

The Role of the Multidisciplinary Team for Opioid Stewardship: A Scoping Review

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Background: The global opioid crisis has prompted healthcare systems to implement opioid stewardship programs (OSPs) aimed at optimizing prescribing practices and mitigating harm. Multidisciplinary teams (MDTs) are increasingly recognized as central to the success of these programs, yet their roles, structures, and implementation across clinical contexts remain poorly defined.

Objective: This scoping review explores the composition, functions, and contextual application of MDTs within OSPs. It aims to map the professional roles, describe the interventions deployed, examine reported outcomes, and identify implementation barriers and facilitators across healthcare settings.

Methods: Following the Joanna Briggs Institute framework and PRISMA-ScR guidelines, a systematic search of PubMed was conducted to identify studies involving MDT-led opioid stewardship interventions. Studies were eligible if they described multidisciplinary collaboration in opioid prescribing, pain management, or harm-reduction efforts. Data were extracted on team composition, interventions, outcomes, and contextual factors, and synthesized narratively.

Results: Thirteen studies published between 2017 and 2023 were included. Most were U.S.-based and employed descriptive or observational designs across varied settings, including hospitals, primary care, rural clinics, and telemedicine platforms. Core MDT members included physicians, pharmacists, and nurses, with frequent contributions from addiction specialists, psychologists, and social workers. Common interventions included opioid-sparing protocols, individualized tapering plans, naloxone co-prescribing, and interprofessional education. Reported outcomes included reductions in opioid prescribing, improved adherence to safety protocols, and enhanced provider confidence. Implementation challenges included limited staffing, fragmented communication, and patient resistance, while facilitators included standardized workflows, institutional support, and integrated electronic health systems.

Conclusion: MDTs play a critical role in operationalizing opioid stewardship across diverse clinical environments. Their effectiveness depends not only on professional composition but also on systemic support for collaboration, training, and workflow integration. Future research should evaluate the comparative impact of MDT configurations using standardized outcome measures and expand to non-US and resource-limited settings.

Keywords: opioid stewardship, multidisciplinary teams, interprofessional collaboration, pain management, opioid prescribing, patient safety

Introduction

Background

The global rise in opioid prescribing over the past two decades has contributed to public health concerns, including opioid use disorder, overdose, and drug-related mortality.^{1,2} While the origins and scale of these issues vary across healthcare systems, a common challenge faced by clinicians and policymakers alike is the need to balance effective pain management with the risks of opioid-related harm.³⁻⁵ In response, healthcare systems have increasingly implemented

opioid stewardship programs (OSPs) as structured initiatives aimed at optimizing opioid use through evidence-based prescribing, monitoring, and risk reduction strategies.^{6–8}

Opioid stewardship, conceptually adapted from antimicrobial stewardship, refers to coordinated interventions designed to improve the safe, effective, appropriate, and judicious use of opioid medications.^{7,9–12} The goals of these programs include minimizing unnecessary opioid exposure, improving adherence to clinical guidelines, preventing opioid misuse, and enhancing patient outcomes in both acute and chronic pain contexts.^{7,13–16} OSPs may involve strategies such as prescriber education, tapering protocols, naloxone co-prescribing, prescription drug monitoring program (PDMP) utilization, and patient-provider agreements.^{14,17–21} However, implementation of these interventions is complex and resource-intensive, often requiring multidisciplinary collaboration.

The Role of Multidisciplinary Teams

Multidisciplinary teams (MDTs) are increasingly recognized as central to the successful implementation of opioid stewardship. These teams typically include professionals from multiple healthcare disciplines, such as physicians, pharmacists, nurses, psychologists, addiction specialists, and social workers, who work collaboratively to manage pain and opioid-related care.^{10,22–27} By drawing on diverse expertise, MDTs can address the multifaceted nature of opioid stewardship, encompassing clinical decision-making, behavioral health support, patient education, risk mitigation, and care coordination.^{7,28} While the value of MDTs is well established in other areas of healthcare, including oncology, geriatrics, and chronic disease management, their specific contributions to opioid stewardship remain less clearly defined. Existing studies suggest that pharmacists may play pivotal roles in reviewing opioid regimens, monitoring safety parameters, and facilitating harm-reduction strategies, while nurses may support patient education and continuity of care.^{14,29–31} Mental health professionals may address the psychosocial drivers of opioid use, including anxiety, depression, trauma, or substance use disorders.^{32,33} Yet, the structure, function, and contextual variability of MDTs in opioid stewardship settings have not been comprehensively mapped.

Gaps in the Literature and Rationale for a Scoping Review

Although the literature on opioid stewardship is rapidly expanding, much of it focuses on guideline adherence, prescribing trends, or single-provider interventions. Few reviews to date have examined the interprofessional dynamics of OSPs or explored how different team configurations operate across various clinical contexts. Moreover, the language used to describe opioid-related interventions is often inconsistent. While some programs are framed as “opioid stewardship”, others may fall under labels such as “opioid safety”, “chronic pain management”, or “risk mitigation.” This terminological variation complicates efforts to synthesize knowledge and identify best practices.

Given the diversity of clinical settings in which opioid stewardship is needed, including acute care, primary care, palliative care, and rural health, there is a need to understand how MDTs are structured and mobilized in different contexts. In addition, understanding the roles and contributions of different professionals within these teams can inform the design, scaling, and evaluation of future interventions.

A scoping review is an appropriate methodological approach to address these gaps. Unlike systematic reviews, which aim to evaluate intervention effectiveness, scoping reviews are well suited to mapping broad areas of evidence, identifying key concepts, clarifying definitions, and highlighting knowledge gaps.^{34,35} The use of the Population–Concept–Context (PCC) framework allows for a structured exploration of how MDTs operate within opioid stewardship programs across different healthcare settings and populations.

Objectives

This scoping review aims to explore how MDTs are structured and function within OSPs. Specifically, it seeks to:

1. Map the compositions and roles of healthcare professionals involved in MDTs in delivering opioid stewardship.
2. Identify the settings, interventions, and strategies employed by MDTs in promoting safe opioid prescribing and use.

3. Summarize reported outcomes associated with MDT-led opioid stewardship, including prescribing practices, patient management approaches, and harm-reduction efforts.
4. Examine contextual factors, such as healthcare setting and country of origin, that influence MDT implementation and outcomes.

Methods

This scoping review followed the methodological framework developed by the Joanna Briggs Institute (JBI) for scoping reviews and was reported in accordance with the PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews) guidelines.³⁶ Although a formal protocol was not published prior to conducting the review, the review process adhered to established scoping review methods and standards.

Review Questions

This scoping review was guided by the following questions:

1. What are the compositions and professional roles of MDTs involved in opioid stewardship?
2. What types of interventions, strategies, or models are implemented by MDTs to manage opioid prescribing and use?
3. What outcomes are reported in association with MDT-led opioid stewardship efforts (eg, changes in prescribing patterns, guideline adherence, patient safety)?
4. In what healthcare settings and geographic regions are MDT opioid stewardship interventions applied, and how do these contexts influence implementation?
5. What barriers and facilitators have been identified in implementing and sustaining MDTs in opioid stewardship programs?

Eligibility Criteria

The inclusion criteria were defined using the Population-Concept-Context (PCC) framework:

Population: Individuals receiving opioid prescriptions or pain management services within healthcare systems. Studies involving both adult and paediatric populations were initially included, although due to heterogeneity, emphasis was placed on adult populations in the analysis.

Concept: Multidisciplinary team involvement in opioid stewardship or opioid management. For this review, an MDT was defined as a collaborative group of healthcare professionals (eg, physicians, nurses, pharmacists, psychologists) working collectively in opioid-related care or decision-making.

Context: Healthcare settings where opioid stewardship efforts are implemented, including hospitals, outpatient clinics, primary care, specialist services, or rural and underserved areas.

Included studies had to describe MDT participation in opioid stewardship, pain management, or prescribing improvement initiatives and report on team composition, intervention, or outcomes related to opioid use.

Studies were excluded if they (a) did not involve a multidisciplinary approach, (b) focused solely on non-opioid pain management without addressing opioids, or (c) lacked relevant outcomes, such as opioid prescribing practices, patient safety measures, or harm-reduction strategies.

Information Sources and Search Strategy

A systematic search strategy of the PubMed database was conducted to identify studies that described the involvement of multidisciplinary teams in opioid-related care, particularly those addressing opioid prescribing safety, and management strategies. The search was designed to capture literature that may not explicitly use the term “opioid stewardship” but reflects related concepts in practice.

Keywords and MeSH terms were selected based on the PCC framework. The search combined terms from three concept areas:

Team-Based Care: (“multidisciplinary team” OR “interdisciplinary team” OR “interprofessional team” OR “collaborative care team” OR “team-based care” OR “multispecialty team”)

Opioid Management: (“opioid stewardship” OR “opioid prescribing” OR “opioid therapy” OR “opioid safety” OR “chronic opioid therapy” OR “opioid management” OR “pain management”)

Setting/Context (optional filters): (“primary care” OR “hospital” OR “ambulatory care” OR “surgical care” OR “rural healthcare”)

Boolean operators “AND” and “OR” were used to optimize sensitivity and specificity. The search was limited to English-language publications. No date restriction was applied initially to ensure a broad scope that included early efforts aligned with stewardship principles, even before the term became standard.

Study Selection

Search results were imported into Zotero for de-duplication. Two reviewers independently screened titles and abstracts for eligibility. Full-text articles were then assessed for inclusion, and discrepancies were resolved through discussion.

Data Charting and Extraction

A standardized data charting form was developed to extract the following variables: author(s), year of publication, country, study design, healthcare settings, MDT composition, type of intervention, reported outcomes, and contextual factors. The charting form was piloted on a small subset of studies and refined accordingly. Data were extracted by one reviewer and cross-checked by a second for accuracy and consistency.

Synthesis of Results

A descriptive, narrative synthesis was conducted to summarize findings across the included studies. Themes were organized around (1) team composition and roles, (2) types of interventions and strategies, (3) reported outcomes, and (4) implementation challenges, and contextual influences.

Results

Study Selection

A total of 61 records were retrieved from the PubMed database. After removing duplicates and performing title and abstract screening, 39 full-text articles were assessed for eligibility. Thirteen studies met the predefined inclusion criteria and were included in the final synthesis. The study selection process is illustrated in the PRISMA flow diagram (Figure 1).

Study Characteristics

The thirteen included studies were published between 2017 and 2023. Twelve studies were conducted in the United States, and one originated from Italy.³⁷ Study designs encompassed a range of methodologies, including descriptive and observational studies,^{38–40} qualitative interviews and focus groups,^{41,42} retrospective cohort studies,⁴³ case studies,^{44,45} pilot evaluations,⁴⁶ program evaluations,⁴⁷ mixed-methods studies,⁴⁸ and narrative reviews with embedded case series.³⁷ The healthcare settings varied and included academic hospitals,^{38,42} primary care clinics,^{39,41,43,48} outpatient specialty clinics,^{46,49} tribal and Indigenous health systems,⁴⁰ Veterans Health Administration (VHA) facilities,⁴⁷ and telemedicine-based programs.⁴⁶ Target populations ranged from patients with chronic non-cancer pain^{39,41,43,48} to surgical,³⁸ postpartum,⁴² geriatric,⁴⁴ paediatric,⁴⁹ and cancer populations,³⁷ as well as underserved and rural communities.^{40,46} A summary of study characteristics is presented in Table 1.

Multidisciplinary Team Composition and Roles

Across the included studies, MDTs consisted of diverse configurations of healthcare professionals. The most frequently represented roles included physicians, pharmacists, and nurses. Several studies incorporated additional team members

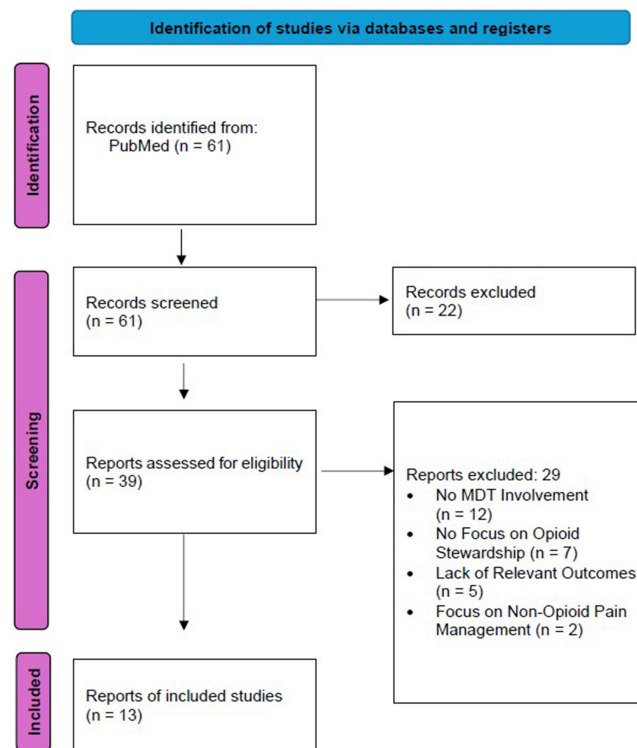


Figure 1 PRISMA flow diagram showing the study selection process.

such as addiction specialists, psychologists, palliative care providers, social workers, physical therapists, and information technology experts.^{37,41,45,46,48}

Pharmacists responsibilities included monitoring opioid prescribing, reviewing prescription drug monitoring program (PDMP) data, ensuring adherence to safety protocols, co-prescribing naloxone, and providing both clinician and patient education on opioid use.^{38–41,43–48} In some settings, pharmacists assumed leadership roles in opioid stewardship interventions, particularly within outpatient clinics and primary care.^{43,48} Nurses played a critical role in protocol

Table 1 Study Characteristics

Author(s), Year	Country	Study Design	Setting/Population	Healthcare Context
Haskel et al (2020) ³⁸	United States	Descriptive (pre/post)	Orthopaedic surgical patients	Orthopaedic hospital
Sokol et al (2021) ⁴¹	United States	Qualitative (interviews)	PCPs managing chronic pain	Primary care
Fiala et al (2022) ⁴⁹	United States	Pre/post interventional study	Paediatric healthcare providers	Online education
Conley et al (2023) ³⁹	United States	Observational	Long-term opioid users in underserved clinic	Primary care
Sandbrink et al (2020) ⁴⁷	United States	Program evaluation	Veterans across VHA facilities	Nationwide system
Porzio et al (2023) ³⁷	Italy	Narrative review + case series	Cancer pain patients	Palliative care
Hellier et al (2020) ⁴³	United States	Retrospective cohort	Patients on chronic opioids	Internal medicine clinic
Jun et al (2021) ⁴²	United States	Qualitative (focus groups)	Postpartum caesarean patients	Hospital
Hayes et al (2023) ⁴⁶	United States	Pilot (telemedicine)	Chronic pain in rural areas	Telemedicine

(Continued)

Table 1 (Continued).

Author(s), Year	Country	Study Design	Setting/Population	Healthcare Context
Azubike et al (2021) ⁴⁴	United States	Case study	High-risk older adults	Geriatric primary care
Weiner et al (2019) ⁴⁵	United States	Case study (system-level)	Health system-wide	Hospital/clinic network
Giannitrapani et al (2018) ⁴⁸	United States	Mixed methods	Chronic pain in primary care	VA clinics
Duvivier et al (2017) ⁴⁰	United States	Descriptive	Native populations (IHS)	Tribal health/community

Abbreviations: IHS, Indian Health Services; PCPs, Primary Care Providers; VHA/VA, Veterans Health Administration.

implementation, patient communication, and post-discharge monitoring. In studies focusing on post-surgical or maternity care, nurses were central to delivering opioid-sparing pain management strategies and supporting patients in the adoption of non-opioid analgesic approaches.^{38,42} Physicians, such as primary care providers, anesthesiologists, surgeons, geriatricians, and pain specialists, typically led decision-making related to opioid prescribing, patient assessment, and coordination of interdisciplinary care plans.^{38,39,41,43–45} In programs addressing chronic pain or substance use, mental health professionals and addiction specialists contributed expertise in biopsychosocial assessment and management, further reinforcing the collaborative nature of MDTs.^{41,45,46} Table 2 provides a detailed summary of MDT compositions and respective roles.

Interventions and Strategies

The reviewed studies described a range of interventions led by MDTs that aimed to enhance opioid stewardship practices. Common strategies included the implementation of opioid-sparing protocols, in which teams substituted or supplemented

Table 2 MDT Composition and Roles

Author(s)	MDT Members	Lead Roles/Highlights
Haskel et al (2020) ³⁸	Pharmacists, nurses, surgeons, anaesthesiologists, pain specialists.	Implemented opioid-sparing protocols with shared decision-making.
Sokol et al (2021) ⁴¹	PCPs, psychiatrists, psychologists, pharmacists, addiction specialists.	The PASS team provided biopsychosocial consultation.
Fiala et al (2022) ⁴⁹	Physicians, nurses, pharmacists.	Interprofessional online courses enhanced collaboration.
Conley et al (2023) ³⁹	Clinical pharmacist, addiction nurse, MDs/NPs.	Individualized opioid tapering, shared goal setting.
Sandbrink et al (2020) ⁴⁷	Physicians, pharmacists, and mental health providers.	Risk mitigation strategies (naloxone, UDS, PDMPs).
Porzio et al (2023) ³⁷	Oncologists, nurses, pharmacists, psychologists.	Cancer pain optimization via coordinated planning.
Hellier et al (2020) ⁴³	Pharmacists, PCPs.	PCSC improved adherence to CDC opioid prescribing guidelines.
Jun et al (2021) ⁴²	Nurses, OBs, anaesthesiologists, pharmacists.	Post-caesarean opioid-sparing protocol implementation.
Hayes et al (2023) ⁴⁶	MDs, PTs, addiction psychiatrists, and pharmacists.	Telemedicine consultations for pain and OUD.
Azubike et al (2021) ⁴⁴	Geriatricians, pharmacists, social workers, nurses.	GerIPACT supported opioid monitoring in high-risk older adults.
Weiner et al (2019) ⁴⁵	System-wide MDTs, IT, addiction and prescribing task forces.	SmartFORM, naloxone access, education tools.
Giannitrapani et al (2018) ⁴⁸	PCPs, pharmacists.	Pharmacist-led safety monitoring (PDMP, lab screening).
Duvivier et al (2017) ⁴⁰	Pharmacists, tribal health teams, first responders.	Naloxone training, MAT expansion, harm reduction.

Abbreviations: CDC, Centres for Disease Control and Prevention; GeriPACT, Geriatric Patient Aligned Care Team; MDs/NPs, Doctors of Medicines/Nurse Practitioners; IT, Information Technology; MAT, Medication-assisted treatment; MDTs, Multidisciplinary Teams; OBs, Obstetrics; OUD, Opioid Use Disorder; PASS, Pain & Addiction Support Services; PCPs, Primary Care Providers; PCSC, Pharmacy Controlled Substance Clinic; PDMPs, Prescription Drug Monitoring Programs; UDS, Urine Drug Screening.

opioids with non-opioid analgesics such as NSAIDs, acetaminophen, or gabapentinoids, and, where appropriate, incorporated non-pharmacologic therapies like physical therapy or behavioral interventions.^{38,42} Several studies focused on the development and delivery of individualized opioid tapering plans, particularly for patients on long-term high-dose opioid therapy.^{39,44,46} Other interventions included the implementation of structured opioid safety protocols, including the use of patient-provider agreements, urine drug screening, regular prescription monitoring, and co-prescription of naloxone.^{40,43,47,48} These safety measures were often employed to enhance adherence to national prescribing guidelines, such as those issued by the US Centers for Disease Control and Prevention (CDC).^{43,48} Some studies reported the integration of telemedicine services as a means to deliver MDT consultations to patients in rural or underserved communities.⁴⁶ Additionally, provider-focused educational interventions were described, including interprofessional training modules aimed at improving safe prescribing practices and fostering collaborative care.⁴⁹ The interventions implemented within each study are outlined in [Table 3](#).

Reported Outcomes

Outcomes reported in the included studies were descriptive and varied depending on the population, setting, and intervention. Several studies documented reductions in opioid prescribing, often measured as decreases in daily morphine milligram equivalents (MMEs).^{38,39,43,45,47} Other studies reported improved adherence to opioid safety protocols, including increased use of patient-provider agreements, more frequent urine drug testing, and improved documentation of opioid treatment plans.^{40,43,47,48} In some cases, studies described increased access to harm-reduction strategies, such as naloxone distribution and medication-assisted treatment (MAT) for opioid use disorder.^{40,46} A few studies explored

Table 3 Reported Outcomes and Key Findings

Author(s)	Reported Outcomes	Key Findings
Haskel et al (2020) ³⁸	Decreased MMEs prescribed, increased use of non-opioids.	52.3% reduction in opioids; patient education helped.
Sokol et al (2021) ⁴¹	Improved provider confidence and communication.	PCPs felt more control over complex pain/addiction cases.
Fiala et al (2022) ⁴⁹	Increased interprofessional competence.	Statistically improved collaboration (ICCAS).
Conley et al (2023) ³⁹	Decreased opioid doses, increased naloxone, increased non-opioid use.	71.4% tapered opioids; 48% had naloxone Rx.
Sandbrink et al (2020) ⁴⁷	Decreased high-dose opioids, and increased overdose prevention.	56% decrease in VHA opioid use; more than 1000 overdose reversals.
Porzio et al (2023) ³⁷	Increased quality of life, tailored opioid use.	MDTs ensured better dosing and transitions in cancer pain.
Hellier et al (2020) ⁴³	Increased adherence to guidelines, decreased MME, decreased benzodiazepines.	PPA & UDS completion rates exceeded 90%.
Jun et al (2021) ⁴²	Decreased opioid use by more than 50%, increased non-opioid pain control.	Nurses valued standard orders; patient resistance was noted.
Hayes et al (2023) ⁴⁶	Decreased PEG and depression scores, mixed tapering.	High acceptability; feasibility barriers in referrals.
Azubike et al (2021) ⁴⁴	Increased monitoring, mixed results on safety.	Positive UDS: 10.4%; dose reductions in 12.5%.
Weiner et al (2019) ⁴⁵	Decreased Rx counts, decreased MMEs, increased buprenorphine.	-73.5 Rx/month; +6 buprenorphine Rxs/month.
Giannitrapani et al (2018) ⁴⁸	Increased safety, and decreased burden on PCPs.	Role expansion hindered by policy and leadership limits.
Duvivier et al (2017) ⁴⁰	Increased naloxone access, and increased MAT access.	275% increase in naloxone; more than 350 first responders trained.

Abbreviations: ICCAS, Interprofessional Collaborative Competency Attainment Scale; MAT, Medication-assisted treatment; MDTs, Multidisciplinary Teams; MMEs, Morphine Milligram Equivalents; PCPs, Primary Care Providers; PEG, Pain, Enjoyment; General Activity Scale; PPA, Patient-Provider Agreement; Rx, Prescription; VHA, Veterans Health Administration; UDS, Urine Drug Screening.

changes in patient-reported outcomes, including self-rated pain and mood symptoms, although these findings were often preliminary and not consistently statistically analyzed.^{41,46,49} The variability in outcomes across studies reflects the heterogeneity of both the interventions and the clinical settings in which they were applied. System-level outcomes were reported in studies evaluating large-scale or institution-wide initiatives. These included reductions in the number of opioid prescriptions written, increases in the number of providers prescribing buprenorphine, and improvements in prescribing compliance through integrated electronic health record tools and decision support systems.⁴⁵ These findings are summarized in [Table 3](#).

Geographic and Contextual Variation

Twelve of the thirteen studies were conducted in the United States, limiting the geographic diversity of the evidence base.^{38–49} The single international study, based in Italy, focused on cancer-related pain management.³⁷ The predominance of U.S.-based literature reflects both the scale of the opioid crisis in that context and the structural characteristics of the US healthcare system, including the expanded clinical roles of pharmacists and the presence of formal opioid stewardship policies. The settings in which MDTs operated varied widely, from academic medical centers and urban hospitals to federally qualified health centers and tribal health clinics.^{38,40,42,47,48} Studies based in rural or underserved areas frequently emphasized the use of telemedicine and other innovative delivery models to overcome workforce and infrastructure limitations.⁴⁶ Some studies also described adaptations made to support care for high-risk or vulnerable populations, including veterans, postpartum patients, older adults, and those with comorbid mental health conditions.^{40,42,44,47}

Implementation Challenges and Facilitators

A number of studies identified practical and systemic barriers to the implementation and sustainability of MDT-led opioid stewardship programs. These challenges included inconsistent engagement among healthcare providers, lack of dedicated leadership or administrative support for interdisciplinary efforts, limited staffing (particularly for clinical pharmacists), and fragmented communication within teams.^{41,43,46–48} In addition, patient resistance to opioid tapering or substitution of non-opioid therapies was noted in several studies, often due to concerns about pain control or previous experiences with ineffective alternatives.^{42,46} Facilitating factors included the presence of standardized clinical protocols, comprehensive provider training, strong institutional support for interprofessional collaboration, and integration of mental health services into pain management.^{45,47–49} Programs that invested in structured workflows, electronic health record tools, and coordinated referral processes were more likely to report successful implementation and uptake.^{43,45}

Discussion

This scoping review synthesized the available literature on the role, structure, and implementation of MDTs within OSPs. Drawing on thirteen studies published between 2017 and 2023, the review highlights the ways in which MDTs contribute to safer opioid prescribing, risk mitigation, and patient-centred pain management across diverse clinical settings. The findings reflect the increasing recognition that opioid stewardship is not solely a prescribing issue, but a complex, system-level challenge requiring coordinated, interprofessional responses.

Overview of Findings

The included studies revealed considerable variability in MDT composition, intervention strategies, and reported outcomes. Despite this heterogeneity, several themes emerged. First, the core team members across most OSPs included physicians, pharmacists, and nurses. These professionals collaborated in various configurations to implement interventions targeting opioid prescribing safety, adherence to clinical guidelines, and patient education.^{38,41,43,46–49} Many teams also incorporated specialists such as addiction psychiatrists, psychologists, physical therapists, social workers, and care coordinators, particularly when addressing chronic pain, substance use disorders, or underserved populations.^{37,40,41,44–46,48}

Pharmacists, in particular, emerged as key drivers of stewardship interventions, often leading efforts to review opioid prescriptions, ensure compliance with monitoring protocols (eg, prescription drug monitoring programs [PDMPs], urine drug screening), and promote access to naloxone and non-opioid alternatives.^{38,40,41,43,45–48} Nurses were frequently

tasked with delivering education, monitoring post-discharge opioid use, and supporting patients in transitions of care.^{38,42} Physicians, while often responsible for prescribing decisions, increasingly relied on MDTs to navigate the balance between effective pain control and opioid-related risk.^{38,39,41,43–45} The types of interventions implemented were diverse but generally aimed at improving the safety, appropriateness, and consistency of opioid prescribing.^{38,42} These included opioid-sparing protocols in surgical settings, individualized tapering plans for chronic opioid users, implementation of risk mitigation tools, and educational initiatives for both providers and patients.^{39,43,44,46–49} Some programs also introduced telemedicine-based MDT consultations to address geographic barriers to care in rural or underserved regions.^{40,46} Although the outcome measures varied, studies commonly reported reductions in opioid dosages, increased adherence to safety practices, and improved provider confidence.^{38,39,43,45–47} However, most studies were descriptive in nature which limited the ability to assess the effectiveness of specific MDT components.

The Value and Complexity of Team-Based Approaches

The findings of this review support the growing consensus that multidisciplinary approaches are not only beneficial but likely essential in opioid stewardship. The complexity of opioid-related care, spanning pain management, substance use disorders, patient safety, mental health, and healthcare policy, makes it unlikely that any single provider type can adequately address all facets.^{1,2,4,13,50–53} MDTs, when effectively structured and supported, enable the distribution of clinical responsibilities, improve workflow integration, and support more holistic patient care.^{54,55}

This review also affirms that MDTs function not just as a collection of professionals, but as collaborative units that require shared goals, effective communication, and clearly delineated roles.^{54,56} Successful teams were those that had established protocols, training infrastructure, and institutional support, whereas teams without these supports encountered implementation challenges.^{57–59} The inclusion of non-prescribing professionals such as pharmacists and behavioral health providers also expands the lens through which opioid safety is approached, allowing stewardship programs to address not just prescribing practices but also patient behavior, education, adherence, and social determinants of health.^{7,60,61}

Contextual Factors and Health System Considerations

Most of the included studies were conducted in the United States where opioid overuse, regulatory pressure, and evolving guidelines have heightened the urgency of stewardship efforts.^{1,62–65} This context also reflects the relatively broad scope of clinical practice granted to pharmacists and other non-physician providers in the US, which may not be generalizable to other countries.^{38–49} The lone international study, conducted in Italy, focused on palliative care, suggesting that the framing and application of opioid stewardship may differ significantly depending on the local clinical and regulatory environment.³⁷

Moreover, the settings in which MDTs operated varied widely from academic tertiary hospitals and Veterans Health Administration (VHA) systems to rural clinics, telemedicine platforms, and community-based health centers.^{38–44,46–48} This diversity underscores the adaptability of MDTs but also reveals gaps in the literature regarding how such models perform in resource-limited settings, non-Western healthcare systems, and under-represented populations such as pediatric patients. Implementation success was closely linked to context. Studies identified barriers including workforce limitations (particularly in pharmacy staffing), poor interprofessional communication, lack of leadership buy-in, and challenges in coordinating care across disciplines and settings.^{41,43,46–48} Facilitators included robust clinical guidelines, dedicated opioid safety teams, interoperable electronic health records, and interprofessional training programs.^{43,45,49} These findings suggest that MDT effectiveness is contingent not just on who is on the team, but on how systems support the team's function.

Comparison with Existing Literature

These findings align with growing evidence supporting interprofessional approaches to pain and opioid management.^{1,15} Prior reviews have underscored the importance of collaborative care models in improving prescribing behavior, yet few have systematically mapped the specific contributions of individual team members or described how team structure

varies across settings.^{66–70} This review addresses that gap by cataloging the various professional roles within MDTs and identifying the types of interventions they are most commonly associated with.

The prominence of pharmacists, in particular, reflects a broader shift in healthcare systems, especially in the United States, toward expanding the clinical responsibilities of non-physician providers in response to the opioid epidemic.^{43,45,48} Studies also underscored the importance of tailoring MDT composition and strategies to the context in which care is delivered, whether that be a large academic hospital, a rural primary care clinic, or a culturally specific system such as tribal health services.^{40,41,46} This highlights the need for flexible, context-sensitive models of opioid stewardship that can adapt to population needs, workforce availability, and local resources.

Implementation Considerations

Several studies described barriers to MDT implementation, including lack of interdisciplinary communication, limited administrative support, staffing shortages (especially of pharmacists), and patient resistance to opioid reduction strategies.^{41,46} Conversely, programs with clearly defined team structures, standardized protocols, and access to interprofessional training were more likely to report smoother implementation and greater acceptance among both clinicians and patients.^{43,47–49} These insights offer practical guidance for future program design and emphasize the need for institution-level commitment to supporting collaborative care models. Despite the descriptive nature of the included studies, a consistent theme was the added value of structured collaboration in addressing the complexity of opioid stewardship. While individual provider efforts may be constrained by time, scope of practice, or lack of resources, MDTs can collectively leverage diverse expertise to improve decision-making, patient education, and adherence to evolving clinical guidelines.^{71–76}

Limitations

This review has several limitations. First, although a structured search strategy was employed, it was limited to a single database (PubMed), which may have led to the omission of relevant studies indexed elsewhere. The use of specific terms such as “opioid stewardship” may have inadvertently excluded studies describing similar practices under different terminology. Second, the geographic concentration of studies in the United States limits generalizability to other health systems with differing scopes of practice, funding models, or regulatory frameworks. Third, the absence of critical appraisal and the descriptive focus of this review precludes assessments of study quality or comparative effectiveness. Finally, the heterogeneity of interventions, populations, and outcome reporting constrained the ability to synthesize findings across studies.

Implications for Research and Practice

The findings of this review offer several implications. First, healthcare institutions seeking to implement or strengthen opioid stewardship programs should consider adopting MDT models that leverage a broad spectrum of professional expertise. Particular attention should be paid to the integration of pharmacists, behavioral health providers, and nurses, who appear to play pivotal roles in both implementation and patient outcomes. Second, future research should focus on evaluating the impact of different MDT configurations and stewardship strategies using standardized outcomes and robust study designs. Mixed-methods evaluations that include both clinical and experiential outcomes are especially needed to capture the complexity of stewardship interventions. Studies in non-US contexts, low-resource settings, and under-represented populations will also be critical to ensuring that MDT-based stewardship is feasible, equitable, and scalable. Third, policymakers and healthcare leaders should prioritize system-level support for MDTs, including adequate staffing, protected time for team-based care, interoperable documentation systems, and interprofessional education. The sustainability and effectiveness of MDTs depend not just on the commitment of individual providers, but on organizational readiness, culture, and investment in collaborative care infrastructure.

Conclusion

This scoping review mapped MDT involvement in OSPs across diverse clinical settings. The findings indicate that MDTs (typically composed of physicians, pharmacists, and nurses, with frequent contributions from behavioural health and allied health professionals) play a critical role in implementing opioid stewardship strategies. These teams contribute to

risk mitigation, patient education, protocol adherence, and more holistic, person-centred care. While the reported outcomes were largely positive, the heterogeneity of interventions and limited formal evaluation designs prevent firm conclusions about the comparative effectiveness of MDT models. The current evidence base reflects a strong U.S.-centric perspective, underscoring the need for more geographically and contextually diverse research. Furthermore, few studies assessed patient-centred outcomes such as quality of life, pain control, or satisfaction with care. Implementation barriers related to team communication, leadership support, and resource availability were common, but promising facilitators such as standardized workflows, interprofessional training, and health IT integration provide opportunities for wider implementation. Future research should prioritize prospective and comparative evaluations of MDT-led OSPs, ideally using standardized outcome measures and capturing both clinical and experiential domains. Studies in non-US settings and underserved populations are also needed to enhance generalizability and equity in opioid stewardship implementation. Additionally, the integration of digital health tools, telemedicine, and community-based resources represents an important direction for expanding the reach and effectiveness of MDTs. At the system level, investments in interprofessional infrastructure, training, and policy alignment will be essential to sustaining the long-term impact of team-based opioid stewardship.

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Disclosure

The authors declare that they have no competing interests.

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