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Empowering Primary Care Nurse Practitioners: A Multilevel Approach to Combating the Opioid Crisis

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ABSTRACT

Aims: We offer a literature-driven, empirically informed, and highly warranted recommendation for a multilevel approach tailored to nurse practitioners. This approach aimed to drive change at the *individual level* (nurse practitioner), *dyadic level* (nurse–patient therapeutic relationship), and *systems level* (organisational culture, education, and policy) to strengthen nurse practitioners' capacity to deliver optimal opioid use disorder care.

Background: The opioid overdose epidemic is a global public health crisis, with the United States facing the most severe impact. Access to evidence-based treatment for opioid use disorder remains a significant barrier. Primary care nurse practitioners can play a crucial role in expanding access and bridging the treatment gap. Addressing factors influencing access to, quality of, and effectiveness of treatment requires urgent and careful consideration.

Design: This position paper highlights the multilevel barriers that inhibit nurse practitioners in managing opioid use disorder, negatively impacting treatment access and opioid use disorder-related outcomes.

Method: The Advanced Practice Provider conceptual model was adapted to guide this paper. This adapted model illustrates the interconnected layers among nurse practitioners, clinical care, education, professional development, and organisational culture and policy in caring for patients with opioid use disorder.

Conclusions: Equipping primary care nurse practitioners with the necessary tools to both understand opioid addiction and empower patients experiencing it can have a profound impact. This impact benefits the provider and patient and extends to addressing the opioid crisis at multiple levels. Future research should explore nurse practitioners' experiences when working with individuals with opioid use disorder, identify barriers that hinder positive interactions with patients seeking treatment, and pragmatically test and implement multilevel interventions designed to holistically benefit providers and patient outcomes.

Impact to Nursing: This American-based reflection offers valuable insights to nurse practitioners worldwide as they consider effective strategies for addressing opioid use disorder in primary care settings.

1 | Introduction

The opioid overdose epidemic is a global public health crisis, with the United States experiencing the heaviest impact, reporting over 106,000 drug overdoses in 2021 (Centers for Disease Control and Prevention 2023). This surge has been driven by a combination of factors, including inappropriate opioid prescribing, the rise of synthetic opioids such as fentanyl, the contamination of street drugs with substances like xylazine and the increasing use of psychostimulants like methamphetamine (Kyei Evans, Ansong, and Kyei Grace 2024). An estimated 6.7 to 7.6 million Americans are affected by opioid use disorder (OUD) (Keyes et al. 2022); however, only 22% received evidence-based treatment (Jones, Han, et al. 2023). OUD is a chronic remitting illness with physical, mental, social, environmental, and genetic etiologies. Despite the prevalence of OUD, critical shortages of mental health and addiction-specialised providers hinder treatment access (Lowe et al. 2022). To address this service gap, practice guidelines recommend that primary care providers offer routine screening for and treatment of opioid and other substance-related disorders (U.S. Health and Human Services Department 2024). More than 385,000 nurse practitioners (NPs) practice in the United States, nearly 69% delivering primary care services (Abraham et al. 2021). This NP workforce is well positioned to reduce treatment access gaps by providing OUD care (Anderson and Clarkson 2024); however, research indicates few NPs provide OUD treatment (Spetz et al. 2019), likely reflecting critical barriers (Chapman et al. 2024; Speight et al. 2023). Delivering OUD treatment in primary care settings has the potential to reduce substance-related mortality and morbidity significantly; however, a considerable gap remains between OUD treatment needs and provision in primary care settings (del Pozo et al. 2024).

This position paper highlights the multilevel barriers that inhibit NP treatment and patient access to OUD care. We offer a literature-driven, empirically informed and highly warranted recommendation for a multilevel approach to promote change at the *individual level* (NP), *dyadic level* (nurse–patient therapeutic relationship), and *systems level* (organisational culture, education and policy). We recommend a multilevel approach tailored to primary care NPs to enhance their motivation and autonomy in treating OUD at the *individual level*, reduce stigma for both providers and patients at the *dyadic level*, and transform organisational culture at the *systems level* to better support OUD care. This includes fostering a healthy practice environment, providing necessary resources, enhancing NP education and training in OUD management, and advocating for policy changes to improve treatment access and quality. This reflection will offer valuable insights for advanced practice registered nurses globally as they consider the most effective strategies for addressing OUD within the NP community.

2 | Background

Primary care NPs are advanced practice registered nurses with master's or doctoral degrees who provide comprehensive care within primary care settings. They are nationally certified to assess patients, interpret tests, diagnose disease processes, prescribe medications, provide education and manage patient conditions (Abraham et al. 2021). The number of NPs treating patients with OUD has steadily increased (Anderson and Clarkson 2024) with the increase in OUD prevalence (Wason et al. 2021). In fact, an NP may often be the first provider for a patient experiencing OUD encounters (Wason et al. 2021). However, research indicates that significant barriers exist that impact the availability, quality and effectiveness of OUD treatment, including low motivation and acceptability (Mahmoud et al. 2021; Bergman et al. 2024), scope of practice regulations, prescribing resources, stigma, lack of supportive services to address psychosocial needs and perceived knowledge deficits (Chapman et al. 2024; Speight et al. 2023). Understanding the barriers and facilitators NPs experience when working with this complex patient population is imperative to support NPs and improve patient outcomes. The factors influencing the access, quality and effectiveness of OUD treatment call for reflection (Narciso, Albuquerque, and Nunes 2024). Here, we offer an overview of individual-, dyadic- and system-level barriers that impact NPs' ability to screen for and treat OUD effectively.

2.1 | Individual Level (NP) Barriers

Although we acknowledge that dyadic- and system-level factors influence individual-level behaviours, we consider low motivation and personal acceptability or 'personal choice' to treat OUD as individual-level barriers. Low motivation among providers, including nurses, to work with patients experiencing OUD can have severe consequences, including an increased likelihood of patients discontinuing treatment prematurely (Mahmoud et al. 2021). Mahmoud et al. (2021) found that nurses' motivation and willingness to treat OUD were influenced by their attitudes, including experiences with a family member affected by alcohol or other drugs, and their perceptions of stigma, including familiarity, perceived dangerousness, fear, social distance and beliefs about personal responsibility. Additionally, nurses' professional attitudes impacted motivation, including work experience with substance use, continuing education or other educational resources on substance use, role security and responsibility, self-efficacy and therapeutic commitment (Mahmoud et al. 2021). Primary care NPs with low motivation may be less inclined to initiate discussions about substance use or refer patients to the appropriate resources, as well as less willing to provide necessary treatment. Additionally, this lack of motivation is often associated with higher recurrence rates among OUD patients. Therefore, fostering and enhancing motivation among primary care NPs is essential for improving patient outcomes and ensuring fair access to OUD treatment (Mahmoud et al. 2021).

2.2 | Dyadic-Level (Nurse–Patient Therapeutic Relationship) Barriers

Although we recognise that individual- and system-level factors impact dyadic-level behaviours, we consider stigma as a dyadic-level barrier. Stigma is a modifiable barrier that is critical in establishing effective nurse–patient therapeutic relationships (Klusaritz et al. 2023). Despite widespread public health initiatives for the opioid crisis and adequate evidence-based

treatments, stigma remains a significant barrier to high-quality OUD care (Klusaritz et al. 2023). The persistent and pervasive belief that addiction is a personal choice reflecting a lack of willpower and/or a moral failing defines addiction stigma (McGinty and Barry 2020). Research indicates healthcare workers have negative attitudes and views towards patients with opioid and other substance-related disorders (Magnan et al. 2024; Kulesza et al. 2017). Individuals experiencing OUD encounter stigma in the medical system reflective of a broader culture that has historically criminalised and dehumanised substance use by neglecting to assess and treat OUD as a disease (Horner et al. 2019). Consequently, OUD patient-related stigma is associated with delay of medical care, nondisclosure of risky behaviours, rushed visits, downplaying pain, avoidance of harm reduction services and decreased drug treatment completion (Horner et al. 2019).

Additionally, stigma against providers who treat individuals with OUD is a significant issue (Speight et al. 2023). A study by Speight et al. (2023) has shown that some NPs harbour negative attitudes towards those who prescribe medications for OUD, viewing this work as 'invaluable' or less important. These NPs expressed concerns that OUD treatment takes time away from other patients, whom they perceive as more deserving of care than those with OUD. This stigmatisation not only undermines the value of treating OUD but also creates barriers to equitable care for individuals struggling with opioid addiction.

Furthermore, racialised stigma contributes to treatment access and substance-related outcome disparities among historically marginalised individuals who are Black, Indigenous and/or People of Colour (del Pozo et al. 2024; Klusaritz et al. 2023; Taylor et al. 2021). For example, White individuals are significantly more likely to receive medications for OUD compared to all other racial groups (Chapman et al. 2024). Culturally inclusive and tailored OUD interventions are needed to promote treatment access and engagement (Husain et al. 2023). Higher provider stigma is significantly related to lower job satisfaction ratings and organisational culture (Kulesza et al. 2017). Thus, decreasing stigma could positively impact providers' well-being, patient access to care and substance-related outcomes.

2.3 | System-Level (Organisational Culture, Education, and Policy) Barriers

2.3.1 | Organisational Culture

Researchers have found that a negative practice environment is a robust and modifiable predictor of clinician burnout (Abraham et al. 2021). Clinician burnout is described as a prolonged response to enduring job-related stress that can present as emotional exhaustion, depersonalisation and feelings of reduced professional accomplishment. This often can lead to negative consequences such as provider turnover, poor self-care, decreased productivity and lower patient satisfaction (Abraham et al. 2021). In some cases, providing OUD treatment contributes to turnover and burnout among primary care providers and nurses (Bergman et al. 2024). Approximately 25.3% of primary care NPs report feeling burnt-out (Abraham et al. 2021); however, the specific rates of burnout among NPs treating OUD in primary care settings remain unknown.

Compared to other primary care providers, NPs often practice in rural and low-income settings, with historically marginalised populations (Barnes et al. 2018), including people with OUD. These environments typically lack the necessary resources for high-quality patient care (Chan et al. 2019). Nearly 46.2% of NPs report working in poor organisational climates (Brooks Carthon et al. 2020), which can exacerbate burnout, especially for those treating OUD. In these settings, NPs often face limited administrative support, inadequate clinical resources, strained interprofessional relations with physicians, poor communication with staff and reduced autonomy (Poghosyan et al. 2013). These challenges increase the risk of occupational stress and burnout among NPs treating OUD (Abraham et al. 2021). Moreover, organisational or workplace stigma can discourage NPs from providing OUD care, despite their interest. For example, some organisations may express concerns about having 'those patients' in their waiting rooms. Addressing this stigma is crucial to improving access to OUD treatment and empowering NPs to deliver effective care. Additionally, insufficient time during primary care visits is a systemic barrier to addressing the complex needs of patients with OUD (Winiker et al. 2023). Despite efforts to shift towards value-based care, over 80% of organisations still use patient volume as the primary compensation incentive, potentially undermining care quality (Winiker et al. 2023).

One study found that advanced practice registered nurses (including various subspecialities and primary care) reported high or average burnout and secondary traumatic stress (51% and 40%), respectively (Stamm et al. 2022). Although nurse-specific traumas of NPs providing OUD treatment in primary care are understudied, available research suggests NPs in close contact with traumatised individuals (Winiker et al. 2023) may be predisposed to secondary traumatic stress (i.e., co-experiencing patient suffering; change in worldviews because of ongoing co-suffering) (Gill and Foli 2024). Nearly 70% of patients with OUD report a history of trauma, meaning NPs working with this population may experience such secondary trauma (Rodríguez et al. 2024). Additionally, Foli's middle-range Theory of Nurses' Psychological Trauma posits there are seven types of nurse-specific traumas unique to the NPs' role, including vicarious/secondary, insufficient resource, workplace violence, system induced, historical, second victim and disasters (Gill and Foli 2024). We should not perceive trauma as an indication of an individual nurse's shortcomings; instead, trauma is a symptom of a faulty system (Slatten, Carson, and Carson 2020). Therefore, system-level healthcare deficiencies may contribute to developing psychological traumas in nurses (Slatten, Carson, and Carson 2020).

2.3.2 | Education

NP curricula do not adequately and consistently prepare students to screen for and treat OUD effectively (Kameg, Fradkin, and Mitchell 2021; Culp-Roche et al. 2023). Since 2016, the American Association of Colleges of Nursing (AACN) and the American Association of Nurse Practitioners (AANP) have supported the preparation to address and manage OUD in NP education programs. However, barriers to curricular modification include lack of faculty expertise, limited time and stigma related to addiction treatment (Abraham et al. 2021). A majority of NP curricula offer less than 8 h of general substance use educational content,

placing NPs at an unnecessary disadvantage towards the delivery of evidence-based OUD care (Savage et al. 2018). Furthermore, NPs report feeling ill equipped to provide evidence-based OUD treatment (Kameg, Fradkin, and Mitchell 2021) and manage trauma, mental health and chronic pain conditions among patients with OUD (Winiker et al. 2023; Varley et al. 2020). Indeed, approximately 50% to 75% of individuals with OUD have a mental health disorder (Winiker et al. 2023), but fewer than 10% receive treatment for both (Taylor et al. 2021). Additionally, chronic pain is highly prevalent among people with OUD (55%–61%) (NIH 2022). Given the high levels of these OUD co-occurring conditions, medications for OUD (i.e., methadone, buprenorphine, and naltrexone) are not sufficient as a stand-alone solution. Medications for OUD have poor long-term adherence, with approximately 50% of people returning to use or stopping their treatment prematurely (Cooperman et al. 2023). NPs have modified their clinical practices and completed continuing education (e.g., the Federal MATE Act opioid/controlled substance, pain management and addiction education requirements for NPs) (Chapman et al. 2024) focused on national practice guidelines to expand their practices to include substance and OUD care (Hudspeth 2024). Adding NPs as prescribers of medications for OUD has the potential to improve access; however, we know little about the necessary support NPs require as they treat OUD (Chapman et al. 2024; Speight et al. 2023; Bates and Martin-Misener 2022).

2.3.3 | Policy

Regulatory hurdles remain critical barriers to expanding access to OUD care (Chapman et al. 2024; Speight et al. 2023; Haffajee, Bohnert, and Lagisetty 2018). Buprenorphine, a medication for OUD, ideal for primary care settings, has been strictly regulated by the US government despite solid evidence of safety and efficacy (Wakeman et al. 2020; Silwal et al. 2023). Initially, the US government required a specialised waiver, only available to physicians, to prescribe buprenorphine for OUD (Silwal et al. 2023). The 2016 Comprehensive Addiction and Recovery Act allowed NPs and physician associates (formerly physician assistants, now undergoing an official title change) to obtain buprenorphine prescribing waivers (Chapman et al. 2024). In 2018, the Substance Use Disorder Prevention that Promotes Opioid Recovery and Treatment for Patients and Communities (SUPPORT) Act eased limits on the number of patients providers could treat with buprenorphine and allowed all advanced practice registered nurses with prescriptive authority to prescribe buprenorphine (Chapman et al. 2024; Fornili and Fogger 2017). Many providers viewed the waiver requirements for medications for OUD as highly burdensome, and many scholars argue that these requirements contributed to medication stigma and provider concern for government oversight and Drug Enforcement Agency scrutiny (Speight et al. 2023; Jones, O'Reilly Jacob, et al. 2023; Andrilla, Moore, and Patterson 2019). The 2022 Consolidated Appropriations Act eliminated the waiver requirements to prescribe buprenorphine for all providers beginning in 2023 (Consolidated Appropriations Act (CAA) 2022). This policy is an essential initial step in facilitating greater access to medications for OUD; however, state requirements that regulate medications for OUD are not standardised and may not change with the elimination (Chapman et al. 2024). Furthermore, it remains unclear whether and how long the legacy of waiver requirements will impact providers' propensity to prescribe buprenorphine. NPs working in states with physician oversight requirements may face compounded barriers when attempting to prescribe buprenorphine.

3 | Methods

Using a combined empirical and literature informed approach, supported by ongoing OUD research and access to resources such as National Institutes of Health listservs and high-quality nursing, addiction and substance use disorder (SUD) journals, we identified key barriers and interventions in OUD treatment. As is typical for position papers, we did not strictly adhere to predefined criteria. Instead, we prioritised articles most relevant to addressing our guiding question: *What are the multilevel barriers and facilitators (at the individual, dyadic, and system levels) that impact NPs' capacity to deliver optimal OUD care in primary care settings?* This included studies providing insights into barriers, facilitators and interventions directly related to NPs in OUD care. Our cursory literature search covering articles from 2011 to 2024 spanned databases including PubMed, CINAHL, Embase, PsycINFO and Scopus. Key phrases were 'barriers and facilitators to opioid use disorder care', 'nurse practitioner barriers to opioid use disorder', 'primary care provider barriers to opioid use disorder' and 'nurse practitioner interventions to improve opioid use disorder treatment'. This comprehensive multilevel overview, specifically targeted to primary care NPs, was complemented by a critical appraisal of relevant citations, ensuring the inclusion of high-quality and pertinent sources.

We bring extensive experience as certified NP addiction specialist, with two team members holding the Certified Addiction Registered Nurse—Advanced Practice (CARN-AP) through the National Addictions Nursing Certification Board (ANCB). Our team encompasses diverse roles, including clinical supervisors, family NPs, nurse educators, addiction nurse scientists, professors and directors, collectively spanning clinical practice, research, policy and education. This multidisciplinary foundation equips us to comprehensively address the complexities of OUD management. Our contributions include mentoring interdisciplinary teams, training future providers and conducting innovative research on holistic OUD interventions. This integration of clinical, research and leadership expertise positions us as credible experts in reforming OUD care, improving patient outcomes and dismantling systemic barriers. The insights presented in this paper are informed by our findings, published perspectives and a deep understanding of the multilevel challenges NPs face in managing OUD. These challenges, coupled with evidence-based solutions, have shaped the development of this work.

This paper is guided by the Advanced Practice Provider (APP) (Moore 2023) conceptual model developed by Moore (2023), which illustrates the complex and interrelated, and ever-evolving layers and structures within the field. Unifying all layers makes new opportunities for provider growth possible. The structures demonstrate a relationship among the APP, clinical care, education and professional development. With ongoing efforts to evolve, there is potential for a positive impact on engagement, retention, employee turnover, productivity and patient outcomes (Moore 2023). Figure 1 shows the APP model adapted by Coffee (2024) to focus specifically on NPs and the phenomenon of caring for patients

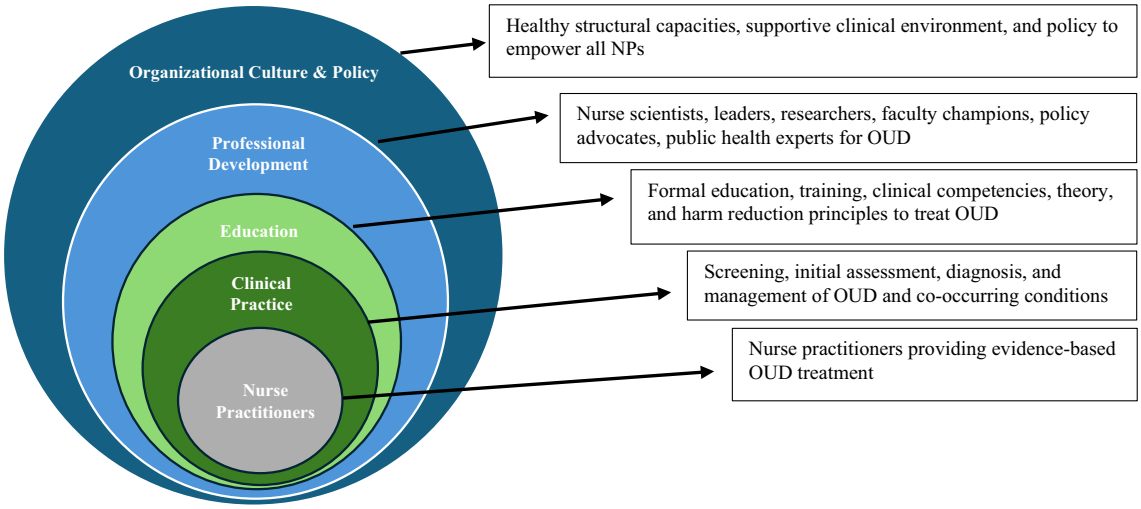

FIGURE 1 | Advanced Practice Provider conceptual model for NPs treating OUD. (Adapted from Moore (2023)).

with OUD, including the urgent need for a multilevel systems approach to support NPs well-being by fostering a healthy practice environment for professional growth and sense of community. Strategies to augment NPs' role and motivation to improve care for patients with OUD must be multifaceted, beginning with strategies to enhance engagement and motivation for NPs, improving dyadic (nurse–patient) interaction, and supported by organisational, education and policy refinement (Horner et al. 2019).

4 | Discussion

4.1 | Individual-Level (NP) Interventions

Although interventions to increase motivation and personal choice to treat OUD among primary care NPs are understudied, one study highlighted the importance of understanding the factors that influence motivation and acceptance of OUD care among primary care providers (Bergman et al. 2024). This understanding is essential to improve the willingness and acceptability of treating OUD when appropriate. Another study found that nurses' prior experience working with substance misuse was linked to increased motivation in providing care to patients with opioid use and related challenges (Mahmoud et al. 2021; Phoenix et al. 2023). This suggests that immersive experience in dealing with substance use issues equips nurses with the confidence to address OUD effectively. The familiarity gained through such experience likely fosters a deeper understanding of the complexities involved, enhancing providers' willingness and capability to engage in OUD care (Mahmoud et al. 2021). Future research should focus on developing interventions to increase nurses' motivation to treat patients with OUD. By exploring strategies that enhance engagement and proactive care, these studies can contribute to early intervention efforts, ultimately improving OUD outcomes.

4.2 | Dyadic-Level (Nurse–Patient Therapeutic Relationship) Interventions

NPs are in a pivotal position to provide high-quality OUD care and decrease marginalisation and stigmatisation (Wright et al. 2022). OUD should be viewed through a chronic care lens that understands addiction as a lifelong disorder requiring ongoing treatment, similar to other chronic conditions (e.g., diabetes, hypertension) (Culp-Roche et al. 2023). Additionally, harm reduction principles, such as humanism, pragmatism, individualism, autonomy, incrementalism and accountability without termination, should be incorporated into NP practice (Culp-Roche et al. 2023). Additionally, preliminary findings demonstrate that a photovoice intervention, 'Recovery Speaks', reduces primary care provider stigma regarding people with mental illness and addiction (Flanagan et al. 2016). Future work is needed to identify effective interventions to reduce OUD-related stigma among primary care NPs.

Science is emerging that suggests that how a person experiences the treatment, the organisation and the relationship with the staff can influence the outcome of treatment, even impacting survival and death (Reilly 1997). A patient-centered care approach can facilitate primary care NPs working with patients experiencing OUD (Speight et al. 2023). However, how many NPs fully understand and integrate theory into their clinical practice and use it to support patient-centered care approaches is still being determined. Primary care leaders should integrate theory, conceptual models and harm reduction principles to guide and inform clinical practice about managing patients with OUD. Achieving stigma-free OUD care in primary care requires a culture shift in clinical and academic settings, one that dispels myths associated with stigmatised beliefs (Klusaritz et al. 2023).

4.3 | System-Level (Organisational Culture, Education, and Policy) Interventions

4.3.1 | Organisational Culture

In addition to general factors that contribute to NP burnout, working with patients with OUD can increase risk for burnout (Bergman et al. 2024). Although evidence-based interventions to prevent burnout among NPs treating OUD in primary care are understudied, previous research suggests that increasing

NP autonomy (e.g., panel management) reduces burnout, improves job satisfaction and lowers turnover intention (Kim et al. 2024; Bodenheimer and Sinsky 2014). Additionally, fostering a healthy primary care practice environment may reduce NP burnout (Abraham et al. 2021). One study found that primary care NPs are less likely to feel burnt out or dissatisfied, or intend to leave the workplace when their practice environment has greater structural capabilities for care delivery (Schlak et al. 2023). Another study suggested that reducing burnout among primary care providers involves creating a healthy environment with (1) provider input and promotion, (2) open communication and strong relationships with leaders and specialists, (3) opportunities for professional development and (4) a sense of community (Agarwal et al. 2020). Organisations should develop comprehensive human resource policies that mitigate the adverse effects of burnout and provide continuous professional development (Bokuchava and Javakhishvili 2022). Slatten, Carson, and Carson (2020). suggest several organisational interventions to combat provider burnout and compassion fatigue: (1) balancing patient loads to reduce emotionally distressing cases; (2) training in holistic self-care to recognise compassion fatigue; (3) mentoring providers on professional boundaries, coping skills and healthy life balance; (4) establishing formal mentoring programs; (5) holding regular staff meetings and team debriefs; and (6) fostering a compassionate culture that encourages professional fulfilment and personal satisfaction.

Burnout among NPs treating OUD is a critical issue (Bergman et al. 2024), driven by challenges such as vicarious trauma (Gill and Foli 2024) and a lack of understanding of addiction as a chronic disease (Klusaritz et al. 2023; Magnan et al. 2024; Kulesza et al. 2017). Repeated exposure to patients' struggles and return to use can lead to emotional exhaustion, feelings of helplessness and a sense of professional ineffectiveness, particularly when patients return to use despite treatment efforts. These factors can undermine provider well-being and jeopardise sustainable care delivery. Resources to prevent burnout and trauma for NPs who treat patients with OUD are essential to support providers and patients who rely on personalised care (Narciso, Albuquerque, and Nunes 2024). Although some nursing-related traumas are unavoidable, research shows that many can be mitigated through interventions such as trauma-informed care training, peer support programs and policies ensuring manageable workloads and access to mental health resources (Gill and Foli 2024). Emphasising addiction as a chronic disease through education can also empower NPs to manage patient returns to use without internalising a sense of failure. Future research is needed to identify effective strategies for reducing burnout and trauma among primary care NPs and to evaluate their impact on provider well-being and patient outcomes. By addressing these challenges, healthcare systems can better support primary care NPs in delivering high-quality, sustainable OUD care.

Primary care NPs are well positioned to develop long-term, patient-centered relationships that address individuals' holistic needs within their cultural and community contexts. Although primary care cannot address all mental health concerns, stepped behavioural health models, along with tools such as Screening, Brief Intervention, and Referral to Treatment (SBIRT) and the Primary Care PTSD screen (PC-PTSD), can help manage milder cases and refer more complex ones to specialised care. However, the effectiveness of this approach is limited by provider shortages, long wait times and restricted access for low-income populations. Expanding access to services such as social work, psychological care and psychiatry, as well as enacting supportive legislation, is critical. Integrating behavioural health providers into primary care settings would provide stronger support for NPs in managing patients with OUD. Additionally, enhancing education and training for NPs is essential to boost their confidence in identifying, screening and treating OUD, along with co-occurring mental health disorders (Winiker et al. 2023).

4.3.2 | Education

Efforts have been made to increase opioid-related content in health professional curricula (Kameg, Fradkin, and Mitchell 2021; Aronowitz, Compton, and Schmidt 2021), but standardisation remains inconsistent with some programs offering SUD education as an elective rather than as core components (Phoenix et al. 2023). Integrating education on addressing the opioid crisis through the lens of social determinants of health into all nursing curricula could improve health outcomes, reduce OUD disparities and enhance the response to the opioid crisis (Kameg, Fradkin, and Mitchell 2021; Aronowitz, Compton, and Schmidt 2021). Research has also identified key factors influencing NP education for OUD treatment, such as attitudes, motivation to address the opioid crisis and curriculum changes (Phoenix et al. 2023). Faculty who included medications for OUD waiver training into their curriculum found that many students planned to provide this treatment after graduation. Furthermore, exposure to medications for OUD positively impacted students' attitudes, as they observed first hand how this treatment transformed patients' lives (Phoenix et al. 2023). Identifying faculty champions and securing student buy-in are critical to successful curricular changes (Phoenix et al. 2023). For example, an interactive educational program for NP curriculum has been successfully implemented at the University of North Carolina Wilmington to prepare psychiatric mental health NP and family NP graduates with the essential knowledge, skill and confidence to effectively and equitably treat patients with OUD (Culp-Roche et al. 2023).

There is a need for best practice development for faculty and clinical preceptor training, including 'hands-on' competencies in the chronic disease management of substance misuse and OUD such as assessment tools, evidence-based medications, community resources, patient education, understanding the neuroadaptation of substance addiction and skills to managing co-occurring conditions (e.g., HIV, Hep C, chronic pain and mental health) are needed. Additionally, trauma-informed OUD treatment protocols and best practices for primary care NPs must be established (Winiker et al. 2023). Academic and clinical practice sectors need to collaborate to mitigate these educational barriers to improve patient access to care and research-backed outcomes.

4.3.3 | Policy

Recent policy changes associated with the 2022 Consolidated Appropriations Act addressed the incorporating SUD education

into health professions curricula (Prevoznik 2023). When applying for a DEA-controlled substance licence, applicants can attest to completing an education program that includes comprehensive SUD care and prevention education. This federal guideline may signal to NP programs that SUD is an essential part of the curriculum, but we have yet to discover the impacts of this recommendation. Similarly, in March 2024, the Substance Abuse and Mental Health Services Administration published core curricular elements to guide and standardise the early integration of SUD education for healthcare professionals (Substance Abuse and Mental Health Services Administration (SAMHSA) 2024). In addition to removing buprenorphine waiver requirements and calling for standard integration of SUD education, additional federal and state regulatory actions are needed to empower the entire clinical workforce to increase access to evidence-based OUD care (Chapman et al. 2024; Jones, O'Reilly Jacob, et al. 2023). Haffajee, Bohnert, and Lagisetty (2018). suggest several policy recommendations to address barriers to OUD medication prescribing (e.g., incorporate training in general medical education, incentivisation for students, audit feedback, equitable coverage and reimbursement, promoting integrated care models, collaboration agreements, require states to cover buprenorphine and behavioural therapy, reduce the cost of buprenorphine to improve reimbursement and insurance coverage). However, the testing and implementation of these recommendations are largely understudied.

5 | Conclusion

This position paper, informed by American literature and empirical evidence, underscores the urgent need for future research to develop and implement effective, whole-person, multilevel interventions that support providers and improve patient outcomes. Combating the opioid crisis in the United States requires a coordinated, cross-sector response (Klusaritz et al. 2023). Given the well-documented links between provider burnout, adverse events and organisational outcomes, healthcare organisations and administrators must prioritise the well-being of NPs by fostering healthy workplace environments (Abraham et al. 2021). A culture shift, facilitated by policy reforms, team-based support and ongoing training, is crucial for NPs to maximise their caregiving capacity and achieve positive outcomes for patients with OUD. Primary care NPs, when equipped with proper training, clinical resources and administrative support, are uniquely positioned to expand access to high-quality OUD care. Empowering primary care NPs not only to understand opioid addiction but also to guide and support patients with OUD has the potential to create a transformative, multilevel impact on the opioid crisis. Future research should focus on developing, testing and implementing multilevel interventions that drive meaningful change at the individual, dyadic, and system levels. These efforts will equip primary care NPs to thrive in their roles, enhance patient care and contribute to sustainable solutions for the opioid crisis.

Author Contributions

Conceptualisation: Z.C. and C.S.; methodology: Z.C.; writing – original draft preparation: Z.C., C.S., L.R., J.F., L.D. and J.S.G.; writing – review and editing: Z.C., C.S., L.R., J.F., L.D., T.W.V. and J.S.G.; visualisation: Z.C. and C.S.; supervision: Z.C. and J.S.G. and project administration: Z.C. All authors have read and agreed to the published version of the manuscript.

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Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

Data sharing not applicable to this article as no datasets were generated or analyzed during the current study.

Peer Review

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