

**CADTH RAPID RESPONSE REPORT:
SUMMARY WITH CRITICAL APPRAISAL**

Opioid Agonist Treatments for Opioid Use Disorders: A Rapid Qualitative Review

Service Line: Rapid Response Service
Version: 1.0
Publication Date: April 30, 2019
Report Length: 47 Pages

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Cite As: Opioid agonist treatments for opioid use disorder: a rapid qualitative review. Ottawa: CADTH; 2019 Apr. (CADTH rapid response report: summary with critical appraisal).

ISSN: 1922-8147 (online)

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Funding: CADTH receives funding from Canada's federal, provincial, and territorial governments, with the exception of Quebec.

Abbreviations

ODD	opioid use disorders
OAT	opioid agonist treatments
QES	qualitative evidence synthesis

Context and Policy Issues

Jurisdictions around the world are facing an opioid crisis, marked by a dramatic rise in the use of prescription opioids and opioid-related deaths. In Canada, 13% of citizens use prescription opioids and 2% of these citizens use them for non-medical purposes.¹ A report by the Canadian Institute for Health Information found that in 2016, there were 2,800 opioid-related deaths in Canada and an average of 16 Canadians were hospitalized each day because of opioid-related poisoning.² These statistics reinforce the urgency to address the burden faced by patients and families from opioids.

Opioids may be obtained through a licensed prescriber, or through drug diversion – a phenomenon where individuals give their prescriptions to others for non-medical use.³ One study estimated that approximately 23% of individuals exposed to opioids develop an opioid use disorder (OUD).⁴ OUD is defined as the continuous use of opioids while having multiple physical, mental, social, and legal problems.⁵ This disorder is also characterized by opioid dependence, a strong internal drive to acquire and use opioids that takes priority over other life activities.⁶ The mortality rate for individuals with OUD can be up to 20 times higher than the general population.⁷

Originally, the method for treating OUD was abstinence, which was subsequently found to lead to a dramatic increase in deaths from overdose due to individuals' physiological dependence on opioids.⁸ Since then, multiple drugs have been developed to support individuals with OUD, collectively referred to as opioid agonist treatments (OAT). Common drugs include methadone, naltrexone, and buprenorphine. Research has found that compared to no treatment, these drugs are associated with reduced risk of opioid-related death, infection, and criminalization.⁹⁻¹¹ Methadone is a full mu-opioid receptor agonist and the most commonly used drug to treat OUD. Naltrexone is a newer drug. By contrast to methadone, it is a mu-opioid receptor antagonist that interferes with the reward centres of the brain that are triggered by opioid use. Buprenorphine is a partial mu-opioid agonist and a weak kappa-opioid receptor antagonist.⁶ At clinical doses, it exerts a similar effect to methadone and morphine. At higher doses, however, buprenorphine has a ceiling effect that prevents abuse and misuse.¹²

There are multiple issues with regards to the implementation of OAT for OUD. In particular, it has been estimated that less than half of those with OUD seek help.¹³ Moreover, research on OAT has found low retention. This finding is especially important because treatment discontinuation is linked to a higher likelihood of relapse, which can increase the risk of overdose death due to physiological effects of opioid dependence.¹⁴ There is a strong need to develop new medications, formulations, and programs that facilitate adherence. For example, a new formulation of buprenorphine administered via a monthly subcutaneous injection (Sublocade™) was approved by Health Canada in November 2018. This buprenorphine extended-release injection provides a monthly dose of buprenorphine, and is intended to help avert diversion of opioid substitution treatments and address concerns about unsafe home storage of opioids. It may also be useful for patients who have had difficulty adhering to other treatments, for example other formulations of buprenorphine that require more frequent doses, or methadone.

An understanding of the perspectives and experiences of patients with OUD who may be eligible for these treatments, and the providers who care for them, can help to identify factors that may facilitate longer term adherence, and ultimately improve patient outcomes. This review will describe the experiences of people with OUD, and their health care providers, with a specific focus on the potential role of newer formulations in patient care.

Research Questions

1. How do people with opioid use disorders, and their health care providers, understand, communicate, and make decisions related to opioid agonist treatments?
2. How have people with opioid use disorders experienced treatment with opioid agonists? What are their perspectives on and preferences for programs that offer opioid agonist treatments?
3. How have health care providers who care for people with opioid use disorders experienced supporting opioid agonist treatment? What are their perspectives on and preferences for programs that offer opioid agonist treatments?

Key Findings

The use of opioids is a complex experience that some people viewed as a major component of their identity. Because of their addiction, the lives of patients with OUD were often seen to revolve around behaviours and activities associated with drug use. As such, approaches and treatments that aim to support patients towards recovery-oriented behaviours require a detailed consideration of how drug use and behaviour influence patients' motivation, circumstances, beliefs, and life plans.

For patients, a range of challenges, opportunities, and barriers are identified. At the onset of treatment-seeking behavior, patients are faced with challenges due to a lack of internal motivation. Even patients who were able to achieve motivation to seek and initiate treatment continue to face further challenges depending how treatment programs are structured and implemented. For example, access may be limited due to geographical distance or administrative procedures or criteria. Barriers permeated throughout patients' described experiences in continuing treatment-seeking behaviour, which provided opportunity for patients to reflect on aspects of treatment programs that may facilitate ongoing participation. For example, many patients identified the advantages of a program that offered higher flexibility and autonomy, and greater opportunities to lead a normal lifestyle. Some patients, however, found aspects of rigid programs to be more useful, especially in the beginning when they were establishing a routine towards recovery. Patients also contrasted buprenorphine (and its variants such as suboxone) and methadone when describing their experiences with opioid agonist treatments. Overall, patients expressed a more positive view of buprenorphine due to lesser experienced side effects and its perceived ability to restore normalcy into their everyday living and reduce withdrawal symptoms. Patients also described more positive experiences with buprenorphine being offered through office-based programs, which seemed to be related to less stigmatizing experiences, which they associated with methadone clinics in particular. Importantly, patients described the importance of a comfortable clinical space in which to receive treatment, which included providers who exemplified unconditional positive regard and an openness to communication.

Health care providers similarly expressed a variety of concerns and preferences with regards to providing opioid agonist treatments for patients with opioid use disorders.

Multiple studies identified initial hesitations to engage in or offer opioid agonist treatments, which often appeared to stem from a lack of time amongst other competing clinical priorities and also a lack of knowledge, training, and awareness. These hesitations were also typically related to the holding of negative attitudes and beliefs towards the opioid use disorder patient population: that these patients are aggressive, challenging, and create a negative perception of their practice. Suggestions to alleviate these barriers include improving collaboration, coordination, infrastructure, and support for opioid agonist treatments in primary care. Moreover, initial hesitations and stigmatized beliefs were thought to be addressed through training that creates opportunities and space for health care providers to interact with the patient population and see firsthand the benefits to providing opioid agonist treatments.

Methods

Literature Search Methods

A limited literature search was conducted on key resources including Medline via OVID, CINAHL via EBSCO, the Cochrane Library, University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. Methodological filters were applied to limit retrieval to qualitative studies. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2009 and March 25, 2019.

Selection Criteria and Methods

One reviewer screened citations and selected studies. In the first level of screening, titles and abstracts were reviewed and potentially relevant articles were retrieved and assessed for inclusion. The final selection of full-text articles was based on the selection criteria presented in Table 1.

Table 1: Selection Criteria

Population	Q1-2: Patients with opioids use disorders. Q3: Health care providers, in particular prescribers, caring for people with opioid use disorders.
Intervention	Opioid agonist treatments, with a specific focus on buprenorphine, methadone, buprenorphine/naloxone combination (Suboxone), and buprenorphine extended-release injection.
Comparator	Any
Outcomes	Q1-2: Issues emerging from the literature that relate to the research questions, including but not limited to perspectives and expectations of opioid agonist treatment, experiences accessing and complying with opioid agonist treatments, including barriers and facilitators to compliance; acceptability, stigma and unintended consequences of opioid agonist treatments; changes to patients' experiences with opioid agonist treatments if extended-release formulation were made available and compared to standard of care. Q3: Issues emerging from the literature that relate to the research questions, including but not limited to perspectives on, expectations of, and experiences with caring for people with opioid use disorders including those using opioid agonist treatments; decision-making surrounding opioid agonist treatments; perceived barriers and facilitators to compliance with opioid agonist treatments and their clinical effects; perspectives on features of programs that may lead to better outcomes and why.
Study Designs	Primary qualitative studies, the qualitative portion of multiple- or mixed-methods studies, and qualitative evidence syntheses.

Exclusion Criteria

The screening process focused on retrieving papers with data that could inform the design, expansion, delivery, and implementation of OAT, and in particular, those relevant to buprenorphine. Articles were excluded if they did not meet the selection criteria outlined in Table 1 including duplicate publications and those published prior to 2009. Primary studies that did not employ a qualitative or mixed- or multiple-methods research design were also excluded.

Due to an unmanageable number of relevant articles being identified through full-text screening for this rapid review (i.e. ~100), a set of strategic decisions was made to narrow the scope and ensure to capture only the most relevant data. To this end, we excluded studies that were not conducted in Canada or countries with similar health care systems, including the United States, United Kingdom, Australia, New Zealand, and the European Economic Area. We also excluded studies that focused on experiences with OUD but that did not describe issues related to access and adherence to treatments for OUD. Studies on naloxone use alone were excluded because they were focused on overdose deaths and not on opioid treatment programs; however, studies on buprenorphine/naloxone in combination (Suboxone) were included in this review. Moreover, studies that specifically focused on psychotherapeutic, psychosocial, and behavioural interventions in medication-assisted treatment were excluded. Finally, studies on the experiences of patients with OUD with concurrent chronic pain or that described quality of life issues were excluded if they did not have any data on OAT. These references of potential interest but that are not summarized in this review are listed in Appendix 5.

Critical Appraisal of Individual Studies

There is no consensus with regards to the most appropriate approach to critically appraising qualitative research, especially in the context of rapid qualitative evidence syntheses. The use of an appraisal tool to guide the assessment of primary study quality can be problematic because qualitative studies often do not report their methods and approach with sufficient detail. As a result, appraisal guided by use of a tool may reflect quality of methodological reporting rather than the quality and conduct of a study. We have detailed these perspectives in a separate publication.¹⁵ For these reasons, we focus our critical appraisal on how eligible studies have reported their methodological details in the main publication.

Eligible studies (primary qualitative and the qualitative portion of mixed- or multiple-methods studies) were critically appraised by one reviewer with the Quality of Reporting Tool (QuaRT) as a guide.¹⁶ This tool assesses how studies have reported four commonly reported methodological characteristics: question and study design, selection of participants, methods of data collection, and methods of data analysis. Summary statistics to describe overall study quality were not calculated for eligible studies. Rather, the strengths and limitations of each study were described narratively in Appendix 4. Results of the critical appraisal were not used to exclude studies from this review.

Data Analysis

Descriptive Analysis

A descriptive analysis was performed by one reviewer to categorize and describe studies according to study design, publication, and participant characteristics. The following

descriptive data were extracted and analyzed: author, date, country of publication, research objectives, qualitative study design or analytic approach, data collection strategies, study setting, type of OAT or formulation, age range in years, proportion of males in sample, and inclusion criteria.

Analytic Approach

This review adopted the qualitative meta-synthesis approach to data extraction and analysis,¹⁷ which is a type of a qualitative evidence synthesis (QES) that aims to aggregate findings of studies while maintaining their original meaning. This review also employed a staged-coding approach informed by constructivist grounded theory and constant comparative analysis.¹⁸ The findings from included studies were compared and contrasted to create an integrative interpretation of the topic. Throughout this process, there was a strong emphasis placed on the aggregative output of included studies as well as its relevance to broader issues facing Canadian policy makers. As such, the findings in this report were framed in a way to best support efforts to increase adherence to OAT.

The thought process, conclusions, and discussions of authors available in the main publication were considered as the primary outputs of data extraction and analysis in this review. However, the quotes, metaphors, and original excerpts of participants were also extracted if they substantiated and contextualized the overall interpretation. Data extraction focused on the results, discussion, and conclusion sections of this review because of discrepancies between these sections of qualitative manuscripts.¹⁹ Data extraction aimed to maximize the context around relevant data for comprehensiveness in the coding process.

One reviewer proceeded through two stages of coding. In initial coding, the reviewer worked through five studies to understand, breakdown, contextualize, problematize, and reform themes and concepts through a line-by-line and section-by-section analysis. This process identified the descriptive and interpretive meanings of data and the surrounding contexts and intentions of findings. Throughout this process, the reviewer adopted an open perspective to emergent themes and concepts. The reviewer also moved quickly through the data to develop a broad and holistic understanding of themes, concepts, and codes that were most salient and pertinent to broader policy issues. This process resulted in a preliminary coding schema, which was used to reassess the alignment between the research questions and available data. The coding schema was also used as a guide for the next stage of analysis.

In focused coding, the reviewer employed the coding schema tactfully to extract relevant themes and concepts from the remainder of studies. This process resulted in three categories to describe the perspectives and experiences of patients and four to describe those relevant to providers and that were determined to reflect an integrative interpretation of the topic. The reviewer proceeded to extract relevant data for each category through multiple, iterative cycles of coding towards theoretical saturation. The reviewer continued to adopt an open perspective to new themes and concepts identified in studies, which were then used to modify the coding schema. As well, the reviewer reflected on hidden issues contained in the data and how these may support broader policy objectives. Eventually, categories became more comprehensible and multiple themes within each category were delineated. The reviewer at this point re-analyzed the data associated with each category and themes to develop a narrative summary that synthesizes the associated concepts and codes. Once narrative summaries were generated for each category, the reviewer collated the summaries to produce an integrative, holistic, and relevant interpretation of findings.

Summary of Evidence

Quantity of Research Available

A total of 590 citations were identified in the literature search. Following screening of titles and abstracts, 500 citations were excluded and 90 potentially relevant reports from the electronic search were retrieved for full-text review. In addition, 30 potentially relevant publications were retrieved from the grey literature search for full-text review. Of these potentially relevant articles, 91 publications were excluded for various reasons, and 29 publications met the inclusion criteria and were included in this report. Appendix 1 presents a PRISMA flowchart describing the study selection.²⁰

Additional references of potential interest, but that are not summarized in this review, are provided in Appendix 5.

Summary of Study Characteristics

Additional details regarding the characteristics of included studies and their participants are provided in Appendix 2 and 3.

Qualitative Study Design or Analytic Approach and Data Collection

Among the included studies, all except six (20.7%) identified with a qualitative study design or analytic approach.²¹⁻²⁶ From the studies that identified a methodology or approach, the most common was grounded theory and adapted approaches (n=9; 31.0%)²⁷⁻³⁵; thematic analysis and adapted approaches (n=3; 10.3%)³⁶⁻³⁸; content or textual analysis (n=5; 17.2%)³⁹⁻⁴³; and narrative analysis (n=2; 6.9%).^{44,45} One of each of the remaining studies identified with the constant comparative method,⁴⁶ interpretive phenomenology,⁴⁷ qualitative description,⁴⁸ and ethnography.⁴⁹

All studies included in this review identified one primary or multiple data collection strategies. The most commonly used primary strategy was semi-structured interviews with 27 (93.1%) studies employing this method.^{21-24,27-49} Five (17.2%) of the studies that used semi-structured interviews as their primary data collection strategy also used other strategies: four combined focus groups with semi-structured interviews,^{28,30,34,43} and one combined participant observation with semi-structured interviews.⁴⁴ Thirteen (44.8%) of these studies used interviews to collect patients' perspectives,^{24,30,33,35-37,40,42,43,45,46,48,49} and 12 studies collected health care providers' perspectives (n=12; 41.4%).^{21-23,27-29,31,32,38,39,41,47} The remaining two (6.9%) studies collected the perspectives of both patients and providers.^{34,44} One study used focus groups only,²⁵ and another used written narrative accounts only.²⁶

Years of Publication

The search was restricted to the years 2009-2019. For the early part of this decade, one or two articles were published per year, with over half of all included studies being published between the years 2014 and 2016 (n=15; 51.7%).^{21,23,24,28,31-35,39-42,44,46}

Country of Origin

Seventeen (58.6%) of the included studies were conducted in the United States.^{21,23-25,27,29-32,35-37,41,43,44,46,49} Nine (60.0%) studies assessed and described patients' perspectives,^{24,25,30,35-37,43,46,49} and seven (58.3% of 12) described health care providers'

perspectives.^{21,23,27,29,31,32,41} The remaining study was one of two studies that described both patients' and providers' perspectives.⁴⁴

Other countries in which the included studies were conducted were: United Kingdom (n=4; 13.8%)^{26,33,34,47}; Sweden (n=3; 10.3%)^{39,40,42}; Australia (n=3; 10.3%)^{22,38,45}; New Zealand (n=1; 3.4%)⁴⁸; and Belgium (n=1; 3.4%).²⁸

Participant Populations

Fifteen of the included studies (51.7%) either focused on patients' perspectives alone,^{24-26,30,33,35-37,40,42,43,45,46,48,49} or health care providers' perspectives alone (n=12; 41.4%).^{21-23,27-29,31,32,38,39,41,47} Two (6.9%) studies included both patients' and health care providers' perspectives.^{34,44}

Overall, included studies represented the perspectives and experiences of 694 patients and 556 health care providers, 108 of whom were primary care providers. Age range was mentioned in 11 (37.9%) studies,^{25,35-38,40,42,43,45,48,49} and not mentioned in 18 (62.1%).^{21-24,26-34,39,41,44,46,47} The age range of these populations varied from 18 to 86 years. The proportion of males was mentioned in 15 (51.7%) studies,^{23,25,27,28,30,33,35-37,40,42,45,47-49} and not in 14 (48.3%).^{21,22,24,26,29,31,32,34,38,39,41,43,44,46} The proportion of males as participants of included studies varied from 20%,²⁴ to 87%.²⁵ There were no discernable differences in age range and proportion of males between studies on patients' or health care providers' perspectives.

Study Settings

Except for three (10.3%),^{26,34,48} all studies identified a study setting, with many studies describing multiple settings. Overall, eleven (37.9%) studies were conducted in opioid treatment centres or facilities that were separate from hospitals,^{25,30,33,39-44,46,49} eight (27.6%) studies were conducted in primary care settings,^{22,27,28,36-38,45,47} and seven (37.9%) in community or general hospitals.^{21,23,24,29,31,32,35}

Interventions

Three (10.3%) studies did not specify an OAT.^{22,38,47} The remainder of studies included the following treatments: buprenorphine and methadone (n=13; 44.8%)^{25-27,31,33-35,39,40,42,44,45,48}; buprenorphine only (n=10; 34.5%)^{21,23,24,29,30,36,37,41,43}; buprenorphine/naloxone combination (n=6; 20.7%)^{26,40,45,46,48,49}; and methadone only (n=1; 3.4%).²⁸ No studies were found that discussed extended release formulations of buprenorphine.

Summary of Critical Appraisal

A summary of the strengths and limitations of each study can be found in Appendix 4.

With the exception of four studies, all studies clearly stated their research objectives, all of which appeared to be coherent with the described qualitative study design or analytic approach. Two of the four studies did not provide clear research objectives,^{25,35} and the other two studies' objectives were not consistent with their described methodology.^{24,28} Instead, these two studies described objectives that were more appropriate for quantitative research rather than for a qualitative study, which seemed to contribute to more deductive, as opposed to emergent or inductive, findings.

Seventeen studies described how their qualitative study design or analytic approach was applied in the particular study context (17; 58.6%).^{27-31,33-35,37-39,41,43,45-48} However, 12

(41.4%) studies did not identify how their qualitative study design or analytic approach was used to guide conduct of the study.^{21-26,32,36,40,42,44,49} The lack of detail on qualitative study design or analytic approach could be due to word count limitations by journals that preclude detailed methodological reporting, or in some cases a lack of experience in investigators to conduct and report rigorous qualitative inquiry.

Similarly, 21 of the 29 studies (72.4%) described their recruitment and sampling procedures in detail.^{21,22,25-27,29-37,40-42,46-49} While in one study, the section on recruitment and sampling was altogether absent,⁴⁰ seven (24.1%) studies would have benefitted from more detail with regards to sampling frames and strategies.^{23,24,28,38,39,43-45} Moreover, there was no demographic information reported for participants in nine (31.0%) studies.^{21,22,29,31,32,34,38,39,41} Poor reporting of recruitment, sampling and participants' characteristics across a subset of included studies challenges an assessment of data richness and transferability across settings, in particular across Canadian jurisdictions.

Nine (31.0%) studies contained rigorous and detailed data collection procedures,^{23,25,26,30,37,41,42,44,49} although the remaining 20 (69.0%) studies could have benefitted from additional detail,^{21,22,24,27-29,31-36,38-40,43,45-48} representing a major gap in the methodological reporting of included studies. Similarly, 14 studies (48.3%) described their data analysis process in detail,^{21,23,27,29,33-35,37,39,41,43,46-48} or superficially (n=15; 51.7%).^{22,24-26,28,30-32,36,38,40,42,44,45,49} Again, poor reporting of methodological details challenges an assessment of data richness, and also the credibility and dependability of data and its analysis.

Two (6.9%) of the 29 included studies described strategies typically used to enhance rigour, including respondent validation and audit trail.^{35,48} The remaining 27 studies (93.1%) did not discuss any strategies the authors might have employed to improve the rigour of their study.^{21-34,36-47,49} Given the poor reporting quality that characterizes the set of included studies, it is unclear if these authors did not use strategies to enhance rigour, or simply did not report details of any strategies they may have used.

Summary of Findings - Patients' Perspectives and Experiences Engaging with Treatments for Opioid Use Disorder

OUD accompanies a flurry of complex experiences and interactions. Opioid use was characterized by patients in this review as an identity-creating experience that initially contributed to, but eventually became a major component of their self-concept. One individual described themselves as MICA (i.e., mentally-ill, chemically addicted),³⁶ reinforcing the inherent complexity that exists in understanding the experiences of this patient population. Opioid use was reported to motivate a collection of behaviours. For example, recovery seemed to be motivated by how an individual negotiates between their life goals, priorities, and commitment to regaining a sense of normalcy that had been hindered by opioid use. At the same time, however, some patients believed that they would never truly recover; opioid addiction was described as a lifelong and individualized process. This understanding of the complexity of OUD and how it contributes to a person's self-identity and daily activities underlies the experiences of patients interacting with formalized opioid treatment programs. Patients reported a wide range of beliefs, values, goals, and preferences that influenced their approaches to treatment and recovery. Even the meaning of "recovery" or "clean" was contingent upon the unique social and psychological circumstances of individual patients. These characteristics influenced what approaches to treatment and recovery they valued and viewed as appropriate to their personal goals.

This section reviews 17 studies describing the perspectives and experiences of patients on treatments for OUD, and is divided into three subsections that represent the three main issues emerging in the analysis: *Seeking Treatment*, *Continuing Treatment*, and *Patients' Perspectives on Buprenorphine versus Methadone*. Stigma was a commonly expressed concern in the studies reviewed, although not all studies explicitly discussed it. The experience of stigma was multifaceted and because of its prominence in interactions with treatments for OUD it has been embedded within each section where it substantiates the experiences patients described when interacting with OAT.

Seeking Treatment

Seeking treatment was described as a complex process that is moderated by a collection of *Personal Motivations* and *External Circumstances*. Personal Motivations refer to the sources, purposes, and behaviours that patients describe as prompting them to seek treatment, including personal motivation to change behaviour. However, despite these personal motivations, patients also described facing challenging External Circumstances, including logistical and practical barriers to accessing treatment, such as ineligibility and long waiting lists. Personal Motivations and External Circumstances are intricately related, representing the experiences of patients prior to seeking formal OAT. Each is described in further detail below.

Personal Motivations

Descriptions of the onset of treatment-seeking behaviour were accompanied by expressions of motivation, avoidance, and behaviour change. Treatment-seeking behaviour was often characterized by “treatment readiness,”^{24,25,30,33,42,45,48,49} which patients in three studies expressed as “tired of being tired.”^{24,30,33} This expression indicates that some patients experienced an internal motivation for behaviour change that accompanied self-confidence, hope, and commitment to change.^{24,25,30,33,40,42,45,48,49} This renewed motivation often accompanied engagement in case management, group counseling, being patient with treatment, and giving new treatment a chance.^{24,48,49} For other patients, this motivation was described as being due to a desire to avoid the withdrawal experience,^{24,26,30,35,36,43,48} or dying from drug overdose.⁴⁵

Interactions with family, friends, and acquaintances were often conducive to treatment-seeking behaviour. Some patients reported that first-hand experience and knowledge from family or friends prompted them to initiate formal OAT.^{24,25,33,35,40,42,43,48,49} Interestingly, treatment-seeking behaviour was also prompted in some patients due to the availability of OAT on the streets. Patients in six studies reported using buprenorphine or methadone before engaging in a formal treatment program.^{24,25,33,40,42,49} Patients used these drugs because they were often cheaper or the “street narrative” believed that they reduced withdrawal symptoms considerably.²⁵ Eventually, some patients who used buprenorphine or methadone illicitly reported switching to formal treatment programs because they viewed it as a safer way to obtain and administer treatment.²⁵ Moreover, some patients who used buprenorphine illicitly believed that it leads to higher retention and adherence to formal OAT.^{24,25,33,40,42,49} Some patients also reported that street-availability of OAT led to “harmony” and “normalcy” while waiting for admission into a formal program.^{25,42}

External Circumstances

Multiple barriers and facilitators were mentioned to seeking formal OAT, which often stemmed from issues related to access and the clinical care environment of treatment

facilities.^{24,25,30,33,35,36,42,45} Despite treatment readiness, some patients expressed that limited availability or accessibility of treatments in their home city was a major barrier to seeking treatment for OUD^{25,30,35,45}: “there’s a very narrow window of opportunity in somebody’s addiction to get in [treatment] so when they finally decide, okay I think I need something, and then there’s nothing available, then that window has passed and you have to wait for the next one.”³⁰ Moreover, when treatments were available, patients often reported low awareness of where or how to access them.^{25,30,35,45}

Convenience and cost also determined whether or not patients sought formal OAT^{36,45}: “if you’re like me and you’re 50 kilometres out and you’ve got to do 70, 80 or 90 kilometres every day to pick it up and pay for it every day it becomes challenging, the money - financial side of it.”⁴⁵ These costs not only pertained to paying co-pay fees for prescription opioids, but also indirect costs from traveling and attending appointments or picking up prescriptions from pharmacies. In some cases, the presence of these financial disincentives were so strong that some patients felt hopeless with regards to treatment and recovery.³⁰ In these situations, some patients reported that at times they would deliberately commit a crime to go to prison for the purposes of recovery because treatment access were described as less prevalent in the criminal justice system.³⁰

Some patients reported preferring formal OAT programs, as opposed to seeking treatment illicitly, as the easy access to drugs in formal programs lowered anxiety that accompanied seeking drugs illicitly on a daily basis.^{24,33,42,45} Patients also expressed that sending prescriptions to the pharmacy for pickup and counseling sessions available through treatment programs were major incentives to start treatment.^{24,33}

One study discussed at length the challenges patients faced in gaining access to formal treatment programs, which often stemmed from regulations, protocols, and baseline assessment procedures, which at some facilities were so strict that it made some patients ineligible to access OAT.^{25,42} As examples, patients reported not meeting the inclusion criteria for admission due to not having records of opioid dependence, being dependent on opioids that are not eligible for a specific program, using multiple drugs rather than one, having an unclear living situation or impending prison sentence, not having visible needle marks, or not having a history of violence or crime.⁴² Beyond these factors, patients reported that some administrators and clinicians who managed treatment programs had prevented or discouraged certain patients to apply.⁴² Unsupportive or discouraging clinicians led patients to halt treatment-seeking behaviour, thereby encouraging illicit drug use.³⁰ Moreover, even when patients managed to jump through these hoops, patients reported that some health care providers’ attitudes regarding the “right category” of drug users that should be in treatment programs reduced access for other patients that may not fit the category.^{25,42} Without adequate education, some patients stopped seeking treatment altogether because of a belief that they were ineligible.⁴²

Being denied enrollment in a formal program motivated some patients to start self-treatment to qualify for admission⁴²:

“I mean, I remember when I was fairly new to heroin, that I asked about substitution treatment and stuff. Yeah, are you an injecting drug user, that sort of thing? Well, I mainly smoke heroin, and I’ve been doing it for more than a year. Right, so you haven’t got any needle marks, then? No, no. Have you ever been arrested by the police or something like that? No, no. Okay, not been caught shoplifting or something? I respond ‘No, no.’ So, you can’t prove that you’re an addict? Then I’m sorry, we can’t offer you treatment. And that was about five years ago or so. So, I said, how am I

going to get treatment then, you know? Do I have to commit a crime or something to get treatment?"⁴²

As this quote shows, being denied enrollment to formal treatment may confer adverse consequences for patients such as demotivation to seek out formal OAT, motivation to use drugs they have not used before that would make them eligible for OAT, forcing overdose to obtain OAT, and buying drugs illicitly to develop a portfolio that is eligible for enrollment.⁴² One study described this as a catch-22 situation: to gain access to treatment programs, patients need to show motivation to engage in treatment, but at the same time have clear documentation of their addiction (i.e., be classified as a "hard-core addict").⁴²

At the same time, patients who met all criteria and were able to enroll in treatment often described facing logistical problems including long waiting lists, and a complex and demanding process that required ongoing contact, complete detoxification, and not missing any appointments^{42,45}:

"I thought it all took too long. Everything took several months. I mean, it took three months just to get this appointment [the first information meeting], and then it took another three months before I saw the doctor, I hadn't even given a urine sample, you know, so I was thinking like, how long is it gonna take? Shit, I'll die before I [get access to treatment]."⁴²

Continuing Treatment

For those patients who were able, once formal treatment programs were accessed, they described experiencing a range of issues that hindered their ability to continue treatment and that were associated with the structure of program, personal circumstances, and approaches to recovery. These issues were supported and opposed by factors similar to the barriers to seeking treatment described previously and are described here according to three categories: *Characteristics of Opioid Treatment Programs*, *Diversion*, and *Approaches and Progress towards Recovery*.

Characteristics of Opioid Treatment Programs

The way formal opioid treatments were structured, in particular relation to a structured versus flexible format, served as either a barrier or facilitator for patients to continue treatment.^{24,25,30,33-37,42-45,48,49} Patients across included studies expressed divergent views on whether a rigid treatment program was favourable over programs that allowed more freedom and flexibility. For some patients, a rigid treatment schedule was perceived as helpful in establishing a routine for OAT,^{25,34,35,37,43} especially at the beginning of treatment.^{30,34,43} For example, being confined to a single daily dose reduced temptations in some patients for other drugs.^{34,45} In most studies, however, patients viewed rigid treatment programs as "oppressive."^{25,30,33,35,42,44,45} Programs structured in this way were perceived to limit patient involvement in recreational activities, employment, and traveling to meet friends and family in other cities.^{34,44,45} In one study, rigid treatment programs were described as analogous to incarceration due to the demands and time required to fulfill their requirements,⁴⁵ which in some cases incentivized dropping out of formal OAT^{34,45}:

"I mean, from having been an addict, with all that stuff completely controlling your life, that's what you want to avoid, right...so, the whole idea of being ostensibly drug-free through medication, all that goes up in smoke with all those rules, you know. That's the whole point, when you stop using drugs, you want that freedom, you see. And they put a stopper to it right away."⁴²

Relatedly, patients in two studies described similarities between illicit drug use and rigid formal treatment programs, the difference being that there was more flexibility perceived in the former. This realization became a reason for some to discontinue formal treatment and initiate self-treatment through illicit drugs.^{42,45}

Patients in eight studies expressed benefits of opioid treatment programs that offered more freedom, autonomy, and flexibility.^{24,25,30,34,35,42,43,45} This characteristic was seen to foster strength in patients by allowing them to engage in other life activities.^{35,45} It also enabled some patients to start recovery behaviours by reducing dosage out of their own volition: “I started taking it in the evenings, but I found out I would feel a bit rough in the mornings so I stopped, I changed it to taking it first thing in the morning, a half hour before I went out for work it seemed to work better for me.”³⁴ Reducing dosage without the guidance of a health care provider was viewed by some patients as a rewarding experience that bolstered their motivation for recovery.³⁴

Another characteristic of flexible programs that was viewed as advantageous was being away from environments that reminded patients of their drug use: “You know the compulsion. Once you start something it's hard to stop it and you usually go back to what's familiar. Your old neighborhood, old friends, old thinking patterns. Because it's a familiarity in it.”⁴³ Being away from drug use environments, for example methadone clinics, was reported as contributing to higher retention in formal OAT.^{33-37,42-45} For these reasons, administering treatment in existing clinical practices, particularly office-based buprenorphine, was preferred over other formalized treatment programs such as methadone treatment clinics.^{25,37,44} Office-based treatment was also perceived to offer greater convenience to patients;^{25,37,44} improved access to treatments;³⁷ increased respect, trust, and empathy from health care providers;³⁷ increased autonomy in treatment dosage and scheduling;^{37,44} and offered more privacy.³⁴ These factors, in addition to other functions offered by office-based treatments such as access to treatment for chronic pain, were reported to lead to higher adherence and retention.^{33,35,43,45} However, the divergent attitudes by some patients again must be noted, as, some patients reported preferring a more rigid treatment schedule.^{25,37}

“At first I thought [office-based buprenorphine] would be perfect, because I've been through so many methadone clinics...and I really don't like coming in every day. But then when I got the bup...I just didn't take it. I'm thinking maybe...the whole idea of a [methadone] clinic and going in there every day... maybe I'm used to that more than just having to do it myself every day.”³⁷

Therefore, it is important to solicit and accommodate patients' preferences for treatment programs in clinical recommendations regarding which program features and modalities are most appropriate.

Diversion

Diversion – a behaviour where patients with prescription opioids provide them to others who do not hold prescriptions – is a common concern for formal OAT programs. Diversion, however, was not commonly discussed within included studies, with three studies discussing its sources and impact on OAT programs.^{25,34,40} One study, in particular, discussed diversion in-depth, including perceived motivators of diversion behaviour, diversion amount, recipients of diverted drugs, and how patients who engage in diversion behaviours obtain drugs.⁴⁰ Diversion is a behaviour that was reported to begin and continue due to easy access to prescription opioids through a formal OAT program. These

opioids were reported to be available often at a lower cost than their illicit counterparts, which was seen to add an additional incentive to enroll in formal treatment as a means to divert prescribed opioids. For some, diversion behaviour was reported to start immediately after a relapse while enrolled in a formal OAT program,⁴⁰ and often was accompanied by an expressed need by friends, acquaintances, family, or partners for diverted drugs. Some of these individuals were reported to request drugs because they no longer had access to prescription opioids through formal OAT. In other instances, individuals, some of whom may be adolescents or young adults, were reported as first-time users of diverted drugs, which was seen by some as a precursor to OUD. Other reported reasons for diversion behaviour included the need for money, having excess prescription opioids, and dissatisfaction with OAT.⁴⁰

Approaches and Progress towards Recovery

Perhaps unsurprisingly, recovery was a commonly mentioned goal by patients across included studies,^{25,26,30,33,35,36,42,43,45,48,49} with patients' perceptions of recovery being closely linked to their fear of withdrawal.^{24-26,30,33,35,43,45,48} Withdrawal was viewed as a challenging aspect of addiction that some thought was necessary to face in order to achieve recovery. Withdrawal was seen to require support from family, friends, and health care providers in order to ensure success,^{25,30,33,45} which also assisted in decreasing cravings for other drugs.^{43,48} When sufficient support was not in place, some patients mentioned that they stopped formal OAT and relapsed.^{30,33,35,43}

Patients expressed a preference for collaborative treatment environments,^{26,30,35-37,45} which they described as having a comfortable physical space and culture,³⁷ with health care providers exemplifying unconditional positive regard and a propensity for open dialogue (^{26,30,36,37,45} Moreover, support from friends and family was reported to function as a sort of support group through relapse and worked to sustain engagement in formal treatment for some.^{25,30,45} Adequate support was also reported to motivate patients to face the barriers to formal OAT mentioned previously.^{25,26,30,36,37,45} "All of my friends love me, they are there for me if I have a need for them — ... they know that if I need them to keep me busy or keep my mind off of things, I know I can count on friends."³⁶

Relatedly, some consistent drawbacks of having inadequate or lack of support were also described. For example, patients reported that an unsupportive or disconcerting health care provider or clinic environment was a barrier to continuing treatment.^{30,42} "I got used to being with one case manager there and I relapsed a couple of times. And...she just dropped me like a dirty rag. You know. And...it kinda left a bad taste in my mouth."³⁷ Some patients wondered if lack of a supportive attitude may be due to low health literacy among health care providers regarding opioid addiction,³⁰ differing goals between providers and patients about OAT,³⁵ and limited opportunities to develop a strong rapport with health care providers.³⁷ Negative experiences were compounded when patients experienced strong stigma from family and their support networks towards OAT^{36,42,43,45,48}: "I have children that are not speaking to me, and two girlfriends who don't want to be bothered by me.... My family doesn't speak with me; it is a religious thing."³⁶ These concerns often led to a strong sense of isolation and loneliness, which consequently deterred patients from continuing treatment.^{33,36,37,43} Patients who lacked an adequate support system often reported a feeling of hopelessness because they were caught in the middle of drug users who were a barrier to their recovery, and the rest of society who held stigmatized views of their addiction. Patients reported experiencing stigmatization from their health care providers, family, members of the general public, and even participants in addiction support groups

who strongly believed in abstinence-based approaches and rejected the effectiveness of opioid substitution and maintenance treatments.

The complexity in patients' efforts towards recovery is important to understanding the barriers and facilitators to treatment retention. Conceptually, patients understood recovery as a lifelong,^{30,33,35,36,42,43,45} and individualized process.^{30,33,36,42,43}

“Some days the disease is more active than other days. When you just want to go back to your old behaviors...’What if’ - ‘cause you're grounded some days, it'll flash cross your mind. It's your thinking. You can't stop your thoughts from happening. That's why I say you're not responsible for your disease, but you're responsible for your recovery.”⁴³

This belief was related to another expressed belief by some patients that OUD does not disappear and so “complete” recovery is not possible.^{30,33,35,42,45} Others reported believing that full recovery was possible if both physiological and social components of OUD were addressed (i.e., physiological cravings for drugs were reduced, and a strong social support system was formed).^{25,26,30,33,36,43,45} Similarly, personality factors such as dedication, commitment, and clarity of values were thought to be associated with long-term retention and recovery.^{30,33,45} A positive life event bolstered patients' motivation to continue treatment such as starting a new relationship, obtaining employment, or becoming a parent.^{42,45} These factors were closely linked to a sense of perceived familial responsibilities that served as strong motivators to continue treatment.^{30,33,42,45} “Every time I would think of feeling like I wanted to use again, I would just think about losing [my kids]. I would never, ever want to lose them or leave them or do anything—and it's a big one for me. It's kept me sober for the last 4 years.”³⁰ On the other hand, some patients with familial responsibilities chose not to continue formal OAT programs because it would require them to reveal their addiction, which could lead to losing custody of their children.⁴² In some cases, the decision to not enter formal treatment appeared to have been compounded by chronic unemployment, poor housing, criminalization, and unsupportive treatment environments.^{30,33,36,42,43,45,48}

Patients in three studies described a “critical mass point” that occurred during OAT as a strong transition towards recovery-oriented behaviours.^{30,33,42} In some cases, patients described this point as a situation where they experienced a dangerous relapse that caused them to “hit rock bottom” and could include a near-death experience from overdose. Some patients following these situations modified their thought processes, re-committed to long-term treatment, and renewed their motivation towards recovery. Patients' successes at this point were modulated by their personal, social, psychological, and financial locations. For the most part, it appeared that patients with higher access to resources and sources of support had a higher likelihood of exhibiting recovery-seeking behaviours after their critical mass point. On the other hand, failure at this point for some could result in relapse and reversion to illicit drug.³³ Success after the critical mass point was strongly influenced by support available to patients.^{25,26,30,35-37,42,43,45,48}

Patients' Perspectives on Buprenorphine vs. Methadone

This section provides an integrative comparative analysis on how patients perceive, compare, and realize the benefits and drawbacks of buprenorphine and its variants, and methadone. This analysis is intended to contextualize the previously described barriers to OUD treatment initiation and maintenance that may be specific to a particular drug, or how the characteristics of a particular treatment compensate for the drawbacks of another. This

understanding can inform OAT program design and delivery with the goal to improve retention.

In none of the included studies did patients identify positive aspects of methadone treatments. In four studies, however, patients described buprenorphine more positively than methadone, and as such, reported greater utilization and retention in buprenorphine treatment programs.^{25,35,48} Many factors contributed to this positive perception. Several patients perceived buprenorphine as more effective than methadone in mediating the effects of withdrawal.^{24,25,35,40,44,45,48} Similarly, many patients expressed that buprenorphine does not give the same euphoric sensation as other drugs (^{24,25,35,45,48} which for them helped to reduce cravings for other drugs,^{24,35,44,45,48} and led some to enroll in buprenorphine treatment programs.^{24,25} These characteristics led patients to describe that, as compared to methadone, buprenorphine is an easier drug to vary the dose and gradually reduce their daily intake of opioids out of their own volition.⁴⁰ As a result, many patients believed that buprenorphine is a better drug to initiate recovery.^{25,40,48} Finally, for those patients who had been previously unsuccessful in other OAT programs, buprenorphine offered another treatment option.²⁵

Buprenorphine was also viewed as a treatment that restored “normalcy” in activities of daily life faster and did not cause the strong sedative effects, typical of methadone, that lead to disengagement.^{24-26,33,35,36,42,44,45,48} “I appreciate the clarity of thought. I can sit down and not fall asleep. Like, on methadone, I’d sit there, as soon as I sit down, I’d start feeling sleepy. I sometimes drove with one eye open. I didn’t like that. I reduced my driving a lot, which I didn’t like to do. And with buprenorphine I don’t have that problem...”⁴⁴ “Normalcy” was described in a variety of individualized ways, and included such notions as improved decision-making abilities and “clarity of mind”;^{25,26,44,45,48} improved experiences and relationships;^{25,26,33,36,42,44,45,48} becoming stable enough to obtain a job;^{26,33,36,42,44,45,48} restoration of a more active and better lifestyle;^{24-26,33,35,36,42,44,45,48} going back to school;^{35,48} and improved self-confidence.²⁶

In contrast, patients viewed methadone as more addictive and requiring prolonged commitment and more resources than buprenorphine.^{25,35,44,45,48} In three studies, patients described methadone treatment programs as “liquid handcuffs.”^{44,45,48} This trope was often invoked as a result of a flurry of adverse consequences that accompanied methadone treatment and served as strong deterrents to seeking and continuing treatment. Compared to buprenorphine, reported negative effects of methadone included intensification of cravings for other drugs, teeth and bone decay, swelling, over-sedation and fatigue, skin discolouration, internal bleeding, weight gain, sagging skin, irritability, sleepwalking, inappropriate posture, diabetes, lack of bodily control, decreased economic productivity, addiction, and sometimes death through overdose.^{25,33,35,44,45,48} These experiences left patients feeling bound to methadone for their entire lives, as many lingered and did not resolve over time. As a result, even when patients recovered and were “clean,” they felt like an addict,⁴⁴ an experience that was not mentioned by patients using buprenorphine: “With methadone, a lot of people get cleaned up, but they still feel like a drug addict. And there’s a big difference between that and bupe because bupe breaks the chains as far as I’m concerned.”⁴⁴

In addition, the methadone clinic environment was perceived as deleterious to both patients’ well-being and commitment to recovery. Patients in eight studies mentioned that methadone programs constantly reminded them of their addiction, which increases cravings and opportunities for relapse.^{33,35-37,43,45,48,49} “Watching the people who aren’t

really there for recovery...and the buying and selling of things...It's just a cycle to watch people who really don't want to go in there, and getting it and then selling it and walking right across the street and buying the illegal part of it ...it's just...ugly."³⁷ These reminders were often not present when enrolled in buprenorphine programs that were facilitated in primary care clinics or had provisions in place that limited patients' exposure to other opioid users.^{37,44}

The contrast between methadone clinics and office-based buprenorphine was more apparent in patients' discussions about stigma. Patients commonly expressed that methadone was associated with societal stigma that stemmed from methadone clinics that have become the source of criminal activity, diversion, and addiction.^{26,33-36,44,45,48}

"Nothing is secret at the methadone clinic. Everybody knows your business and they know that you're an opiate addict. Everyone in the neighborhood around the methadone clinic doesn't like you because they're afraid of crime and drug sales coming into their community. People think that the methadone clinic is the place where people with the plague go."⁴⁴

This quote illustrates how the way in which some members of the public characterize methadone clinics exposes individuals to stigmatized beliefs about themselves and other patients, which becomes a constant disincentive to continue treatment. This was not described in relation to office-based buprenorphine programs because the environment is more private. However, while perhaps less, stigma still exists in relation to buprenorphine, which seems to stem from some individuals' beliefs that abstinence is the most (and only) effective approach to recovery.^{36,43} For these individuals, any medication-assisted treatment is merely "trading one drug for another,"^{26,30,33,36,42,43} and the associated stigma in many cases adversely affected patients' motivation and commitment to treatment.^{36,43,45}

Summary of Findings - Providers' Perspectives and Experiences Engaging with Treatments for Opioid Use Disorder

This section reviews 14 studies describing the perspectives and experiences of health care providers with opioid treatments and is divided into four main sections that describe the main issues emerging in the analysis: *Knowledge, Awareness, and Training*, *Collaboration and Coordination*, *Infrastructure and Logistical Support*, and *Perceptions of Patient Population*.

Knowledge, Awareness, and Training

Some health care providers, particularly primary care physicians, expressed a reluctance to offer OAT within their practice. Initial hesitations were due to lack of time and competing priorities that became disincentives to start prescribing, or complete the necessary training to prescribe.^{22,23,27,29,32,38,41,44,47} Lack of time stemmed from a belief that their practices were managing a number of competing clinical priorities that made managing an OAT program an additional burden.^{22,27,29,32,47} For some health care providers, this belief was reinforced by a perception that there was no need to provide addiction services due to a low prevalence of patients with OUD in their area.^{21,23,27,29,32,38} It is, however, possible that such perceptions are inaccurate, as three studies reported that primary care physicians did not conduct a formal assessment to support such claims or to determine the need for OAT.^{22,27,29}

In general, health care providers expressed low knowledge and awareness of OAT, for example, their long-term side effects,²¹ which for some led to an internal discomfort in

implementing or providing OAT.^{22,23,27-29,32,41,47} Relatedly, some health care providers reported that they lacked expertise in starting treatment, following patients throughout the treatment process, and determining dosing and scheduling.^{23,27-29,32,41,44,47} This lack of expertise contributed to a general lack of interest in treating patients with addiction issues, and low perceived value in providing OAT in primary care.²⁷ Additionally, some providers described anxiety around treating patients who other health care providers perceived as more “difficult” and challenging than other patients.^{22,27-29,31,41,44} Perhaps as a result, some primary care physicians who held these beliefs also viewed addiction medicine as something beyond the scope of their practice,^{21,22,27-29,44} and instead preferred to refer these patients to addiction medicine specialists.

At a clinic or health care facility level, considerations to offer OAT, either through primary care or a specialized treatment facility, was supported by an established need for treatment or expressed community concerns about overdoses and addiction.^{21-23,29,32,38} For existing treatment programs that were considering expanding to other OAT, patient interest in the medication and perceptions of good patient outcomes from treatment were important facilitators of implementation.^{21,22,29,32,38} Once a need was established, positive feedback from close colleagues on treatment efficacy, side-effects, low potential for diversion, easier management, and higher patient satisfaction further supported health care providers’ motivation to implement or expand OAT.^{21,27,29,32} In particular, knowledge and support gained from experienced colleagues was often reported to alleviate initial hesitations to prescribe. Support from experienced physicians, for example, was seen to improve knowledge and awareness, particularly for those who worked in primary care. Another reported approach to facilitating peer-to-peer support, mentioned in one study, was establishing an advisory group of physicians who would receive training on addiction and then relay that training to their colleagues.²⁸ This strategy was seen as similar to having a physician champion who would promote all steps of OAT implementation – introducing the drug, organizing training for clinicians, developing dissemination plans, and forming clinical leadership positions.^{21,29} Physician champions were thought to promote a positive cultural change amongst clinicians, organizations, and systems,^{21,29} towards one that embraced a harm-reduction philosophy to treatment, which was viewed by health care providers as a facilitator of implementation and positive patient outcomes.^{21,29,32,38,41}

Training for physicians, other health care professionals, and ancillary staff was viewed as necessary for treating patients with OUD,^{21-23,27,29,32,38,41} although health care providers in included studies discussed the state and effectiveness of training available to them with the general sentiment that current training is either insufficient or too specialized.^{21,23,27-29,32,41,47}

“I don’t think we have been provided [with] enough training with how do deal with if an addict was under the influence, it is a bit of a grey area really. You are not told what the protocol is. You don’t really know, I mean it’s, you are using your sort of clinical judgement really your benefits against the risks aren’t you? You are just going to decide for yourself whether or not to supply it.”⁴⁷

At the same time, health care providers described strong pressures from their health care institutions to acquire additional training in managing ancillary medical conditions that accompany OUD, such as chronic pain, alcohol abuse, and mental health,³⁸ while others described experiencing de-skilling because of the lack of ongoing training or refresher courses.^{22,32}

Collaboration and Coordination

A lack of collaboration and coordination between health care providers was commonly cited as a barrier to implementing OAT, although different specialties indicated distinct experiences as a result. For example, specialized addiction physicians generally reported that due to a lack of coordination with primary care physicians, they often took on this additional role for patients with OUD,^{21,23,28,29,31,32,47} which led to gaps in communication and care and increased frustrations. Pharmacists, on the other hand, commonly cited a lack of involvement in patient care,⁴⁷ which in some cases resulted in pharmacists not performing clinical checks because they were unaware of patient circumstances to determine whether the level and type of prescribed opioids were appropriate.⁴⁷ Moreover, delays in sharing information between prescribers and dispensers often led to delays in decision-making.⁴⁷ In the case of opioid treatment facilities that included physicians and counselors, frustrations were commonly expressed when treatment decisions were made by counselors without physician consent.²³ Across accounts of frustration from a lack of collaboration and coordination was an acknowledgment that the frustration often stemmed from differing expectations and approaches to recovery between health care providers, which one study reported as being potentially addressed through ongoing communication about patient care.²³ Other cited benefits of ongoing communication included reduced diversion, improved collaborative and interprofessional decision-making, and enhanced mechanisms of knowledge exchange.²³

Primary care physicians who were considering implementing OAT expressed a strong need for staffing resources to support their programs^{21,23,27,29,31,32,41,47}:

“I would want some help just because there’s so much more than medication prescription and we don’t really have the capacity and the support here to do everything else that goes along with it. We have inadequate social services in the clinic itself, in terms of social work, drug and substance abuse counseling, psychiatric mental health counseling—it’s inadequate.”²⁷

Staffing needs physicians believed would support ongoing administration OAT crossed a range of disciplines and included mental health professionals, on-call providers, and administrative support. In many cases, physicians expressed a need for full-time staff or health care provider dedicated exclusively to patients with OUD.^{21-23,29}

A lack of administrative support was broadly acknowledged across studies,^{21,23,29,31,32,41,47} which often led to physicians bearing the brunt of patient workload. This was often described as conflicting with their facility’s pressure to take on more patients, even beyond the legal limit.^{21,38,41} In particular, staffing and administrative support was viewed as necessary when health care providers moved out of the area causing disruption to the availability and accessibility of OAT,³⁸ or when an existing OAT program sought to introduce psychosocial treatment services.³² If these supports were not available, health care providers, especially those in primary care, expressed a need for counselling and expertise from specialized centres or experienced health care providers such as addiction medicine specialists.^{21-23,28,31,32}

Infrastructure and Logistical Support

Health care providers also commonly raised a lack of infrastructure or logistical support, such as dedicated space within facilities, as a barrier to providing OAT.^{21,23,27,29,31,32,41,47} For example, physicians offering OAT through primary care clinics expressed the need for

infrastructure and logistical support in the form of increasing the number of referrals to addiction medicine specialists or facilities, consultations times, scheduling, developing individualized treatment plans and dosing schedules, and access to psychosocial therapies to augment pharmacotherapy.^{23,32} At the same time, health care providers raised potential concerns that offering OAT may bring unwanted bureaucracy that would affect their autonomy to practice.^{29,31,32,38,44} This view was related to experienced limitations and restrictions to practicing addiction medicine, for example, lack of reimbursement from insurance companies,^{22,27,29,32} lack of guidance by regulatory bodies over other components of medication-assisted treatment such as psychosocial therapies,³² and uncertainty regarding dosing and regulations.^{23,31} Primary care physicians were particularly concerned about the higher regulatory oversight over their clinical activities if they chose to offer OAT.^{27,28,31,32,38,44} “The federal government, DEA...they come in, and they check your records, they check your charting. Who wants to have a big brother watching over their shoulder? That’s for sure why people don’t want to prescribe it.”³² This quote shows that greater involvement of regulatory agencies in clinical activities was a strong disincentive to offer OAT. In extreme cases, health care providers that offered buprenorphine described being harassed or threatened by regulatory agencies.³²

Finally, costs were a concern raised by some health care providers for implementing new treatment or even sustaining existing treatment programs.^{21,27,29,38} In two studies, health care providers reported that implementation of new OAT would be more difficult if patients’ ability to pay did not match the cost of drugs,^{21,38} and health care providers appear to react to this situation in different ways. Some health care providers described providing patients what they needed based on their medical circumstances regardless of cost,²¹ while others refused to deliver certain treatments because of patients’ inability to pay.²¹ In rare circumstances, health care providers were motivated to treat only patients who were willing to pay out-of-pocket for high-priced drugs.³²

Perceptions of the Patient Population

A range of preconceived and formed beliefs about patients dealing with addiction issues were described across studies: both negative and positive. While many providers described stigmatizing beliefs; many others also expressed that a chronic care orientation and continuity of care were vital for recovery from OUD,^{21,23,31,32,38,44,47} and enacted this positive orientation in ways described as going above and beyond. For example some providers described giving patients their cell phone number, accepting calls in the evening and on weekends, logging complaints against pharmacies with low stocks of buprenorphine, and creating backup plans for patients in case they run out of buprenorphine.³²

Stigmatized beliefs towards patients with OUD were typically described as preventing physicians from offering OAT.^{21,22,29,32,38,39,41,44,47} This stigma appeared to stem from uncertainty, and prior experiences and stories of dishonesty, and doctor shopping behaviour.^{23,32,38} Primary care physicians often reported that patients regularly missed their appointments, exhibited negative behaviour in waiting rooms, and led a chaotic lifestyle, behaviours that contributed to their perceptions about patients.³⁸ In some cases, health care providers retained stigma for certain groups of patients, for example, those on methadone.⁴⁷ In other cases, regardless of the source of stigma, primary care physicians would use any reason, such as missing an appointment, to remove patients from their roster.³²

Stigma appeared to stem from two primary concerns. First, some health care providers were concerned for their safety as they believed that the patient population may behave

aggressively towards them.⁴⁷ Secondly, they were concerned about diversion, which many health care providers cited as a moral and practical argument against offering OAT.^{23,32,39,41} In one study, health care providers discussed the drawbacks of diversion, which included medical risks, such as overdose deaths, reduced legitimacy of OAT programs and facilities, and increased stigma of the patient population.³⁹ Some primary care physicians described being afraid that offering OAT would result in a drastic change in their clinical practice:

“Boy, if we start prescribing buprenorphine, is this going to open up our practice and make our waiting room look like a methadone clinic waiting room? That’s understandable, I think. They’ve considered that, ‘Does that mean that our lobby will be one where people are dealing drugs?’ I don’t know if it’s necessarily reluctance, but certainly people want to be prudent when signing up for treating substance-abusing patients on a regular basis.”⁴⁴

These concerns were reinforced by stigma experienced by health care providers who offered OAT.^{28,29,39,44,47} “The patient is kind of stigmatised and physicians who work in methadone maintenance are sort of stigmatised. It was very common, when I would say that I work in a methadone clinic, to be called a “juice pusher” by colleagues. It’s just a stigmatised kind of treatment.”⁴⁴

Despite these stigmatized beliefs, health care providers in eight studies also reported that their first-hand interactions in treating patients with OUD ameliorated their worries, concerns, and initial hesitations.^{21-23,28,29,32,38,41}

“...my thinking on this has really changed in the last year...watching what’s happened here...when we started, it was a [buprenorphine] detox program...Then, the issue came up about maintenance...I was against that at first. I just had a belief ... that it’s just better to get clean and sober, and go through whatever you have to do. But, one of the things that...I’ve learned is...people do so well on [buprenorphine]. And, they’re not high, you know...I’ve kind of seen what’s happened here, I’m kind of a believer now.”²¹

Over time, health care providers reported improved relationships with patients, an enhanced ability to differentiate patients with distinct drug issues, an ability to identify patient readiness for behaviour change, confidence denying requests by patients who request prescription opioids for diversion purposes, and personal satisfaction with their patients’ improvement.^{38,47} While these experiences portray that it is possible for providers to overcome their initial reluctance, it is important to note that a subset of health care providers will remain skeptical about the validity, usefulness, and effectiveness of OAT for OUD.²¹

Limitations and Future Directions

While the issues summarized in this review offer some areas where interventions can be targeted in order to support positive behaviour change, overall the body of evidence is somewhat limited due to the quality and scope of included studies.

First, due to the rapid nature of this review and to ensure a manageable dataset, we excluded studies that described experiences with OAT but not specifically issues with accessing these treatments. We also excluded studies that described experiences with OAT other than buprenorphine (and its variations such as Suboxone) and methadone. It is possible that these bodies of literature contain information pertinent to patients’ or providers’ experiences in accessing or offering treatment for OUD, and including them would have added further depth to the results presented here. To compensate for this

potential limitation, additional references of potential interest but that are not included in this review are listed in Appendix 5. Moreover, given the importance of stigma in the treatment of OUD, it is surprising that many of the included studies did not explicitly discuss experiences with stigma by patients and health care providers. While we embedded descriptions of experiences with stigma throughout the findings where they substantiated the main findings, it is noted that we did not identify any research that has synthesized qualitative data on how patients with OUD and their health care providers experience or perceive stigma. Future research may consider conducting qualitative evidence syntheses on stigma specifically to explore how best to alleviate or address stigma-related issues.

Given new formulations are entering the market, it is important to note that no studies were found that discussed newer formulations specifically. To address this gap, we have summarized the benefits and drawbacks of patients' and providers' experiences with existing treatment options (i.e., buprenorphine, methadone, suboxone) in a way that may inform the provision of newer formulations, including extended-release formulations. As experience is gained with these newer formulations, primary research could consider related perspectives and experiences of patients and providers to ensure they are having the intended effects.

Few studies included in this review included the perspectives of both patients and providers. The advantages of conducting a comparative analysis of this nature would reveal strong convergences and divergences with regards to how decisions are made with regards to OAT and what problems patients and providers experience with adherence. Although this review synthesized the perspectives of both groups, an in-depth comparative analysis was not possible and future research may benefit from adopting a comparative lens to identify alignments and tensions between populations.

Finally, although this review included studies that were conducted in a variety of countries and health care settings, no studies were found specifically from the Canadian health care context. While we focused on studies from a comparable health care context to Canada, the lack of Canadian studies has important implications for this review. It is possible that broader structural and functional characteristics of health care ecosystems, for example how different countries are addressing the opioid crisis, may influence the factors discussed in this review. Further, it is possible that depending on individual patient circumstances that some of the identified barriers, for example related to costs, may not apply in a Canadian context. Future research should focus on the Canadian context specifically, and further may explore a comparative analysis to understand whether and how these broader structural, political, and sociological characteristics impact how OAT are viewed, introduced, implemented, and sustained.

Conclusions and Implications for Decision or Policy Making

Rigidity in opioid treatment programs was cited as a common concern by both patients and health care providers. For some patients, rigidity was a strong disincentive that was an impediment to engage in activities of daily living, including recreation and employment. Many patients preferred flexibility in treatment expressing that for them flexibility fostered strength, confidence, and self-efficacy, which they perceived as imperative for their recovery. Health care providers also expressed a preference for flexible treatment programs because they were seen to confer more autonomy in how they designed treatment around their patients' preferences. Moreover, health care providers expressed that strict protocols, rules, and regulations by government agencies or institutions were

strong disincentives to engage in or offer OAT. Fear of stronger regulatory oversight over their clinical activities as a result of providing OAT was commonly expressed by primary care providers included in this review. This convergence between patients' and providers' preferences suggests that flexibility in provision of OAT may be a more advantageous and preferred approach by both patients and providers. However, this need for flexibility should also include provision of more rigid program features to address the specific needs of those patients who describe the structure as beneficial, for example, at the start of formal treatment or immediately after a relapse.

The expressed desire for more flexible treatment programs that emerged through this review matches well with the emergence of new formulations of OATs. For patients who prefer programs that offer more opportunity to engage in life activities including recreation and employment, extended-release formulations may be strongly preferred, as they require less interactions with the health care system and may consequently enable patients to manage competing priorities better. However, as previously stated, given that some patients expressed a preference for more rigid programs, a shared decision must be made between patients and health care providers on which treatment approach is more appropriate and applicable to patients' personal values, beliefs, and life plans. Moreover, patients' preferences will not be static, and there may be a need to revisit treatment preferences, as some patients may prefer rigid programs in the beginning and then opt for more flexible programs once a treatment pattern has been well established. Discussions between patients and health care providers need to be ongoing and consider patients' progress, life circumstances, and personal goals and motivations. Similarly, as many patients may have co-morbid medical conditions, flexible programs should provide other services, for example, psychosocial, behavioral, and rehabilitative therapies.

Health care providers consistently raised knowledge, training, and awareness as barriers to treating OUD with OAT, but also as opportunities to overcome these barriers. Although not discussed explicitly within the studies included in this review, there is an indication that some of the health care providers who hold stigmatized beliefs of addiction services and the patient population also adopt abstinence-based philosophies to recovery. These health care providers also appear to have low awareness, training, knowledge of and experiences interacting with patients with OUD. This review highlighted that in some cases where providers received training and subsequently interacted with OUD patients, some experienced a shift in their philosophy towards recovery from an abstinence philosophy to a harm-reduction philosophy, with the latter philosophy noted in this review as a strong facilitator of positive outcomes from OAT. A harm-reduction philosophy can also result in higher patient satisfaction and stronger relationships with health care providers. In addition to training that targets philosophical orientations to treatment, creating opportunities and space for health care providers to interact with OUD patients may alleviate initial hesitations they may have towards OAT or the patient population. Providing opportunities to develop experiential knowledge may be an effective approach to addressing the personal and logistical factors that obfuscate offering OAT in primary care. Beyond training, making expertise in OUD and addiction medicine more accessible to a wider range of health care providers, specifically those in primary care, was viewed as an important facilitator for offering OAT.

Finally, stigma was a common concern for both patients and providers. For patients, stigma was experienced from society at-large, which included members of the public, family, health care providers, and even other drug users. Experiencing, and fear of, stigma led patients to exhibit a particular set of behaviors – for example, avoiding formal treatment

programs, methadone clinics, or previous drug user environments that reminded them of their addiction. These behaviors were encouraged when health care providers held similar beliefs. At the same time, some health care providers reported experiencing stigma from other providers who offered OAT, which became an ongoing disincentive for them to continue practicing addiction medicine.

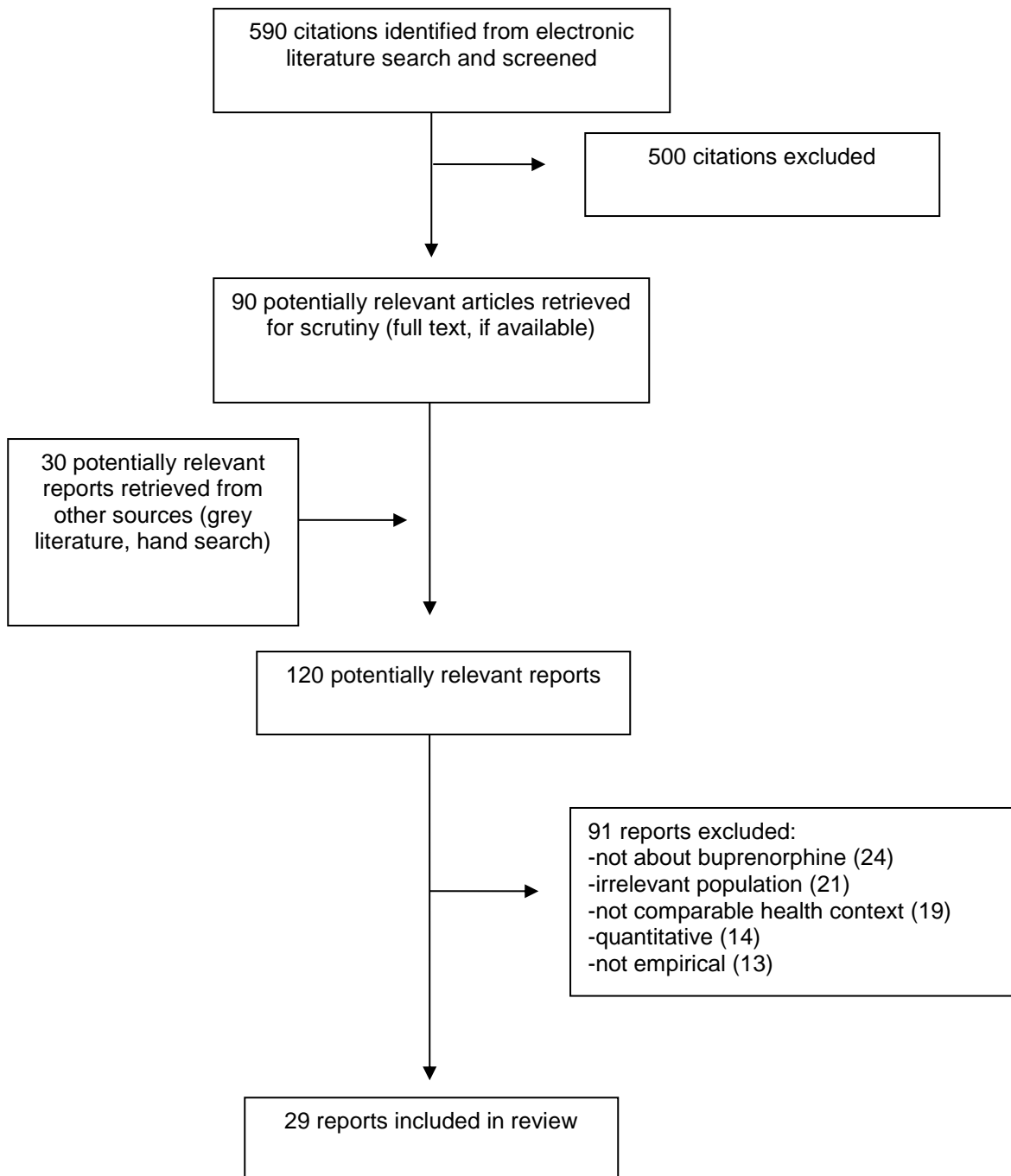
The results of this review highlight the importance of developing OAT programs that address the stigma experienced by patients, and both experienced and expressed by health care providers. Stigma presents itself as both a barrier for health care providers to offer OAT and a barrier for patients to initiate OAT, and therefore addressing the underlying issues are critical to the success of OUD treatment. While new formulations of OAT are emerging that may relieve some barriers, it should be noted that regardless of the intervention, challenges will persist with treatment of OUD, for example stigma, limited enrolment criteria for programs, hesitation by health care providers to offer OAT, and lack of motivation in patients to start and continue treatment.

References

1. Prescription opioids: Canadian drug summary. Ottawa (ON): Canadian Centre Substance Use and Addiction; 2017: <http://staging.ccsa.ca/prescription-opioids-canadian-drug-summary>. Accessed 2019 Apr 30.
2. Opioid-related harms in Canada: chartbook. Ottawa (ON): Canadian Institute for Health Information; 2017: https://secure.cihi.ca/free_products/opioid-harms-chart-book-en.pdf. Accessed 2019 Apr 30.
3. Lyapustina T, Alexander C. The prescription opioid addiction and abuse epidemic: how it happened and what we can do about it. *The Pharmaceutical Journal*. 2015: <https://www.pharmaceutical-journal.com/opinion/comment/the-prescription-opioid-addiction-and-abuse-epidemic-how-it-happened-and-what-we-can-do-about-it/20068579.article?firstPass=false>. Accessed 2019 Apr 30.
4. Volkow ND, McLellan AT. Opioid abuse in chronic pain - misconceptions and mitigation strategies. *N Engl J Med*. 2016;374(13):1253-1263.
5. World Health Organization. International classification of diseases 11th revision - disorders due to substance abuse. 2018: <https://icd.who.int/en/>. Accessed 2019 Apr 30.
6. Blanco C, Volkow ND. Management of opioid use disorder in the USA: present status and future directions. *Lancet*. 2019;393(10182):1760-1772.
7. Saha T, Kerridge BT, Goldstein RB, et al. Nonmedical prescription opioid use and DSM-5 nonmedical prescription opioid use disorder in the United States. *J Clin Psychiatry*. 2016;77(6):772-780.
8. Heimer R, Hawk K, SH V. Prevalent misconceptions about opioid use disorders in the United States produce failed policy and public health responses. *Clin Infect Dis*. 2018:[epub ahead of print].
9. Baser O, Chalk M, Fiellin DA, Gastfriend DR. Cost and utilization outcomes of opioid-dependence treatments. *Am J Manag Care*. 2011;17(Suppl 8):S235-248.
10. Connock M, Juarez-Garcia A, Jowett S, et al. Methadone and buprenorphine for the management of opioid dependence: a systematic review and economic evaluation. *Health Technol Assess*. 2007;11(9):1-171.
11. Lynch F, McCarty D, Mertens J, et al. Costs of care for persons with opioid dependence in commercial integrated health systems. *Addiction Sci Clin Pract*. 2014;9(16).
12. Sofuoglu M, DeVito E, Carroll KM. Pharmacological and behavioral treatment for opioid use disorder. *Psychiatric Research and Clinical Practice (PRCP)* 2018;1(1):4-15.
13. Blanco C, Iza M, Schwartz RP, Rafful C, Wang S, Olfson M. Probability and predictors of treatment-seeking for prescription opioid use disorders: a national study. *Drug Alcohol Depend*. 2013;131(1-2):143-148.
14. Bell J, Trinh L, Butler B, Randall D, Rubin G. Comparing retention in treatment and mortality in people after initial entry to methadone and buprenorphine treatment. *Addiction*. 2009;104(7):1193-1200.
15. Majid U, Vanstone M. Appraising qualitative research for evidence syntheses: a compendium of quality appraisal tools. *Qual Health Res*. 2018;28(13):2115-2131.
16. Carroll C, Booth A, K C. A worked example of "best fit" framework synthesis: a systematic review of views concerning the taking of some potential chemopreventive agents. *BMC Med Res Methodol*. 2011;11(29).
17. Sandelowski M, J. B. Toward a metasynthesis of qualitative findings on motherhood in HIV-positive women. *Res Nurs Health*. 2003;26(2):153-170.
18. Charmaz K. *Constructing grounded theory (2nd edition)*. London (UK): SAGE Publications Ltd; 2014.
19. Thomas J, Harden A. Methods for the thematic synthesis of qualitative research in systematic reviews. *BMC Med Res Methodol*. 2008;10(8):45.
20. Liberati A, Altman DG, Tetzlaff J, et al. The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions: explanation and elaboration. *J Clin Epidemiol*. 2009;62(10):e1-e34.
21. Green CA, McCarty D, Mertens J, et al. A qualitative study of the adoption of buprenorphine for opioid addiction treatment. *J Subst Abuse Treat*. 2014;46(3):390-401.
22. Longman C, Temple-Smith M, Gilchrist G, Lintzeris N. Reluctant to train, reluctant to prescribe: barriers to general practitioner prescribing of opioid substitution therapy. *Australian Journal of Primary Health*. 2012;18(4):346-351.
23. Monico L, Schwartz RP, Gryczynski J, O'Grady KE, Mitchell SG. Two models of integrating buprenorphine treatment and medical staff within formerly "drug-free" outpatient programs. *J Psychoactive Drugs*. 2016;48(2):101-108.
24. Monico LB, Mitchell SG, Gryczynski J, et al. Prior experience with non-prescribed buprenorphine: role in treatment entry and retention. *J Subst Abuse Treat*. 2015;57:57-62.
25. Sohler NL, Weiss L, Egan JE, et al. Consumer attitudes about opioid addiction treatment: a focus group study in New York City. *J Opioid Manag*. 2013;9(2):111-119.
26. Tanner GR, Bordon N, Conroy S, Best D. Comparing methadone and Suboxone in applied treatment settings: the experiences of maintenance patients in Lanarkshire. *J Subst Use*. 2011;16(3):171-178.
27. Barry DT, Irwin KS, Jones ES, et al. Integrating buprenorphine treatment into office-based practice: a qualitative study. *J Gen Intern Med*. 2009;24(2):218-225.
28. Fraeyman J, Symons L, Van Royen P, Van Hal G, Peremans L. How to overcome hurdles in opiate substitution treatment? A qualitative study with general practitioners in Belgium. *Eur J Gen Pract*. 2016;22(2):134-140.
29. Gordon AJ, Kavanagh G, Krumm M, et al. Facilitators and barriers in implementing buprenorphine in the Veterans Health Administration. *Psychol Addict Behav*. 2011;25(2):215-224.
30. Hewell VM, Vasquez AR, Rivkin ID. Systemic and individual factors in the buprenorphine treatment-seeking process: a qualitative study. *Subst Abuse Treat Prev Policy*. 2017;12(1):3.
31. McClure B, Mendoza S, Duncan L, Rotrosen J, Hansen H. Effects of regulation on methadone and buprenorphine provision in the wake of Hurricane Sandy. *J Urban Health*. 2014;91(5):999-1008.

32. Mendoza S, Rivera-Cabrero AS, Hansen H. Shifting blame: buprenorphine prescribers, addiction treatment, and prescription monitoring in middle-class America. *Transcultural Psychiatry*. 2016;53(4):465-487.
33. Notley C, Blyth A, Maskrey V, Pinto H, Holland R. Exploring the concepts of abstinence and recovery through the experiences of long-term opiate substitution clients. *Subst Abus*. 2015;36(2):232-239.
34. Notley C, Holland R, Maskrey V, Nagar J, Kouimtsidis C. Regaining control: the patient experience of supervised compared with unsupervised consumption in opiate substitution treatment. *Drug & Alcohol Review*. 2014;33(1):64-70.
35. Yarborough BJH, Stumbo SP, McCarty D, Mertens J, Weisner C, Green CA. Methadone, buprenorphine and preferences for opioid agonist treatment: a qualitative analysis. *Drug Alcohol Depend*. 2016;160:112-118.
36. Hatcher AE, Mendoza S, Hansen H. At the expense of a life: race, class, and the meaning of buprenorphine in pharmaceuticalized "care". *Subst Use Misuse*. 2018;53(2):301-310.
37. Korhuis PT, Gregg J, Rogers WE, McCarty D, Nicolaidis C, Boverman J. Patients' reasons for choosing office-based buprenorphine: preference for patient-centered care. *J Addict Med*. 2010;4(4):204-210.
38. Scarborough J, Elliott J, Braunack-Mayer A. Opioid substitution therapy--a study of GP participation in prescribing. *Aust Fam Physician*. 2011;40(4):241-245.
39. Johnson B, Richert T. Diversion of methadone and buprenorphine from opioid substitution treatment: a staff perspective. *J Psychoactive Drugs*. 2014;46(5):427-435.
40. Johnson B, Richert T. Diversion of methadone and buprenorphine from opioid substitution treatment: patients who regularly sell or share their medication. *J Addict Dis*. 2015;34(1):1-17.
41. Molfenter T, Sherbeck C, Zehner M, et al. Implementing buprenorphine in addiction treatment: payer and provider perspectives in Ohio. *Subst Abuse Treat Prev Policy*. 2015;10:13.
42. Richert T, Johnson B. Long-term self-treatment with methadone or buprenorphine as a response to barriers to opioid substitution treatment: the case of Sweden. *Harm Reduction Journal*. 2015;12:1.
43. Truong C, Krawczyk N, Dejman M, et al. Challenges on the road to recovery: exploring attitudes and experiences of clients in a community-based buprenorphine program in Baltimore City. *Addict Behav*. 2019;93:14-19.
44. Harris S. To be free and normal: addiction, governance, and the therapeutics of buprenorphine. *Med Anthropol Q*. 2015;29(4):512-530.
45. Wood P, Opie C, Tucci J, Franklin R, Anderson K. "A lot of people call it liquid handcuffs" - barriers and enablers to opioid replacement therapy in a rural area. *J Subst Use*. 2019;24(2):150-155.
46. Teruya C, Schwartz RP, Mitchell SG, et al. Patient perspectives on buprenorphine/naloxone: a qualitative study of retention during the starting treatment with agonist replacement therapies (START) study. *J Psychoactive Drugs*. 2014;46(5):412-426.
47. Yadav R, Taylor D, Taylor G, Scott J. Community pharmacists' role in preventing opioid substitution therapy-related deaths: a qualitative investigation into current UK practice. *Int J Clin Pharm*. 2019;15:15.
48. Bishop B, Gilmour J, Deering D. Readiness and recovery: transferring between methadone and buprenorphine/naloxone for the treatment of opioid use disorder. *Int J Ment Health Nurs*. 2019;28(1):226-236.
49. Furst RT. Suboxone misuse along the opiate maintenance treatment pathway. *J Addict Dis*. 2013;32(1):53-67.

Appendix 1: Selection of Included Studies



Appendix 2: Characteristics of Included Studies

Table 2: Characteristics of Included Studies

First Author, Publication Year, Country	Study Design or Analytic Approach	Study Objectives	Study Setting	Sample Size	Inclusion Criteria	Data Collection*
Bishop, 2019, New Zealand ⁴⁸	Qualitative description	Understand the perspectives of patients receiving buprenorphine / naloxone for the treatment of OUD	NR	7 patients with OUD	Patients with OUD who are being treated with buprenorphine / naloxone	Semi-structured interviews
Truong, 2019, United States ⁴³	Content and textual analysis	Identify and describe the experiences and challenges to retention of individuals with OUD	Buprenorphine peer-recovery centre	11 patients with OUD	Active clients of buprenorphine treatment programs	Semi-structured interviews and focus groups
Wood, 2019, Australia ⁴⁵	Narrative analysis	Explore the barriers and enablers to opioid replacement therapy in rural areas	Rural community services	12 patients with OUD	Patients currently engaging in opioid replacement treatment in rural communities	Semi-structured interviews
Yadav, 2019, United Kingdom ⁴⁷	Interpretive phenomenology	Explore what community pharmacists think about their role in preventing opioid substitution-related deaths, their understanding of the risks associated with this substitution therapy, and their views on what else community pharmacists could do to reduce deaths	Community pharmacies	24 community pharmacists	Community pharmacists with experience in provision of health care services for substance misuse	Semi-structured interviews
Hatcher, 2018, United States ³⁶	Thematic analysis and adapted approaches	Examine the differences in patients' experiences of stigma in relation to their need for psychosocial supports and	Primary care clinics and outpatient substance abuse clinics	77 patients with OUD	Patients on buprenorphine maintenance treatment	Semi-structured interviews

First Author, Publication Year, Country	Study Design or Analytic Approach	Study Objectives	Study Setting	Sample Size	Inclusion Criteria	Data Collection*
		services				
Hewell, 2017, United States ³⁰	Grounded theory and adapted approaches	Understand the treatment-seeking process in order to address barriers to treatment, facilitate effective service utilisation, and inform policy	Community substance abuse centre	11 patients with OUD	Patients with OUD who have used or considered using buprenorphine for OUD	Semi-structured interviews and focus groups
Fraeyman, 2016, Belgium ²⁸	Grounded theory and adapted approaches	Formulate recommendations to increase engagement of primary care physicians in opioid substitution treatment	Primary care clinics	31 primary care physicians	Primary care physicians with involvement in methadone substitution therapy	Semi-structured interviews and focus groups
Mendoza, 2016, United States ³²	Grounded theory and adapted approaches	Investigate the impact of state and federal regulations on prescribers of opioid maintenance treatment	General hospitals	53 community-based health care providers	Community physicians who prescribe buprenorphine to patients	Semi-structured interviews
Monico, 2016, United States ²³	Not specified	Examine staff perceptions of organizational dynamics associated with the delivery of buprenorphine maintenance within three drug-free outpatient treatment programs	Hospital outpatient program and a community-based opioid program	5 clinic directors, 5 clinical supervisors, 5 counselors, 5 nurses, and 5 physicians	Health care providers or administrators with experience in providing buprenorphine in clinical practice	Semi-structured interviews
Yarborough, 2016, United States ³⁵	Grounded theory and adapted approaches	Examine adoption of buprenorphine	General hospital system	283 patients with OUD	Patients with two or more diagnoses of opioid dependence	Semi-structured interviews
Harris, 2015, United States ⁴⁴	Narrative analysis	Analyze how discourses of freedom and normalcy in patient and	Methadone clinics and office-based buprenorphine programs	13 patients with OUD, 5 physicians, 3 nurses, 1 therapist, and 1	Patients taking methadone or buprenorphine at local treatment	Semi-structured interviews and participant

First Author, Publication Year, Country	Study Design or Analytic Approach	Study Objectives	Study Setting	Sample Size	Inclusion Criteria	Data Collection*
		provider narratives reflect and affect experiences with buprenorphine		pharmacist	programs; health care providers with experiences giving methadone or buprenorphine to patients	observation
Johnson, 2015, Sweden ⁴⁰	Content and textual analysis	Examine patients in opioid substitution treatment who regularly sell or share part of their medication to other users who are not in treatment	Opioid substitution treatment programs	14 patients with OUD	Patients who engaged in diversion – selling, exchanging, or giving away at least one-third of their prescribed dose	Semi-structured interviews
Molfenter, 2015, United States ⁴¹	Content and textual analysis	Gather insight into the barriers and facilitators in buprenorphine adoption	County addiction treatment centres	18 county board participants and 36 health care providers	Health care providers from institutions that had greater than 100 admissions per year	Semi-structured interviews
Monico, 2015, United States ²⁴	Not specified	Examine the association between use of non-prescribed buprenorphine and subsequent treatment entry and retention	Outpatient buprenorphine programs	20 patients with OUD	African-American patients with OUD	Semi-structured interviews
Notley, 2015, United Kingdom ³³	Grounded theory and adapted approaches	Explore the client experience of long-term opioid substitution treatment	Rural community drug treatment service	27 patients with OUD	Patients with OUD who are long-term opioid substitution treatment clients – defined as maintaining treatment for at least five years continuously	Semi-structured interviews
Richert, 2015, Sweden ⁴²	Content and textual analysis	Investigate the motives for self-treatment and attitudes and perceived barriers to opioid substitution	Opioid substitution treatment and needle exchange programs	27 patients with OUD	Patients who have treated themselves with methadone or buprenorphine for at least three months	Semi-structured interviews

First Author, Publication Year, Country	Study Design or Analytic Approach	Study Objectives	Study Setting	Sample Size	Inclusion Criteria	Data Collection*
		treatment among drug users with opioid dependence				
Green, 2014, United States ²¹	Not specified	Examine the adoption of buprenorphine in two not-for-profit integrated health plans, over time	Inpatient addiction treatment programs in general hospitals	101 clinicians and clinician-administrators	Clinicians responsible for providing treatment to a significant number of patients with opioid addictions	Semi-structured interviews
Johnson, 2014, Sweden ³⁹	Content and textual analysis	Discuss existing ideas and attitudes toward diversion of methadone and buprenorphine among opioid substitution treatment staff	Opioid substitution treatment programs	7 nurses, 7 counselors or case workers, 6 physicians, 3 department leads, 1 psychiatry aide, 1 psychologist	NR	Semi-structured interviews
McClure, 2014, United States ³¹	Grounded theory and adapted approaches	Assess two modalities of treatment under emergency conditions by analyzing the barriers to and facilitators of continuity of care for methadone and buprenorphine patients	General hospitals and Veterans Affairs facilities	41 health care providers, 8 administrators, and 1 provider-administrator	Health care providers and administrators involved in pharmacological treatment for opioid dependence using methadone and/or buprenorphine	Semi-structured interviews
Notley, 2014, United Kingdom ³⁴	Grounded theory and adapted approaches	Assess the patient experience of receiving supervised compared with unsupervised consumption of methadone or buprenorphine	NR	29 patients with OUD and 55 health care professionals (pharmacists and physicians)	NR	Semi-structured interviews and focus groups
Teruya, 2014, United States ⁴⁶	Constant comparative method	Examine the barriers and facilitators of retention among patients receiving	Community-based opioid treatment program	67 patients with OUD	NR	Semi-structured interviews

First Author, Publication Year, Country	Study Design or Analytic Approach	Study Objectives	Study Setting	Sample Size	Inclusion Criteria	Data Collection*
		buprenorphine / naloxone at a community-based opioid treatment program				
Furst, 2013, United States ⁴⁹	Ethnography	Explore the strategies that Suboxone misusers utilize while in drug treatment	Harm reduction facility	14 patients with OUD	Patients who stopped and resumed Suboxone treatment	Semi-structured interviews
Sohler, 2013, United States ²⁵	Not specified	Monitor attitudes about opioid addiction treatments among opioid users who have experienced barriers to engagement and retention to treatment	Needle exchange programs	38 patients with OUD	Current or past users of heroin or illicit prescription opioids	Focus groups
Longman, 2012, Australia ²²	Not specified	Determine the reasons for why primary care physicians declined training for opioid substitution therapy and why those with training prescribe few or no patients	Primary care clinics	22 primary care physicians	Primary care physicians who declined invitation to training, who accepted but did not complete the process, who completed but did not commence prescribing practice, who completed training and commenced prescribing immediately	Semi-structured interviews
Gordon, 2011, United States ²⁹	Grounded theory and adapted approaches	Examine and describe provider-, facility-, and system-level barriers and facilitators to implementing buprenorphine therapy within the Veterans Health	Veterans Affairs facilities	101 health care providers (67% physicians)	Addiction medicine physicians, primary care physicians, pain medicine physicians, directors of opioid treatment programs, and	Semi-structured interviews

First Author, Publication Year, Country	Study Design or Analytic Approach	Study Objectives	Study Setting	Sample Size	Inclusion Criteria	Data Collection*
		Administration			pharmacists	
Scarborough, 2011, Australia ³⁸	Thematic analysis and adapted approaches	Look at the perceptions and experiences of primary care physicians involved in prescribing opioid substitution therapy	Primary care clinics	8 primary care physicians	Previous or current prescribers of opioid substitution treatment programs	Semi-structured interviews
Tanner, 2011, United Kingdom ²⁶	Not specified	Assess the experiences of clients who had experienced Suboxone and methadone to report on the strengths and weaknesses of each	NR	12 patients with OUD	Patients with OUD who had been successful in switching between methadone and Suboxone and who were still undergoing treatment	Written narrative accounts
Korthuis, 2010, United States ³⁷	Thematic analysis and adapted approaches	Explore HIV-infected patients' attitudes about buprenorphine treatment in office-based and opioid treatment programs	Primary care clinics and community substance abuse programs	29 patients with OUD	Patients with co-existing HIV infection and opioid dependence seeking buprenorphine maintenance therapy in office-based settings	Semi-structured interviews
Barry, 2009, United States ²⁷	Grounded theory and adapted approaches	Identify the facilitators and barriers to potential or actual implementation of buprenorphine maintenance therapy by office-based medical providers	Primary care clinics	23 primary care physicians	Primary care physicians who provide buprenorphine treatment	Semi-structured interviews

NR = Not Reported; OUD = opioid use disorder

*The data collection strategies for the qualitative portion only of multiple- and mixed-methods studies are shown in this column

Appendix 3: Characteristics of Study Participants

Table 3: Characteristics of Study Participants

First Author, Publication Year, Country	Sample Size	Sex (% male)	Age range in years	Other relevant variable(s)
Bishop, 2019, New Zealand ⁴⁸	7 patients with OUD	71.4	25-65	Buprenorphine/naloxone and methadone
Truong, 2019, United States ⁴³	11 patients with OUD	NR	30-70	Buprenorphine only
Wood, 2019, Australia ⁴⁵	12 patients with OUD	66.7	18-60	Buprenorphine/naloxone and methadone
Yadav, 2019, United Kingdom ⁴⁷	24 community pharmacists	41.7	NR	General
Hatcher, 2018, United States ³⁶	77 patients with OUD	77.9	37-56	Buprenorphine only
Hewell, 2017, United States ³⁰	11 patients with OUD	37.0	NR	Buprenorphine only
Fraeyman, 2016, Belgium ²⁸	31 primary care physicians	41.9	NR	Methadone only
Mendoza, 2016, United States ³²	53 community-based health care providers	NR	NR	Buprenorphine only
Monico, 2016, United States ²³	5 clinic directors, 5 clinical supervisors, 5 counselors, 5 nurses, and 5 physicians	20.0	NR	Buprenorphine only
Yarborough, 2016, United States ³⁵	283 patients with OUD	45.5	28-52	Buprenorphine and methadone
Harris, 2015, United States ⁴⁴	13 patients with OUD, 5 physicians, 3 nurses, 1 therapist, and 1 pharmacist	NR	NR	Buprenorphine and methadone
Johnson, 2015, Sweden ⁴⁰	14 patients with OUD	71.4	23-53	Buprenorphine/naloxone and methadone
Molfenter, 2015, United States ⁴¹	18 county board participants and 36 health care providers	NR	NR	Buprenorphine only
Monico, 2015, United States ²⁴	20 patients with OUD	NR	NR	Buprenorphine only

First Author, Publication Year, Country	Sample Size	Sex (% male)	Age range in years	Other relevant variable(s)
Notley, 2015, United Kingdom ³³	27 patients with OUD	66.7	NR	Buprenorphine and methadone
Richert, 2015, Sweden ⁴²	27 patients with OUD	74.1	24-53	Buprenorphine and methadone
Green, 2014, United States ²¹	101 clinicians and clinician-administrators	NR	NR	Buprenorphine only
Johnson, 2014, Sweden ³⁹	7 nurses, 7 counselors or case workers, 6 physicians, 3 department leads, 1 psychiatry aide, 1 psychologist	NR	NR	Buprenorphine and methadone
McClure, 2014, United States ³¹	41 health care providers, 8 administrators, and 1 provider-administrator	NR	NR	Buprenorphine and methadone
Notley, 2014, United Kingdom ³⁴	29 patients with OUD and 55 health care professionals (pharmacists and physicians)	NR	NR	Buprenorphine and methadone
Teruya, 2014, United States ⁴⁶	67 patients with OUD	NR	NR	Buprenorphine/naloxone
Furst, 2013, United States ⁴⁹	14 patients with OUD	29	26-57	Buprenorphine/naloxone
Sohler, 2013, United States ²⁵	38 patients with OUD	87.0	34-54	Buprenorphine and methadone
Longman, 2012, Australia ²²	22 primary care physicians	NR	NR	General
Gordon, 2011, United States ²⁹	101 health care providers (67% physicians)	NR	NR	Buprenorphine only
Scarborough, 2011, Australia ³⁸	8 primary care physicians	NR	40-86	General
Tanner, 2011, United Kingdom ²⁶	12 patients with OUD	NR	NR	Buprenorphine/naloxone and methadone
Korthuis, 2010, United States ³⁷	29 patients with OUD	79.0	20-58	Buprenorphine only
Barry, 2009, United States ²⁷	23 primary care physicians	45.0	NR	Buprenorphine and methadone

NR = Not Reported; OUD = opioid use disorder

Appendix 4: Critical Appraisal of Included Studies

Table 4: Strengths and Limitations of Included Studies

Strengths	Limitations
Bishop, 2019⁴⁸	
<ul style="list-style-type: none"> • Clear statement of research objectives and/or question • Clear description of the phenomenon under investigation • Identification of a qualitative methodology or analytic approach and how it was applied in the study context • Clear description of how and from where participants were recruited • Data analysis strategies were identified and discussed in adequate detail • Strategies to improve rigor of the study were identified and discussed in sufficient detail 	<ul style="list-style-type: none"> • The data collection strategies are identified but specific procedures and protocols that guide data collection lack sufficient detail
Truong, 2019⁴³	
<ul style="list-style-type: none"> • Clear statement of research objectives and/or question • Clear description of the phenomenon under investigation • Identification of a qualitative methodology or analytic approach and how it was applied in the study context • Data analysis strategies were identified and discussed in adequate detail 	<ul style="list-style-type: none"> • The participant recruitment and selection process is reported but requires additional detail • The data collection strategies are identified but specific procedures and protocols that guide data collection lack sufficient detail • Strategies to improve the rigour of research were not identified or discussed
Wood, 2019⁴⁵	
<ul style="list-style-type: none"> • Clear statement of research objectives and/or question • Clear description of the phenomenon under investigation • Identification of a qualitative methodology or analytic approach and how it was applied in the study context 	<ul style="list-style-type: none"> • The participant recruitment and selection process is reported but requires additional detail • The data collection strategies are identified but specific procedures and protocols that guide data collection lack sufficient detail • Data analysis is discussed but the description is lacking specific processes, devices, and approaches to guide data analysis • Strategies to improve the rigour of research were not identified or discussed
Yadav, 2019⁴⁷	
<ul style="list-style-type: none"> • Clear statement of research objectives and/or question • Clear description of the phenomenon under investigation • Identification of a qualitative methodology or analytic approach and how it was applied in the study context • Clear description of how and from where participants were recruited • Data analysis strategies were identified and discussed in adequate detail 	<ul style="list-style-type: none"> • The data collection strategies are identified but specific procedures and protocols that guide data collection lack sufficient detail • Strategies to improve the rigour of research were not identified or discussed
Hatcher, 2018³⁶	
<ul style="list-style-type: none"> • Clear statement of research objectives and/or question • Clear description of the phenomenon under investigation • Clear description of how and from where participants were 	<ul style="list-style-type: none"> • It is unclear which qualitative methodology or analytic approach was used to guide the data collection and analysis process

Strengths	Limitations
recruited	<ul style="list-style-type: none"> The data collection strategies are identified but specific procedures and protocols that guide data collection lack sufficient detail Data analysis is discussed but the description is lacking specific processes, devices, and approaches to guide data analysis Strategies to improve the rigour of research were not identified or discussed
Hewell, 2017³⁰	
<ul style="list-style-type: none"> Clear statement of research objectives and/or question Clear description of the phenomenon under investigation Identification of a qualitative methodology or analytic approach and how it was applied in the study context Clear description of how and from where participants were recruited Strategies to collect data were identified and justified in adequate detail 	<ul style="list-style-type: none"> Data analysis is discussed but the description is lacking specific processes, devices, and approaches to guide data analysis Strategies to improve the rigour of research were not identified or discussed
Fraeyman, 2016²⁸	
<ul style="list-style-type: none"> Clear description of the phenomenon under investigation Identification of a qualitative methodology or analytic approach and how it was applied in the study context 	<ul style="list-style-type: none"> Research objectives are not consistent with the proposed qualitative methodology or analytic approach The participant recruitment and selection process is reported but requires additional detail The data collection strategies are identified but specific procedures and protocols that guide data collection lack sufficient detail Data analysis is discussed but the description is lacking specific processes, devices, and approaches to guide data analysis Strategies to improve the rigour of research were not identified or discussed
Mendoza, 2016³²	
<ul style="list-style-type: none"> Clear statement of research objectives and/or question Clear description of the phenomenon under investigation Clear description of how and from where participants were recruited 	<ul style="list-style-type: none"> It is unclear which qualitative methodology or analytic approach was used to guide the data collection and analysis process The aggregated summary characteristics of participants (age, sex, proportion of males) are not reported The data collection strategies are identified but specific procedures and protocols that guide data collection lack sufficient detail Data analysis is discussed but the description is lacking specific processes, devices, and approaches to guide data analysis Strategies to improve the rigour of research were not identified or discussed
Monico, 2016²³	
<ul style="list-style-type: none"> Clear statement of research objectives and/or question Clear description of the phenomenon under investigation Strategies to collect data were identified and justified in 	<ul style="list-style-type: none"> It is unclear which qualitative methodology or analytic approach was used to guide the data collection and analysis process

Strengths	Limitations
<ul style="list-style-type: none"> adequate detail Data analysis strategies were identified and discussed in adequate detail 	<ul style="list-style-type: none"> The participant recruitment and selection process is reported but requires additional detail Strategies to improve the rigour of research were not identified or discussed
Yarborough, 2016³⁵	
<ul style="list-style-type: none"> Clear description of the phenomenon under investigation Identification of a qualitative methodology or analytic approach and how it was applied in the study context Clear description of how and from where participants were recruited Data analysis strategies were identified and discussed in adequate detail Strategies to improve rigor of the study were identified and discussed in sufficient detail 	<ul style="list-style-type: none"> The research objectives and/or question are unclear and require elaboration The data collection strategies are identified but specific procedures and protocols that guide data collection lack sufficient detail
Harris, 2015⁴⁴	
<ul style="list-style-type: none"> Clear statement of research objectives and/or question Clear description of the phenomenon under investigation Strategies to collect data were identified and justified in adequate detail 	<ul style="list-style-type: none"> It is unclear which qualitative methodology or analytic approach was used to guide the data collection and analysis process The participant recruitment and selection process is reported but requires additional detail Data analysis is discussed but the description is lacking specific processes, devices, and approaches to guide data analysis Strategies to improve the rigour of research were not identified or discussed
Johnson, 2015⁴⁰	
<ul style="list-style-type: none"> Clear statement of research objectives and/or question Clear description of the phenomenon under investigation Clear description of how and from where participants were recruited 	<ul style="list-style-type: none"> It is unclear which qualitative methodology or analytic approach was used to guide the data collection and analysis process The participant recruitment and selection process is not reported The data collection strategies are identified but specific procedures and protocols that guide data collection lack sufficient detail Data analysis is discussed but the description is lacking specific processes, devices, and approaches to guide data analysis Strategies to improve the rigour of research were not identified or discussed
Molfenter, 2015⁴¹	
<ul style="list-style-type: none"> Clear statement of research objectives and/or question Clear description of the phenomenon under investigation Identification of a qualitative methodology or analytic approach and how it was applied in the study context Clear description of how and from where participants were recruited Strategies to collect data were identified and justified in adequate detail Data analysis strategies were identified and discussed in 	<ul style="list-style-type: none"> The aggregated summary characteristics of participants (age, sex, proportion of males) are not reported Strategies to improve the rigour of research were not identified or discussed

Strengths	Limitations
adequate detail	
Monico, 2015²⁴	
<ul style="list-style-type: none"> • Clear description of the phenomenon under investigation 	<ul style="list-style-type: none"> • Research objectives are not consistent with the proposed qualitative methodology or analytic approach • It is unclear which qualitative methodology or analytic approach was used to guide the data collection and analysis process • The participant recruitment and selection process is reported but requires additional detail • The data collection strategies are identified but specific procedures and protocols that guide data collection lack sufficient detail • Data analysis is discussed but the description is lacking specific processes, devices, and approaches to guide data analysis • Strategies to improve the rigour of research were not identified or discussed
Notley, 2015³³	
<ul style="list-style-type: none"> • Clear statement of research objectives and/or question • Clear description of the phenomenon under investigation • Identification of a qualitative methodology or analytic approach and how it was applied in the study context • Clear description of how and from where participants were recruited • Data analysis strategies were identified and discussed in adequate detail 	<ul style="list-style-type: none"> • The data collection strategies are identified but specific procedures and protocols that guide data collection lack sufficient detail • Strategies to improve the rigour of research were not identified or discussed
Richert, 2015⁴²	
<ul style="list-style-type: none"> • Clear statement of research objectives and/or question • Clear description of the phenomenon under investigation • Clear description of how and from where participants were recruited • Strategies to collect data were identified and justified in adequate detail 	<ul style="list-style-type: none"> • It is unclear which qualitative methodology or analytic approach was used to guide the data collection and analysis process • Data analysis is discussed but the description is lacking specific processes, devices, and approaches to guide data analysis • Strategies to improve the rigour of research were not identified or discussed
Green, 2014²¹	
<ul style="list-style-type: none"> • Clear statement of research objectives and/or question • Clear description of the phenomenon under investigation • Clear description of how and from where participants were recruited • Data analysis strategies were identified and discussed in adequate detail 	<ul style="list-style-type: none"> • It is unclear which qualitative methodology or analytic approach was used to guide the data collection and analysis process • The aggregated summary characteristics of participants (age, sex, proportion of males) are not reported • The data collection strategies are identified but specific procedures and protocols that guide data collection lack sufficient detail • Strategies to improve the rigour of research were not identified or discussed
Johnson, 2014³⁹	

Strengths	Limitations
<ul style="list-style-type: none"> • Clear statement of research objectives and/or question • Clear description of the phenomenon under investigation • Identification of a qualitative methodology or analytic approach and how it was applied in the study context • Data analysis strategies were identified and discussed in adequate detail 	<ul style="list-style-type: none"> • The participant recruitment and selection process is reported but requires additional detail • The aggregated summary characteristics of participants (age, sex, proportion of males) are not reported • The data collection strategies are identified but specific procedures and protocols that guide data collection lack sufficient detail • Strategies to improve the rigour of research were not identified or discussed
McClure, 2014³¹	
<ul style="list-style-type: none"> • Clear statement of research objectives and/or question • Clear description of the phenomenon under investigation • Identification of a qualitative methodology or analytic approach and how it was applied in the study context • Clear description of how and from where participants were recruited 	<ul style="list-style-type: none"> • The aggregated summary characteristics of participants (age, sex, proportion of males) are not reported • The data collection strategies are identified but specific procedures and protocols that guide data collection lack sufficient detail • Data analysis is discussed but the description is lacking specific processes, devices, and approaches to guide data analysis • Strategies to improve the rigour of research were not identified or discussed
Notley, 2014³⁴	
<ul style="list-style-type: none"> • Clear statement of research objectives and/or question • Clear description of the phenomenon under investigation • Identification of a qualitative methodology or analytic approach and how it was applied in the study context • Clear description of how and from where participants were recruited • Data analysis strategies were identified and discussed in adequate detail 	<ul style="list-style-type: none"> • The aggregated summary characteristics of participants (age, sex, proportion of males) are not reported • The data collection strategies are identified but specific procedures and protocols that guide data collection lack sufficient detail • Strategies to improve the rigour of research were not identified or discussed
Teruya, 2014⁴⁶	
<ul style="list-style-type: none"> • Clear statement of research objectives and/or question • Clear description of the phenomenon under investigation • Identification of a qualitative methodology or analytic approach and how it was applied in the study context • Clear description of how and from where participants were recruited • Data analysis strategies were identified and discussed in adequate detail 	<ul style="list-style-type: none"> • The data collection strategies are identified but specific procedures and protocols that guide data collection lack sufficient detail • Strategies to improve the rigour of research were not identified or discussed
Furst, 2013⁴⁹	
<ul style="list-style-type: none"> • Clear statement of research objectives and/or question • Clear description of the phenomenon under investigation • Clear description of how and from where participants were recruited • Strategies to collect data were identified and justified in adequate detail 	<ul style="list-style-type: none"> • It is unclear which qualitative methodology or analytic approach was used to guide the data collection and analysis process • Data analysis is discussed but the description is lacking specific processes, devices, and approaches to guide data analysis • Strategies to improve the rigour of research were not identified or discussed

Strengths	Limitations
Sohler, 2013²⁵	
<ul style="list-style-type: none"> • Clear description of the phenomenon under investigation • Clear description of how and from where participants were recruited • Strategies to collect data were identified and justified in adequate detail 	<ul style="list-style-type: none"> • The research objectives and/or question are unclear and require elaboration • It is unclear which qualitative methodology or analytic approach was used to guide the data collection and analysis process • Data analysis is discussed but the description is lacking specific processes, devices, and approaches to guide data analysis • Strategies to improve the rigour of research were not identified or discussed
Longman, 2012²²	
<ul style="list-style-type: none"> • Clear statement of research objectives and/or question • Clear description of the phenomenon under investigation • Clear description of how and from where participants were recruited 	<ul style="list-style-type: none"> • It is unclear which qualitative methodology or analytic approach was used to guide the data collection and analysis process • The aggregated summary characteristics of participants (age, sex, proportion of males) are not reported • The data collection strategies are identified but specific procedures and protocols that guide data collection lack sufficient detail • Data analysis is discussed but the description is lacking specific processes, devices, and approaches to guide data analysis • Strategies to improve the rigour of research were not identified or discussed
Gordon, 2011²⁹	
<ul style="list-style-type: none"> • Clear statement of research objectives and/or question • Clear description of the phenomenon under investigation • Identification of a qualitative methodology or analytic approach and how it was applied in the study context • Clear description of how and from where participants were recruited • Data analysis strategies were identified and discussed in adequate detail 	<ul style="list-style-type: none"> • The aggregated summary characteristics of participants (age, sex, proportion of males) are not reported • The data collection strategies are identified but specific procedures and protocols that guide data collection lack sufficient detail • Strategies to improve the rigour of research were not identified or discussed
Scarborough, 2011³⁸	
<ul style="list-style-type: none"> • Clear statement of research objectives and/or question • Clear description of the phenomenon under investigation • Identification of a qualitative methodology or analytic approach and how it was applied in the study context 	<ul style="list-style-type: none"> • The participant recruitment and selection process is reported but requires additional detail • The aggregated summary characteristics of participants (age, sex, proportion of males) are not reported • The data collection strategies are identified but specific procedures and protocols that guide data collection lack sufficient detail • Data analysis is discussed but the description is lacking specific processes, devices, and approaches to guide data analysis • Strategies to improve the rigour of research was not identified or discussed

Strengths	Limitations
Tanner, 2011²⁶	
<ul style="list-style-type: none"> • Clear statement of research objectives and/or question • Clear description of the phenomenon under investigation • Clear description of how and from where participants were recruited • Strategies to collect data were identified and justified in adequate detail 	<ul style="list-style-type: none"> • It is unclear which qualitative methodology or analytic approach was used to guide the data collection and analysis process • Data analysis is discussed but the description is lacking specific processes, devices, and approaches to guide data analysis • Strategies to improve the rigour of research were not identified or discussed
Korthuis, 2010³⁷	
<ul style="list-style-type: none"> • Clear statement of research objectives and/or question • Clear description of the phenomenon under investigation • Identification of a qualitative methodology or analytic approach and how it was applied in the study context • Clear description of how and from where participants were recruited • Strategies to collect data were identified and justified in adequate detail • Data analysis strategies were identified and discussed in adequate detail 	<ul style="list-style-type: none"> • Strategies to improve the rigour of research were not identified or discussed
Barry, 2009²⁷	
<ul style="list-style-type: none"> • Clear statement of research objectives and/or question • Clear description of the phenomenon under investigation • Identification of a qualitative methodology or analytic approach and how it was applied in the study context • Clear description of how and from where participants were recruited • Data analysis strategies were identified and discussed in adequate detail 	<ul style="list-style-type: none"> • The data collection strategies are identified but specific procedures and protocols that guide data collection lack sufficient detail

Appendix 5: Additional References of Potential Interest

Focus on other aspects of OUD

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.

[PubMed: PM27692193](#)

Beitel M, Oberleitner L, Kahn M, et al. Drug counselor responses to patients' pain reports: a qualitative investigation of barriers and facilitators to treating patients with chronic pain in methadone maintenance treatment. *Pain Med*. 2017;18(11):2152-2161.

[PubMed: PM28177509](#)

Berg KM, Arnsten JH, Sacajiu G, Karasz A. Providers' experiences treating chronic pain among opioid-dependent drug users. *J Gen Intern Med*. 2009;24(4):482-488.

[PubMed: PM19189194](#)

Brown SE, Altice FL. Self-management of buprenorphine/naloxone among online discussion board users. *Subst Use Misuse*. 2014;49(8):1017-1024.

[PubMed: PM24779501](#)

De Maeyer J, Vanderplasschen W, Camfield L, Vanheule S, Sabbe B, Broekaert E. A good quality of life under the influence of methadone: a qualitative study among opiate-dependent individuals. *Int J Nurs Stud*. 2011;48(10):1244-1257.

[PubMed: PM21481390](#)

Drainoni ML, Farrell C, Sorensen-Alawad A, Palmisano JN, Chaisson C, Walley AY. Patient perspectives of an integrated program of medical care and substance use treatment. *AIDS Patient Care STDS*. 2014;28(2):71-81.

[PubMed: PM24428768](#)

Fox AD, Masyukova M, Cunningham CO. Optimizing psychosocial support during office based buprenorphine treatment in primary care: patients' experiences and preferences. *Subst Abuse*. 2016;37(1):70-75.

[PubMed: PM26566712](#)

Kenny K, O'Carroll A. The use of psychotherapeutic interventions by primary care GPs in Ireland in the treatment of their methadone patients: a grounded theory study. *Ir J Med Sci*. 2012;181(1):43-48.

[PubMed: PM21850472](#)

Malvini Redden S, Tracy SJ, Shafer MS. A metaphor analysis of recovering substance abusers' sensemaking of medication assisted treatment. *Qual Health Res*. 2013;23(7):951-962.

[PubMed: PM23649657](#)

Oliva EM, Nevedal A, Lewis ET, et al. Patient perspectives on an opioid overdose education and naloxone distribution program in the U.S. Department of Veterans Affairs. *Subst Abuse*. 2016;37(1):118-126.

[PubMed: PM26675643](#)

Strike C, Rufo C. Embarrassing, degrading, or beneficial: patient and staff perspectives on urine drug testing in methadone maintenance treatment. *J Subst Use*. 2010;15(5):303-312.

White N, Flaherty I, Higgs P, et al. Injecting buprenorphine-naloxone film: findings from an explorative qualitative study. *Drug Alcohol Rev.* 2015;34(6):623-629.

[PubMed: PM26179339](#)

Not directly about buprenorphine or suboxone formulations

Anstice S, Strike CJ, Brands B. Supervised methadone consumption: client issues and stigma. *Subst Use Misuse.* 2009;44(6):794-808.

[PubMed: PM19444722](#)

Augutis M, Rosenberg D, Hillborg H. The meaning of work: perceptions of employed persons attending maintenance treatment for opiate addiction. *J Soc Work Pract Addict.* 2016;16(4):385-402.

Bond AJ, Reed KD, Beavan P, Strang J. After the randomised injectable opiate treatment trial: post-trial investigation of slow-release oral morphine as an alternative opiate maintenance medication. *Drug Alcohol Rev.* 2012;31(4):492-498.

[PubMed: PM21919979](#)

Damon W, Small W, Anderson S, et al. 'Crisis' and 'everyday' initiators: a qualitative study of coercion and agency in the context of methadone maintenance treatment initiation. *Drug Alcohol Rev.* 2017;36(2):253-260.

[PubMed: PM27126765](#)

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(1):110-122.

[PubMed: PM23956702](#)

Ekdahl M. The limits of legitimacy: service providers' views on maintenance treatment in Sweden. *Addiction Res Theory.* 2011;19(5):427-437.

Fonseca J, Chang A, Chang F. Perceived barriers and facilitators to providing methadone maintenance treatment among rural community pharmacists in southwestern Ontario. *J Rural Health.* 2018;34(1):23-30.

[PubMed: PM28872697](#)

Frank D. "I was not sick and I didn't need to recover": methadone maintenance treatment (MMT) as a refuge from criminalization. *Subst Use Misuse.* 2018;53(2):311-322.

[PubMed: PM28704148](#)

Gelpi-Acosta C. Challenging biopower: "liquid cuffs" and the "junkie" habitus. *Drugs (Abington Engl).* 2014;22(3):248-254.

[PubMed: PM26962271](#)

Granerud A, Toft H. Opioid dependency rehabilitation with the opioid maintenance treatment programme - a qualitative study from the clients' perspective. *Subst Abuse Treat Prev Policy.* 2015;10:35.

[PubMed: PM26374128](#)

Harris J, McElrath K. Methadone as social control: institutionalized stigma and the prospect of recovery. *Qual Health Res.* 2012;22(6):810-824.

[PubMed: PM22232295](#)

Hayashi K, Ti L, Ayuthaya PPN, et al. Barriers to retention in methadone maintenance therapy among people who inject drugs in Bangkok, Thailand: a mixed-methods study. *Harm Reduct J.* 2017;14(1):63.

[PubMed: PM28882155](#)

Landry M, Veilleux N, Arseneault JE, Abboud S, Barrieau A, Belanger M. Impact of a methadone maintenance program on an Aboriginal community: a qualitative study. *CMAJ Open*. 2016;4(3):E431-E435.

[PubMed: PM27730106](#)

Livingston JD, Adams E, Jordan M, MacMillan Z, Hering R. Primary care physicians' views about prescribing methadone to treat opioid use disorder. *Subst Use Misuse*. 2018;53(2):344-353.

[PubMed: PM28853970](#)

Markwick N, McNeil R, Anderson S, Small W, Kerr T. Communicating risk in the context of methadone formulation changes: A qualitative study of overdose warning posters in Vancouver, Canada. *Int J Drug Policy*. 2016;27:178-181.

[PubMed: PM26644025](#)

McNeil R, Kerr T, Anderson S, et al. Negotiating structural vulnerability following regulatory changes to a provincial methadone program in Vancouver, Canada: a qualitative study. *Soc Sci Med*. 2015;133:168-176.

[PubMed: PM25875323](#)

McPhee I, Brown A, Martin C. Stigma and perceptions of recovery in Scotland: a qualitative study of injecting drug users attending methadone treatment. *Drugs & Alcohol Today*. 2013;13(4):244-257.

Moran L, Keenan E, Elmusharaf K. Barriers to progressing through a methadone maintenance treatment programme: perspectives of the clients in the Mid-West of Ireland's drug and alcohol services. *BMC Health Serv Res*. 2018;18(1):911.

[PubMed: PM30497467](#)

O'Byrne P, Jeske Pearson C. Methadone maintenance treatment as social control: analyzing patient experiences. *Nurs Inq*. 2018;26(2):e12275.

[PubMed: PM30460726](#)

Pedersen W, Sandberg S, Copes H. Destruction, fascination and illness: risk perceptions and uses of heroin and opiate maintenance treatment drugs. *Health, Risk & Society*. 2017;19(1/2):74-90.

Rashid RA, Kamali K, Habil MH, Shaharom MH, Seghatoleslam T, Looyeh MY. A mosque-based methadone maintenance treatment strategy: implementation and pilot results. *Int J Drug Policy*. 2014;25(6):1071-1075.

[PubMed: PM25107831](#)

Rožanova J, Marcus R, Taxman FS, et al. Why people who inject drugs voluntarily transition off methadone in Ukraine. *Qual Health Res*. 2017;27(13):2057-2070.

[PubMed: PM28942704](#)

Sanders JJ, Roose RJ, Lubrano MC, Lucan SC. Meaning and methadone: patient perceptions of methadone dose and a model to promote adherence to maintenance treatment. *J Addict Med*. 2013;7(5):307-313.

[PubMed: PM23803718](#)

Sokol R, Albanese C, Chaponis D, et al. Why use group visits for opioid use disorder treatment in primary care? A patient-centered qualitative study. *Subst Abus*. 2018;39(1):52-58.

[PubMed: PM28723302](#)

Strike C, Millson M, Hopkins S, Smith C. What is low threshold methadone maintenance treatment? *Int J Drug Policy*. 2013;24(6):e51-56.

[PubMed: PM23743178](#)

Van Hout MC, Crowley D, McBride A, Delargy I. Optimising treatment in opioid dependency in primary care: results from a national key stakeholder and expert focus group in Ireland. *BMC Fam Pract*. 2018;19(1):103.

[PubMed: PM29960593](#)

Woo J, Bhalerao A, Bawor M, et al. "Don't judge a book its cover": a qualitative study of methadone patients' experiences of stigma. *Subst Abus*. 2017;11:1178221816685087.

[PubMed: PM28469424](#)