 2021;131:1–25.
- [11] Bowser D, Bohler R, Davis MT, Hodgkin D, Horgan C. Payment-related barriers to medications for opioid use disorder: a critical review of the literature and real-world application. *J Substance Use Addict Treat* 2024;165:209441.
- [12] Brewis A, Wutich A. Why we should never do it: stigma as a behaviour change tool in global health. *BMJ Glob Health* 2019;4:e001911.
- [13] Brothers S, Viera A, Heimer R. Changes in methadone program practices and fatal methadone overdose rates in Connecticut during COVID-19. *J Subst Abuse Treat* 2021;131:108449.
- [14] Brown RL, Batty E, Lofwall M, Kiviniemi M, Kizewski A. Opioid use-related stigma and health care decision-making. *Psychol Addict Behaviors* 2022;37:222–227.
- [15] Buchman DZ, Leece P, Orkin AM. The epidemic as stigma: the bioethics of opioids. *J L Med Ethics* 2017;45:607–620.
- [16] Burgess DJ, Vallone D, Bair MJ, Matthias MS, Taylor BC, Taylor SL. Shifting the national consciousness about pain treatment: the critical need for a national public education campaign. *J Pain* 2021;22:1129–1133.
- [17] Burns M, Tang L, Chang CCH, Kim JY, Ahrens K, Allen L, Cunningham P, Gordon AJ, Jarlenski MP, Lanier P, Mauk R, McDuffie MJ, Mohamoud S, Talbert J, Zivin K, Donohue J. Duration of medication treatment for opioid-use disorder and risk of overdose among Medicaid enrollees in 11 states: a retrospective cohort study. *Addiction* 2022;117:3079–3088.
- [18] Busse JW, Wang L, Kamaleldin M, Craigie S, Riva JJ, Montoya L, Mulla SM, Lopes LC, Vogel N, Chen E, Kirmayr K, De Oliveira K, Olivieri L, Kaushal A, Chaparro LE, Oyberman I, Agarwal A, Couban R, Tsoi L, Lam T, Vandvik PO, Hsu S, Bala MM, Schandelmaier S, Scheidecker A, Ebrahim S, Ashoorion V, Rehman Y, Hong PJ, Ross S, Johnston BC, Kunz R, Sun X, Buckley N, Sessler DI, Guyatt GH. Opioids for chronic noncancer pain: a systematic review and meta-analysis. *JAMA* 2018;320:2448–2460.
- [19] Calcaterra SL, Bach P, Chadi A, Chadi N, Kimmel SD, Morford KL, Roy P, Samet JH. Methadone matters: what the United States can learn from the global effort to treat opioid addiction. *J Gen Intern Med* 2019;34:1039–1042.
- [20] Cardoso Barbosa H, de Queiroz Oliveira JA, Moreira da Costa J, de Melo Santos RP, Gonçalves Miranda L, de Carvalho Torres H, Pagano AS, Parreiras Martins MA. Empowerment-oriented strategies to identify behavior change in patients with chronic diseases: an integrative review of the literature. *Patient Educ Couns* 2021;104:689–702.
- [21] Cheetham A, Picco L, Barnett A, Lubman DI, Nielsen S. The impact of stigma on people with opioid use disorder, opioid treatment, and policy. *Subst Abuse Rehabil* 2022;13:1–12.
- [22] Collins FS, Koroshetz WJ, Volkow ND. Helping to end addiction over the long-term: the research plan for the NIH HEAL initiative. *JAMA* 2018;320:129–130.
- [23] Conway KP, Khoury D, Hilscher R, Aldridge AP, Parker SJ, Zarkin GA. Rural and urban differences in undersupply of buprenorphine provider availability in the United States, 2018. *Addict Sci Clin Pract* 2022;17:5.
- [24] Corrigan PW, Schomerus G, Shuman V, Kraus D, Perlick D, Harnish A, Kulesza M, Kane-Willis K, Qin S, Smelson D. Developing a research agenda for reducing the stigma of addictions, part II: lessons from the mental health stigma literature. *Am J Addict* 2017;26:67–74.
- [25] Corry B, Underwood N, Cremer LJ, Rooks-Peck CR, Jones C. County-level sociodemographic differences in availability of two medications for opioid use disorder: United States, 2019. *Drug Alcohol Depend* 2022;236:109495.
- [26] Dennis ML, Scott CK, Funk R, Foss MA. The duration and correlates of addiction and treatment careers. *J Subst Abuse Treat* 2005;28:S51–S62.
- [27] Dickson-Gomez J, Spector A, Weeks M, Galletly C, McDonald M, Green Montague HD. “You’re not supposed to be on it forever”: medications to treat opioid use disorder (MOUD) related stigma among drug treatment providers and people who use opioids. *Subst Abuse* 2022;16:117822182211038.
- [28] Ditte JW, Zale EL, Larowe LR. A reciprocal model of pain and substance use: transdiagnostic considerations, clinical implications, and future directions. *Annu Rev Clin Psychol* 2019;15:503–528.
- [29] Dowell D, Brown S, Gyawali S, Hoenig J, Ko J, Mikosz C, Ussey E, Baldwin G, Jones C, Olsen Y, Tomoyasu N, Han B, Compton W, Volkow

- N. Treatment for opioid use disorder: population estimates—United States, 2022. *MMWR* 2024;73:567–573.
- [30] Dowell D, Ragan KR, Jones CM, Baldwin GT, Chou R. CDC clinical practice guideline for prescribing opioids for pain—United States, 2022. *MMWR Recomm Rep* 2022;71:1–95.
 - [31] Earnshaw V, Smith L, Copenhaver M. Drug addiction stigma in the context of methadone maintenance therapy: an investigation into understudied sources of stigma. *Int J Ment Health Addict* 2013;11:110–122.
 - [32] Earnshaw VA, Sepucha KR, Laurenceau JP, Subramanian SV, Brousseau NM, Chaudoir SR, Hill EC, Morrison LM, Kelly JF. Disclosure processes as predictors of relationship outcomes among people in recovery from opioid use disorder: a longitudinal analysis. *Drug Alcohol Depend* 2021;228.
 - [33] Edmond SN, Snow JL, Pomeranz J, Van Cleve R, Becker WC. Arguments for and against a new diagnostic entity for patients with chronic pain on long-term opioid therapy for whom harms outweigh benefits. *J Pain* 2021;23:958–966.
 - [34] Ellis MS, Kasper Z, Cicero T. Assessment of chronic pain management in the treatment of opioid use disorder: gaps in care and implications for treatment outcomes. *J Pain* 2021;22:432–439.
 - [35] Farr M, Brant H, Patel R, Linton MJ, Ambler N, Vyas S, Wedge H, Watkins S, Horwood J. Experiences of patient-led chronic pain peer support groups after pain management programs: a qualitative study. *Pain Med (United States)* 2021;22:2884–2895.
 - [36] Franz B, Dhanani LY, Hall OT, Brook DL, Fenstermaker C, Simon JE, Miller WC. Buprenorphine misinformation and willingness to treat patients with opioid use disorder among primary care-aligned health care professionals. *Addict Sci Clin Pract* 2024;19:7.
 - [37] Goodyear K, Ahluwalia J, Chavanne D. The impact of race, gender, and heroin use on opioid addiction stigma. *J Subst Abuse Treat* 2022;143:108872.
 - [38] Hanna V, Senderovich H. Methadone in pain management: a systematic review. *J Pain* 2021;22:233–245.
 - [39] Hartz SM, Culverhouse RC, Mintz CM, Ellis MS, Kasper ZA, Cavazos-Rehg P, Grucza RA, Bierut LJ, Cicero TJ. Association between recent overdose and chronic pain among individuals in treatment for opioid use disorder. *PLoS One* 2022;17:e0271379.
 - [40] Hatzenbuehler ML, Phelan JC, Link BG. Stigma as a fundamental cause of population health inequalities. *Public Health* 2013;103:813–821.
 - [41] Hawk K, McCormack R, Edelman EJ, Coupet E, Toledo N, Gauthier P, Rotrosen J, Chawarski M, Martel S, Owens P, Pantaloni MV, O'Connor P, Whiteside LK, Cowan E, Richardson LD, Lyons MS, Rothman R, Marsch L, Fiellin DA, D'Onofrio G. Perspectives about emergency department care encounters among adults with opioid use disorder. *JAMA Netw Open* 2022;5:E2144955.
 - [42] Henderson C, Potts L, Robinson EJ. Mental illness stigma after a decade of Time to Change England: inequalities as targets for further improvement. *Eur J Public Health* 2020;30:526–532.
 - [43] Hoffman KA, Foot C, Levander XA, Cook R, Terashima JP, McIlveen JW, Korthuis PT, McCarty D. Treatment retention, return to use, and recovery support following COVID-19 relaxation of methadone take-home dosing in two rural opioid treatment programs: a mixed methods analysis. *J Subst Abuse Treat* 2022;141:108801.
 - [44] Hser YI, Mooney LJ, Saxon AJ, Miotto K, Bell DS, Huang D. Chronic pain among patients with opioid use disorder: results from electronic health records data. *J Subst Abuse Treat* 2017;77:26–30.
 - [45] Hsu ZS, Warnick JA, Harkins TR, Sylvester BE, Bharati NK, Eley le TB, Nichols SD, McCall K, Piper BJ. An analysis of patterns of distribution of buprenorphine in the United States using ARCOS, Medicaid, and Medicare databases. *Pharmacol Res Perspect* 2023;11:e01115.
 - [46] Humphreys K, Shover CL, Andrews CM, Bohnert ASB, Brandeau ML, Caulkins JP, Chen JH, Cuéllar M-F, Hurd YL, Juurlink DN, Koh HK, Krebs EE, Lembke A, Mackey SC, Larrimore Ouellette L, Suffoletto B, Timko C. Responding to the opioid crisis in north America and beyond: recommendations of the stanford–lancet commission. *Lancet* 2022;399:555–604.
 - [47] Ilgen MA, Trafton JA, Humphreys K. Response to methadone maintenance treatment of opiate dependent patients with and without significant pain. *Drug Alcohol Depend* 2006;82:187–193.
 - [48] Incze MA. Redesigning opioid pain agreements to promote patient-centered care. *JAMA Intern Med* 2023;183:179.
 - [49] Jones CM, Langford A, Maher CG, Abdel Shaheed C, Day R, Lin CWC. Opioids for acute musculoskeletal pain: a systematic review with meta-analysis. *Drugs* 2024;84:305–317.
 - [50] Joudrey PJ, Bart G, Brooner RK, Brown L, Dickson-Gomez J, Gordon A, Kawasaki SS, Liebschutz JM, Nunes E, McCarty D, Schwartz RP, Szapocnik J, Trivedi M, Tsui JI, Williams A, Wu LT, Fiellin DA. Research priorities for expanding access to methadone treatment for opioid use disorder in the United States: a national Institute on drug Abuse center for clinical trials Network task force report. *Subst Abuse* 2021;42:245–254.
 - [51] Kelly JF, Bergman B, Hoepfner BB, Vilsaint C, White WL. Prevalence and pathways of recovery from drug and alcohol problems in the United States population: implications for practice, research, and policy. *Drug Alcohol Depend* 2017;181:162–169.
 - [52] Kelly JF, Wakeman SE, Saitz R. Stop talking “dirty”: clinicians, language, and quality of care for the leading cause of preventable death in the United States. *Am J Med* 2015;128:8–9.
 - [53] Kennedy-Hendricks A, McGinty EE, Summers A, Krenn S, Fingerhood MI, Barry CL. Effect of exposure to visual campaigns and narrative vignettes on addiction stigma among health care professionals: a randomized clinical trial. *JAMA Netw Open* 2022;5:e2146971.
 - [54] Kiburi SK, Ngarachu E, Tomita A, Paruk S, Chiliza B. Digital interventions for opioid use disorder treatment: a systematic review of randomized controlled trials. *J Subst Abuse Treat* 2023;144:e2146971.
 - [55] Kourounis G, Richards BDW, Kyprianou E, Symeonidou E, Malliori MM, Samartzis L. Opioid substitution therapy: lowering the treatment thresholds. *Drug Alcohol Depend* 2016;161:1–8.
 - [56] Krawczyk N, Fawole A, Yang J, Tofighi B. Early innovations in opioid use disorder treatment and harm reduction during the COVID-19 pandemic: a scoping review. *Addict Sci Clin Pract* 2021;16:68.
 - [57] Lavefjord A, Sundström FTA, Buhrman M, McCracken LM. The role of stigma in health and functioning in chronic pain: not just catastrophizing. *Eur J Pain* 2023;28:620–632.
 - [58] Lazaridou A, Paschali M, Edwards RR, Gilligan C. Is buprenorphine effective for chronic pain? A systematic review and meta-analysis. *Pain Med* 2020;21:3691–3699.
 - [59] Link BG, Phelan JC. Conceptualizing stigma. *Annu Rev Sociol* 2001;27:363–85.
 - [60] Livingston JD, Milne T, Fang ML, Amari E. The effectiveness of interventions for reducing stigma related to substance use disorders: a systematic review. *Addiction* 2012;107:39–50.
 - [61] Loverock A, Marshall T, Viste D, Safi F, Rioux W, Sedaghat N, Kennedy M, Ghosh SM. Electronic harm reduction interventions for drug overdose monitoring and prevention: a scoping review. *Drug Alcohol Depend* 2023;250.
 - [62] Luoma JB, Kohlenberg BS, Hayes SC, Fletcher L. Slow and steady wins the race: a randomized clinical trial of acceptance and commitment therapy targeting shame in substance use disorders. *J Consult Clin Psychol* 2012;80:43–53.
 - [63] Luoma JB, Kulesza M, Hayes SC, Kohlenberg B, Larimer M. Stigma predicts residential treatment length for substance use disorder. *Am J Drug Alcohol Abuse* 2014;40:206–212.
 - [64] Magee T, Peters C, Jacobsen SM, Nees D, Dunford B, Ford AI, Vassar M. Inequities in the treatment of opioid use disorder: a scoping review. *J Substance Use Addict Treat* 2023;152:209082.
 - [65] McCradden MD, Vasileva D, Orchanian-Cheff A, Buchman DZ. Ambiguous identities of drugs and people: a scoping review of opioid-related stigma. *Int J Drug Pol* 2019;74:205–215.
 - [66] Mojtabai R, Mauro C, Wall MM, Barry CL, Olfson M. The affordable care act and opioid agonist therapy for opioid use disorder. *Psychiatr Serv* 2019;70:617–620.
 - [67] Monarque M, Sabetti J, Ferrari M. Digital interventions for substance use disorders in young people: rapid review. *Subst Abuse Treat Prev Pol* 2023;18:13.
 - [68] Moreno-Ligero M, Moral-Munoz JA, Salazar A, Failde I. mHealth intervention for improving pain, quality of life, and functional disability in patients with chronic pain: systematic review. *JMIR Mhealth Uhealth* 2023;11:e40844.
 - [69] Morgan AJ, Wright J, Reavley NJ. Review of Australian initiatives to reduce stigma towards people with complex mental illness: what exists and what works? *Int J Ment Health Syst* 2021;15:15.
 - [70] National Academies of Sciences E and M. Ending discrimination against people with mental and substance use disorders: The evidence for stigma change. Washington (DC): National Academies Press, 2016.
 - [71] National Academies of Sciences E and Medicine. Medications for Opioid Use Disorder Save Lives. Leshner AI, Manchur M, editors Washington, DC: National Academies Press, 2019.
 - [72] National Institute on Drug Abuse. NIDA releases its 2022–2026 strategic plan. 2026.
 - [73] National Institutes of Health. NIH-wide strategic plan F.Y. 2021–2025. 2026.
 - [74] Newton BJ, Southall JL, Raphael JH, Ashford RL, LeMarchand K. A narrative review of the impact of disbelief in chronic pain. *Pain Management Nurs* 2013;14:161–171.

- [75] Paquette CE, Daughters SB, Witkiewitz K. Expanding the continuum of substance use disorder treatment: nonabstinence approaches. *Clin Psychol Rev* 2022;91:102110.
- [76] Paquette CE, Syvertsen JL, Pollini RA. Stigma at every turn: health services experiences among people who inject drugs. *Int J Drug Pol* 2018;57:104–110.
- [77] Pasman E, O'Shay S, Hicks D, Resko SM, Agius E, Brown S. Stigma communication surrounding nonmedical opioid use among affected family members. *Health Commun* 2023;39:429–438.
- [78] PCSS. Provider Clinical Support System. Medications for opioid use disorder. 2024.
- [79] Pescosolido BA, Halpern-Manners A, Luo L, Perry B. Trends in public stigma of mental illness in the US, 1996–2018. *JAMA Netw Open* 2021;4:e2140202.
- [80] Philippe TJ, Sikder N, Jackson A, Koblanski ME, Liow E, Pilarinos A, Vasarhelyi K. Digital health interventions for delivery of mental health care: systematic and comprehensive meta-review. *JMIR Ment Health* 2022;9:e35159.
- [81] Quilty L, Agic B, Coombs M, Kristy BLou, Shakespeare J, Spafford A, Besa R, Dematagoda S, Patel A, Persaud R, Buckley L. Benefits of digital health resources for substance use concerns in women: scoping review. *JMIR Ment Health* 2021;8:e25952.
- [82] Radcliffe P, Stevens A. Are drug treatment services only for “thieving junkie scumbags”? Drug users and the management of stigmatised identities. *Soc Sci Med* 2008;67:1065–1073.
- [83] Ramadas E, de Lima MP, Caetano T, Lopes J, Dixe MDA. Effectiveness of mindfulness-based relapse prevention in individuals with substance use disorders: a systematic review. *Behav Sci* 2021;11:133.
- [84] Ruff AL, Alford DP, Butler R, Isaacson JH. Training internal medicine residents to manage chronic pain and prescription opioid misuse. *Subst Abuse* 2017;38:200–204.
- [85] Schwenker R, Dietrich CE, Hirpa S, Nothacker M, Smedslund G, Frese T, Unverzagt S. Motivational interviewing for substance use reduction. *Cochrane Database Syst Rev* 2023;2023:CD008063.
- [86] Scott W, Yu L, Patel S, McCracken LM. Measuring stigma in chronic pain: preliminary investigation of instrument psychometrics, correlates, and magnitude of change in a prospective cohort attending interdisciplinary treatment. *J Pain* 2019;20:1164–1175.
- [87] Markey EJ. Modernizing opioid treatment access act. 118th congress. 2023.
- [88] Sibley AL, Colston DC, Go VF. Interventions to reduce self-stigma in people who use drugs: a systematic review. *J Substance Use Addict Treat* 2024;159:209284.
- [89] Spithoff S, Movic L, Hum S, Moineddin R, Meaney C, Kiran T. Examining access to primary care for people with opioid use disorder in Ontario, Canada: a randomized clinical trial. *JAMA Netw Open* 2022;5:E2233659.
- [90] Stangl AL, Earnshaw VA, Logie CH, Van Brakel W, Simbayi LC, Barré I, Dovidio JF. The Health Stigma and Discrimination Framework: a global, crosscutting framework to inform research, intervention development, and policy on health-related stigmas. *BMC Med* 2019;17:31.
- [91] Stone EM, Kennedy-Hendricks A, Barry CL, Bachhuber MA, McGinty EE. The role of stigma in U.S. primary care physicians' treatment of opioid use disorder. *Drug Alcohol Depend* 2021;221:108627.
- [92] Street RL, Makoul G, Arora NK, Epstein RM. How does communication heal? Pathways linking clinician-patient communication to health outcomes. *Patient Educ Couns* 2009;74:295–301.
- [93] Stuart H, Chen S, Christie R, Dobson K, Kirsh B, Knaak S, Koller M, Krupa T, Lauria-Horner B, Luong D, Modgill G, Patten SB, Pietrus M, Szeto A, Whitley R. Opening minds in Canada- background and rationale. *Can J Psychiatry* 2014;59:S8–S12.
- [94] Stumbo SP, Yarborough BJH, McCarty D, Weisner C, Green CA. Patient-reported pathways to opioid use disorders and pain-related barriers to treatment engagement. *J Subst Abuse Treat* 2017;73:47–54.
- [95] Substance Abuse and Mental Health Services Administration. Decisions in recovery: medications for opioid use disorder. *Electron Decis Support Tool*. 2016.
- [96] Substance Abuse and Mental Health Services Administration. Key substance use and mental health indicators in the United States: results from the 2022 Natl Surv Drug Use Health 2023. Available at: <https://www.samhsa.gov/data/report/2022-nsduh-annual-national-report>. Accessed April 29, 2024.
- [97] Substance Abuse and Mental Health Services Administration. Opioid Response Network. Available at: <https://opioidresponsenetwork.org/>. Accessed April 30, 2024.
- [98] Tait RC, Chibnall JT. Racial/ethnic disparities in the assessment and treatment of pain: psychosocial perspectives. *Am Psychol* 2014;69:131–141.
- [99] Taylor BG, Lamuda PA, Flanagan E, Watts E, Pollack H, Schneider J. Social stigma toward persons with opioid use disorder: results from a nationally representative survey of U.S. Adults. *Subst Use Misuse* 2021;56:1752–1764.
- [100] Thornicroft G, Sunkel C, Alikhon Aliev A, Baker S, Brohan E, el Chammay R, Davies K, Demissie M, Duncan J, Fekadu W, Gronholm PC, Guerrero Z, Gurung D, Habtamu K, Hanlon C, Heim E, Henderson C, Hijazi Z, Hoffman C, Hosny N, Huang FX, Kline S, Kohrt BA, Lempp H, Li J, London E, Ma N, Mak WWS, Makhmud A, Maulik PK, Milenova M, Morales Cano G, Ouali U, Parry S, Rangaswamy T, Rüsch N, Sabri T, Sartorius N, Schulze M, Stuart H, Taylor Salisbury T, Vera San Juan N, Votruba N, Winkler P. The Lancet Commission on ending stigma and discrimination in mental health. *The Lancet* 2022;400:1438–1480.
- [101] Volkow ND, Jones EB, Einstein EB, Wargo EM. Prevention and treatment of opioid misuse and addiction. *JAMA Psychiatry* 2019;76:208–216.
- [102] Vowles KE, Witkiewitz K, Cusack KJ, Gilliam WP, Cardon KE, Bowen S, Edwards KA, McEntee ML, Bailey RW. Integrated behavioral treatment for Veterans with co-morbid chronic pain and hazardous opioid use: a randomized controlled pilot trial. *J Pain* 2020;21:798–807.
- [103] Wakeman SE, Pham-Kanter G, Donelan K. Attitudes, practices, and preparedness to care for patients with substance use disorder: results from a survey of general internists. *Subst Abuse* 2016;37:635–641.
- [104] Wallace B, Mackinnon K, Stroscher H, Macevicius C, Gordon C, Raworth R, Mesley L, Shahram S, Marcellus L, Urbanoski K, Pauly B. Equity-oriented frameworks to inform responses to opioid overdoses: a scoping review. *JBIM Evid Synth* 2021;19:1760–1843.
- [105] Ware OD, Ellis JD, Dunn KE, Hobelmann JG, Finan P, Huhn AS. The association of chronic pain and opioid withdrawal in men and women with opioid use disorder. *Drug Alcohol Depend* 2022;240:109631.
- [106] Wyse JJ, Lovejoy J, Holloway J, Morasco BJ, Dobscha SK, Hagedorn H, Lovejoy TI. Patients' perceptions of the pathways linking chronic pain with problematic substance use. *PAIN* 2021;162:787–793.