Models of Care for Substance Use During Pregnancy

by

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Abstract

Purpose: The purpose of this research is to identify and describe models of care in Alberta for substance use during pregnancy. This work will inform the development and implementation of a strategy for the care of pregnant patients experiencing problematic substance use, at the Lois Hole Hospital for Women, in Edmonton, Alberta.

Methods: The research consisted of two parts. First, a scoping review was conducted to synthesize the relevant literature on models of care for programs supporting pregnant patients experiencing problematic substance use in Alberta. The scoping review was conducted in accordance with the Joanna Briggs Institute (JBI) methodology for scoping reviews. A search strategy was formulated and applied to nine health-related databases. This was supplemented with Google searches and targeted searching of websites of relevant organizations and associations. Data from the scoping review was analyzed using numerical summary and inductive thematic analysis. Following the scoping review, the data was contextualized at a local level by eliciting the experiences of health care providers in a circle or interview format. Five health care providers shared their experiences of providing care to pregnant patients experiencing problematic substance use, ideas on priorities and areas for change, and perspectives on key elements of a model of care. These findings were then analyzed using inductive thematic analysis and participants were invited to provide feedback on the themes.

Results: The scoping review identified nine programs, specifically, the Parent Child Assistance Program (PCAP), First Steps, 2nd Floor Women's Recovery Centre, Mothers-To-Be-Mentorship, H.E.R. Pregnancy Program, Aventa Pregnancy Program, EMBRACE Program, Pregnancy Pathways, and Concurrent Disorders Enhanced Service. All programs

were either designed for or prioritized the admission of pregnant patients experiencing problematic substance use. Analysis of the scoping review findings revealed four overarching patterns or themes: i) Services/Activities, ii) Philosophical/Theoretical Approaches, iii) Service Delivery, and iv) Research Approaches. Regarding the circle and interview with health care providers, an inductive thematic analysis revealed the following five themes that encompass key elements of a model of care: i) Service Delivery, ii) Philosophical/Theoretical Approaches, iii) Education and Training, iv) Infrastructure, and v) Services/Activities. The results from the scoping review and the consultations with health care providers largely yielded similar results.

Conclusions: This research identified key elements of a model of care for pregnant patients experiencing problematic substance use in Alberta. These elements include partnerships or collaboration between community organizations, outreach, wraparound support, and multidisciplinary teams. Both the scoping review and health care providers identified similar philosophical/theoretical approaches to care largely based on the following principles: individualized care, relationship based, patient-centered, harm reduction, cultural humility, trauma-informed, non-judgmental, and anti-oppressive. Health care providers further highlighted the importance of addressing the social determinants of health and recognizing that a patient's substance use may be influenced by factors such as unstable housing or food insecurity. Next, in describing their experiences of learning to provide care, many health care providers emphasized the important role of mentorship and collaboration. Therefore, it is important to provide these opportunities to the next generation of health care providers as many participants shared that they had not received much practical training in a formal setting. Lastly, health care providers described the

importance of designing a suitable physical space to facilitate the delivery of care that reflects certain key elements of a model of care. This is important because in the absence of a suitable space and the necessary resources, a strategy for the care of pregnant patients experiencing problematic substance use cannot be successfully implemented.

Keywords: models of care, pregnancy, substance use, Alberta, scoping review, circle, interview

Preface

This thesis is an original work by Florence L. Liu, in primary collaboration with Dr. Susan Chatwood, as well as guidance from graduate student supervisory committee members Dr. Cassandra Felske-Durksen, Dr. Elaine Hyshka, and Dr. Rebecca Rich. The study described herein received research ethics approval from the University of Alberta Health Research Ethics Board – Health Panel, Title: "Models of Care for Substance Use During Pregnancy in Alberta: A Scoping Review and Sharing Circle", No. Pro00114443, February 11, 2022. No part of this thesis has previously been published.

Dedication

To the mothers who showed and continue to show such incredible strength, resilience, and courage.

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Thank you to my friends, colleagues, and family for your ongoing support, your love, your encouragement, and your prayers. Thank you for expressing a genuine interest in my work and for listening to me so patiently. Thank you for motivating me along the way but also encouraging me to take breaks. I cannot thank you enough for all the ways that you have supported me.

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Chapter 1: Introduction

1.1 Overview

Substance use during pregnancy is associated with adverse maternal and fetal consequences, including increased risks of miscarriage, congenital anomalies, and adverse neurodevelopmental outcomes (1–3). The unique physiological changes that occur during pregnancy increase the variability in response to drugs, making it challenging to anticipate outcomes (1,2). Women are at the highest risk of developing a substance use disorder during their reproductive years (18-44 years), in particular, ages 18-29 (4). Often, antecedents to substance use during pregnancy are complex and may be influenced by factors related to gender and social contexts, trauma and mental health, and access to care (5). Women with substance use disorders often experience a greater prevalence of mental health and eating disorders, past and current abuse and trauma, and poor social supports and parenting capacity (3).

This thesis sought to describe and summarize the context of care for pregnant women experiencing problematic substance use in Alberta, Canada.

Specifically, the research sought to address the following objectives:

i. Conduct a scoping review to identify and describe programs and the models of care employed by these programs for pregnant patients experiencing problematic substance use in Alberta.
ii. Consult with health care providers to identify gaps in knowledge and understanding and enrich and contextualize findings.

The results of this research will serve to inform the development of an evidence-based strategy for the care of pregnant patients experiencing problematic substance use at

the Lois Hole Hospital for Women (LHHW) in Edmonton, Alberta. LHHW is a tertiary, acute care hospital, situated in the Royal Alexandra Hospital, which offers specialized services for women, including high-risk obstetrical and maternal care and the surgical treatment of ovarian, cervical, and other gynecological cancers (6). With a large catchment area, LHHW receives referrals from Edmonton, Central and Northern Alberta, Nunavut, Northwest Territories, and Western Canadian provinces. Therefore, LHHW serves many pregnant, delivering, and postpartum women who may have a co-morbid substance use disorder along with newborns who may have been exposed to substances (i.e., drugs and/or alcohol).

In the following sections, an overview of the relevant literature on substance use during pregnancy is presented. To achieve an in-depth understanding of the topic, this chapter begins with the diagnostic criteria for a substance use disorder, according to the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)*. Factors associated with substance use during pregnancy are then described, followed by an overview of the epidemiology of substance use during pregnancy in Canada. Next, a summary of relevant clinical practice guidelines is presented. The chapter concludes with a description of core principles for substance use treatment system design, the key components of the Families In Recovery (FIR) model of care which is considered a gold standard in Canada, and an overview of a framework for addressing substance use issues through an Indigenous lens.

1.2 Diagnostic criteria for a substance use disorder

According to the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)*, a substance use disorder is defined as "a cluster of cognitive, behavioral, and

physiological symptoms indicating that the individual continues using the substance despite significant substance-related problems" (7 pp483). Substance related disorders include the following 10 classes of drugs: alcohol, caffeine, cannabis, hallucinogens, inhalants, opioids, sedatives, stimulants, tobacco, and other (or unknown) substances (7).

The severity of the disorder is based on the number of applicable symptom criteria within a 12-month period, leading to clinically significant impairment or distress (7). A mild substance use disorder is suggested by the presence of two to three of the following criteria, moderate by four to five, and severe by six or more (7):

i. The substance is taken in larger amounts or over a longer period than intended.
ii. There is a persistent desire or unsuccessful efforts to reduce or control substance use.
iii. A lot of time is spent in activities necessary to obtain, use, or recover from the effects of the substance.
iv. Craving, or a strong desire to use the substance.
v. Recurrent substance use resulting in a failure to fulfill major role obligations at work, school, or home.
vi. Continued use of the substance(s) despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of the substance.
vii. Important social, occupational, or recreational activities are given up or reduced because of substance use.

viii. Recurrent use of the substance(s) in situations in which it is physically hazardous.

ix. Continued use of the substance(s) despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused by or exacerbated by use of the substance.

x. The development of tolerance as characterized by a need for increased amounts of the substance to achieve intoxication/desired effect and/or a diminished effect with continued use of the same amount of substance.

xi. The development of withdrawal as characterized by a cessation of or reduction in heavy and prolonged substance use and the development of symptoms of withdrawal and/or using the substance to relieve or avoid withdrawal symptoms.

However, it is important to note that not every woman who uses substances during pregnancy is experiencing a substance use disorder. This thesis focuses on patients experiencing problematic substance use who may or may not meet the diagnostic criteria for substance use disorder but who could benefit from services and supports regarding substance use during pregnancy.

1.3 Factors associated with substance use during pregnancy

For many women, substance use may be a means of coping with trauma, such as childhood abuse, intimate partner violence, and for Indigenous women, the multigenerational effects of colonization, which includes the loss of traditional lands and culture, forced removal from families, legacies of Indian Hospitals, and residential school histories (5,8). Substance use during pregnancy has also been correlated with current

psychopathology, unemployment, and being unmarried (9). External stressors related to the continuation of substance use include societal pressures, partner relationships, and financial strain (10). Often, a cycle of use develops in which the women experiences guilt due to using and using due to guilt (10).

However, motivation to change harmful behaviors is theorized to increase during pregnancy because of potential effects on fetal outcomes (3). In a systematic review conducted by Barnett et al. (11), motherhood (i.e., the desire to be a good mother) was identified as the most common facilitator to seeking substance use care among pregnant women and women with children. Other relational facilitators included supportive, trusting, and respectful relationships with providers and a sense of love and encouragement from family and friends (11). In terms of structural factors, the following were found to be facilitators: the use of treatment teams, multi-faceted treatments, the provision of childcare, and allowing children to stay with mother, which also helped motivate the mother to maintain a mothering role (11). Mothers within minority groups also reported that the presence of staff and providers of similar race and ethnicity who delivered culturally relevant treatment (e.g., the promotion of culturally relevant ways of understanding addiction and motherhood, and strategies for healing) was a facilitator to treatment (11).

Conversely, the most common barrier reported by mothers was the fear of losing custody of their children if they engaged in treatment and of being scrutinized by providers and authorities (11). This was often associated with feelings of guilt, embarrassment, and perceived stigma about substance use during pregnancy or as a mother (11). In Alberta, the *Drug-endangered Child Act* is legislation that seeks to protect children exposed to drugs

(12). Under this legislation, caseworkers and police officers can apprehend a child if there are reasonable and probable grounds to believe that the child has been exposed to or is likely to be harmed by the adult's drug activity (12). The child is subsequently placed into the custody of child welfare authorities (12,13). However, the separation of the mother from the child has previously been associated with higher odds of overdose, suggesting that the woman's substance use may be further exacerbated by child custody loss (14). In fact, trauma has been identified as a key impact of separation and women have reported symptoms of post-traumatic stress disorder and other mental health conditions as a result (15). Substance use may consequently become a means of coping with the trauma (15).

In terms of other barriers to treatment, judgmental providers and staff who lacked understanding and empathy promoted mistrust, potentially discouraging women from seeking or pursuing treatment (11). In addition, although motherhood was identified as a facilitator to treatment, the demands of motherhood also presented barriers (11). This may be compounded by unsupportive partners, family, or friends, and lack of childcare, transportation, and time (11). Lastly, low self-efficacy has been found to play a key role in determining a woman's substance use, but high self-efficacy and self-determination may also contribute to discontinuation of substance use (10).

1.4 Epidemiology of substance use during pregnancy in Canada

There is a paucity of data regarding substance use during pregnancy in Canada and Alberta, particularly, recent data. Nonetheless, in the *2006-2007 Maternity Experience Survey* of Canadian women aged 15 and older, 10.5% of women surveyed reported smoking cigarettes daily or occasionally during the last three months of pregnancy, 10.5% also reported drinking alcohol during pregnancy, and 1% reported using street

drugs during pregnancy (16). The survey included mothers 15 years of age and older who had a singleton live birth during a three-month period prior to the 2006 Census of Population (16). However, mothers under 15 years of age and mothers living on First Nations reserves or in institutions at the time of the survey were excluded (16). There was no mention of mothers living on Métis Settlements nor of women who did not reside with their infants at the time of the survey. The 2008 *Canadian Perinatal Health Report* subsequently reported that 11% of pregnant women consumed alcohol and 13% smoked cigarettes during the past month (17). In addition, 5% of pregnant women reported illicit drug use during pregnancy (17). However, the real numbers are likely greater as alcohol and/or drug use during pregnancy is systematically under-reported because it is considered socially undesirable (17).

More recently, in the 2019 *Canadian Alcohol and Drugs Survey*, 18% of women surveyed aged 25 to 44 years reported drinking alcohol during their last pregnancy (18). However, there were no observations for alcohol consumption during pregnancy for women aged 15 to 24 years (18). Moreover, among women aged 15 to 44 years who had ever used cannabis and had given birth in the past five years, 5% reported cannabis consumption during their last pregnancy and 6% reported cannabis consumption while breastfeeding (18). Again, there were no observations reported for women aged 15 to 24 years (18). During the COVID-19 pandemic, between April and September of 2020, a survey of 7470 pregnant women aged 17 years or older, found that the percentage of participants who reported use during pregnancy was 6.7% for alcohol, 4.3% for cannabis, 4.9% for tobacco, and 0.3% for illicit drugs; 2.6% reported co-use of substances (19). However,

limitations to the study included the potential under-reporting of alcohol and substance use due to social desirability, stigma, and/or fear (19).

Another indicator of substance use during pregnancy is the number of births or hospitalizations of infants with neonatal abstinence syndrome. Between 2010 and 2020, there were 16,920 total hospitalizations of newborns with neonatal abstinence syndrome in Canada (excluding Quebec) (20). In 2020, there were 1755 hospitalizations for neonatal abstinence syndrome, representing a 73% increase in the number of hospitalizations from 2010 and a 5% increase from 2019 (20). In Ontario, researchers observed that the number of infants born to women with an opioid-use disorder increased from 46 in 2002 to almost 800 in 2014 (21). Nationally, in Canada (excluding Quebec, the three territories, and the provinces of Newfoundland and Labrador and Prince Edward Island), the incidence of neonatal abstinence syndrome tripled from 1.8 to 5.4 cases per 1,000 live births between the years 2003 to 2014 (22).

1.5 Clinical practice guidelines

According to the Society of Obstetricians and Gynecologists of Canada's (SOGC) clinical practice guidelines for substance use in pregnancy, brief interventions remain the standard of care for managing substance use disorders for pregnant women (3). Brief interventions consist of simple advice or short counselling/educational sessions on goal setting, problem solving with respect to triggers for use, and information on potential harms, which are provided as part of routine clinical care (3). If a brief intervention is ineffective, consultation with a physician with expertise in addiction medicine and/or referral to community resources for more intense psychosocial interventions may be needed (3). Moreover, due to the complex needs of women with substance use disorders,

evaluation of co-morbid conditions should include screening for infectious diseases, mental health disorders, domestic violence and abuse, and psychosocial supports (3). As these women often require comprehensive services, it is recommended that maternity care providers are aware of local resources and encourage women to engage in community supports for both pregnancy and postpartum counselling/support (3).

More broadly, there are two phases to the management of substance use disorders. The first phase addresses the treatment of withdrawal symptoms while the second phase focuses on maintenance by encouraging substance abuse treatment and the development of a supportive network (3). For women who smoke cigarettes during pregnancy, it is recommended that health care providers offer smoking cessation interventions, starting with ones that are psychosocial, but if ineffective, nicotine replacement therapy and/or pharmacotherapy can be considered (3). In terms of cannabis use, clinical guidelines recommend that health care providers advise pregnant women to abstain from or reduce cannabis use during pregnancy to prevent negative long-term cognitive and behavioral outcomes for exposed children (3). Next, in the management of peripartum pain, particularly for opioid-dependent women, epidural analgesia is an ideal choice, and an analgesia plan may be developed in consultation with health care providers (3).

The standard of care for the management of opioid use disorder is with either methadone, buprenorphine, or other sustain-released preparations if both methadone and buprenorphine are unavailable (3). It is also recommended that health care providers provide education on the prevention of opioid overdose and advise patients to immediately seek emergency care at the first signs of overdose (3). Correspondingly, infants exposed to opioids in utero may develop neonatal abstinence syndrome (NAS) or neonatal withdrawal,

which is characterized by respiratory, gastrointestinal, central nervous system, and autonomic symptoms (3). Non-pharmacologic care, such as rooming-in, is the standard of care for NAS but pharmacotherapy may be needed to treat severe symptoms (3). Rooming-in refers to the practice of caring for the newborn and the mother together in the same room (23). This practice has been associated with a shorter duration of treatment for neonatal abstinence syndrome (24) and may help mitigate the relationship between maternal methadone dose at delivery and the need to treat the newborn for opiate withdrawal (23).

Rooming-in is also a feature of the Eat, Sleep, Console approach which focuses on the newborn's ability to eat well (breastfeed effectively or tolerate an adequate amount of formula), sleep undisturbed for a minimum of one hour, and be easily consoled within 10 minutes (25–27). This non-pharmacologic, holistic, and family-centered approach is initiated following birth and helps facilitate the mother as treatment for the newborn (25–27). In fact, the mother is considered a vital member of the care team, helping to increase the mother's confidence in caring for the newborn and strengthen the maternal/infant attachment (27). Examples of non-pharmacologic interventions used in this approach include rooming-in and consistent parental presence, frequent skin-to-skin contact, and maintenance of a quiet, non-stimulating environment (26,27). If the mother is unavailable (e.g., due to family responsibilities and medical requirements), support persons approved by the mother can also perform the non-pharmacologic interventions (25,27). Eat, Sleep, Console is best implemented on a unit where rooming-in is possible after birth, preferably a private room, and continues until the newborn is discharged (25). Outcomes of the successful implementation of this approach can include a reduction in the severity of NAS,

in the need and duration of pharmacotherapy use, in the average length of hospital stay, and improved breastfeeding rates (25–27). It is recommended that maternal education on this approach begin during the prenatal period so that the mother is effectively prepared for postpartum and is equipped to navigate the prenatal care system (25–27).

1.6 Models of care for substance use during pregnancy

This section begins by defining the term 'model of care' and then describes core principles for substance use treatment system design, highlights key components of the FIR model of care for substance use during pregnancy, and concludes with an overview of a framework for addressing substance use issues among Indigenous peoples in Canada.

The term 'model of care' is often used in literature pertaining to health and health care, but the definition can be somewhat ambiguous. According to Davidson et al. (16 pp49), a 'model of care' is "an overarching design for the provision of a particular type of health care service that is shaped by a theoretical basis, EBP [evidence-based practice] and defined standards." Moreover, a model of care consists of defined core elements and is built on a framework that provides structure to the implementation and evaluation of a health care service (28). Having a well-defined model of care can help to ensure that health care providers work towards a common set of goals and evaluate performance based on mutually agreed-upon metrics (28).

In terms of developing a model of care for substance use, Rush and Urbanoski (29) described seven core principles of substance use treatment system design. These principles are as follows (29):

i. To achieve a population-level impact, a broad systems approach is necessary to address the full range of issues related to substance use, problems, and disorders in the community.
ii. Accessibility and effectiveness of services for people with substance use issues are improved with collaboration across stakeholders.
iii. A range of systems supports are needed to support and facilitate the effective delivery of services.
iv. Indigenous peoples have distinct strengths, cultures, and needs with respect to mental wellness, and benefit from access to a continuum of services and supports that are grounded in self-determination, holistic cultural practices, choice, and partnership.
v. Attention to diversity and social-structural disadvantages is crucial to an effective and equitable system design and service delivery.
vi. Systematic screening, assessment, and individualized treatment planning are necessary to improve detection and access, and to match people to evidence-based interventions across the continuum of care.
vii. Individualized treatment plans must include the right mix and duration of evidence-informed psychosocial and clinical interventions.

The above principles provide a foundation for the development of a model of care for substance use and can be adapted to the specific needs of various populations. In terms of a model of care for pregnant and/or parenting patients experiencing problematic substance use, service delivery can vary from fully integrated (includes on-site child development and parenting services with addiction services), non-integrated (services are

available but separate), limited (only select services are available), and non-existent (no services available) (5). Previous research suggests that women would benefit from a form of wraparound or comprehensive care and professional advocacy (30,31). In fact, women experiencing problematic substance use have previously identified the need for in-patient treatment with wraparound programming ranging from detoxification to aftercare (10). Moreover, the integration of Indigenous cultural activities and ceremony within wraparound programs has been found to create both an intervention and healing resource for past and present experiences of trauma (30).

A key component to the delivery of wraparound programing is partnerships amongst community agencies. Outcomes of partnerships include reduced fragmentation between services and improved access to a range of health and social services that women and families need, helping to overcome systemic barriers and service gaps (32). In addition, a partnership approach can help both partners and program staff develop a deeper understanding of clients' experiences and support needs, and a greater understanding of each other's services, roles, and clients (32). Cross-sectoral co-location of staff at a wraparound program can also help to overcome challenges associated with working across institutions and enable partners to develop a deeper understanding and appreciation for trauma-informed, harm reduction, and non-judgmental approaches to care (32). Furthermore, women experiencing problematic substance use have previously recommended that healthcare professionals be equipped to provide comprehensive information on the full range of services that pregnant women with substance use issues might need, such as detoxification centers, treatment programs, shelters, food banks, and childcare services (10).

One example of a wraparound program in Canada is the FIR Square program. FIR Square is a provincial specialized perinatal service located in the BC Women's Hospital and Health Centre, in Vancouver, British Columbia, and is the first of its kind in Canada (4,23). Beginning in 2003, the FIR program provides care to prenatal and postpartum women who use substances, and to infants exposed to substances (4). FIR is considered a leading model of in-patient care (4). Care at FIR is provided by a multidisciplinary team that includes family physicians, pediatricians, nurses, social workers, Elders, counsellors, dietitians, recreation therapists, and other allied care providers (4). Programming and treatment are rooted in principles of harm reduction, recovery-oriented care, and the bio-psycho-social-spiritual framework which recognizes that substance use is the result of the interaction between biological, psychological, social, and spiritual factors (4). Programming consists of assessment and care plans (including a transition plan that is completed over the course of a woman's admission), healing and wellness activities, and substance use group-based activities (including Indigenous cultural programming and prenatal care and infant development programming) (4).

Guiding the FIR model of care are the following principles (4):

- *Mother-baby Togetherness* – support the mother-baby connection through practices such as rooming-in.
- *Trauma and Violence Informed Practice* – focus on the physical and emotional safety of the woman as defined by the woman.
- *Indigenous Cultural Safety* – deliver culturally safe services and care.

- *Harm Reduction* – meet women where they are at and help women identify harm reduction goals and changes that they may wish to make in their substance use and healing journey.
- *Women-Centered* – engage women with kindness, respect, and dignity and provide care that encompasses each woman's social, mental, emotional, physical, spiritual, and cultural needs.
- *Evidence Informed* – provide care that is guided by research and practice evidence, leading practices, and Indigenous ways of knowing.
- *Equity Oriented* – provide adapted and flexible approaches to care that remove and address health inequities that may exist for the woman.
- *Healing Oriented* – strive to understand what healing and wellness mean and look like from the woman's perspective.
- *Strengths-based* – recognize the inherent strength of each woman and support and empower her to care for herself and her baby.
- *Interdisciplinary Team Practice* – ensure ongoing communication among team members and whenever possible, provide women with the option to engage with whomever they feel most comfortable.

These principles reflect key components highlighted by Rush and Urbanoski (29), but are tailored to the needs of pregnant women experiencing problematic substance use.

Finally, one framework for addressing substance use issues from an Indigenous perspective is *Honouring Our Strengths: A Renewed Framework to Address Substance Use Issues Among First Nations People in Canada*. *Honouring Our Strengths* was developed based on a process of engagement and feedback among community members, treatment center

workers, community-based addiction workers, health administrators, First Nations leadership, Elders, provincial service providers, researchers, and policy makers (33). This evidence-based framework is used to guide the design, delivery, and evaluation of substance use and mental health programs that serve First Nations populations in Canada (33). The *Honouring Our Strengths* framework describes a continuum of care to support strengthened community, regional, and national responses to substance use issues (33). Like the core principles outlined by Rush and Urbanoski (29) and the FIR model of care (4), this framework describes the following guiding principles to a systems approach to responding to substance use (33):

- *Spirit-centered* – a revitalization of spirit which is outwardly expressed by culture.
- *Connected* – strong connections are the foundation for holistic and integrated services and supports.
- *Resiliency-focused* – foster the natural strength and resilience of individuals, families, and communities.
- *Holistic Supports* – holistic services and supports consider all factors that contribute to well-being.
- *Community-focused* – adopting a community-focused lens enhances system responsiveness to factors that make each community unique.
- *Respectful* – demonstrating respect for clients, families, and communities at all levels of service planning and delivery.
- *Balanced* – inclusion of both Indigenous and Western forms of evidence and approaches to care.

- *Shared Responsibility* – recognition of individual, shared, and collective levels of responsibility to promote health and well-being among Indigenous peoples.
- *Culturally Competent* – awareness of worldviews and attitudes towards cultural differences.
- *Culturally Safe* – on-going self-reflection and organizational growth for service providers and the system.

These principles emphasize the need to recognize the cultural realities of Indigenous peoples and to pursue health and wellness in the context of the community in which Indigenous peoples live (33). Therefore, services and supports must be adapted or targeted toward the unique population needs of each community to be appropriate and effective (33).

Chapter 2: A Scoping Review of Programs in Alberta for the Care of Pregnant Patients Experiencing Problematic Substance Use

2.1 Overview

A scoping review approach was used to identify, describe, and summarize the academic and grey literature on programs for the care of pregnant patients experiencing problematic substance use in Alberta. The scoping review thus examined the extent, range, and nature of the literature pertaining to this topic. First, relevant programs were identified and then the model of care employed by the program was described. As the purpose of the scoping review was to map programs in Alberta for the care of pregnant patients experiencing problematic substance use, all program information was considered relevant for review. This chapter describes the methodological framework that guided the conduct of the scoping review, including the objective and research question, inclusion and

exclusion criteria, search strategy, and methods for data extraction, analysis, and presentation. Lastly, the results of the scoping review are presented and discussed.

2.2 Methodological Framework

The scoping review was guided by the Joanna Briggs Institute (JBI) framework for the conduct of scoping reviews (34). This framework builds upon those developed by Arksey and O'Malley (35) and Levac et al. (36). Reasons for conducting a scoping review include mapping fields of study to determine what material is available, summarizing and disseminating research findings, and identifying gaps in existing literature, which align with the objectives of this study (35). Furthermore, a scoping review was an appropriate methodology for this research because this approach is particularly useful (as opposed to a more focused systematic review) when a body of literature has not yet been extensively reviewed or is heterogeneous in nature, as is the case for this topic (37). Therefore, this scoping review synthesized various types of academic and grey literature, adopting a broader approach than one delimited by a systematic review (37). Lastly, given the lack of knowledge on the scope and content of programs in Alberta for the care of pregnant patients experiencing problematic substance use, a scoping review methodology was chosen to provide a comprehensive overview of the topic.

The JBI methodological framework consists of nine stages which are as follows:

i. define and align the objective(s) and question(s)
ii. develop and align the inclusion criteria with the objective(s) and question(s)
iii. describe the planned approach to evidence searching, selection, data extraction, and presentation
iv. search for the evidence

v. select the evidence

vi. extract the evidence

vii. analyze the evidence

viii. present the results

ix. summarize the evidence in relation to the purpose of the review, making conclusions and noting any implications of the findings.

Consultation of information scientists, experts, and/or stakeholders occurs throughout the process, including in topic prioritization, planning, execution, and dissemination. Moreover, although the stages are described linearly, they build upon and overlap with each other, resulting in an iterative process that requires engaging with each stage in a reflexive way (35).

A preliminary search for existing scoping and systematic reviews on the topic was conducted on November 18, 2021, via Cochrane Database of Systematic Reviews, JBI Evidence Synthesis, CINAHL Plus with Full Text (via EBSCOhost), PubMed, Evidence for Policy and Practice Information, and Epistemonikos. Search terms and number of records retrieved are identified in Appendix A. No previous scoping or systematic review addressing the overall purpose of the current review was identified. Lastly, no protocol was developed a-priori and this review has not been registered or published anywhere.

2.3 Objective and Research Question

The objective of this scoping review was to locate and map the academic and grey literature that describes or evaluates programs for the care of pregnant patients experiencing problematic substance use in Alberta, Canada. In alignment with this objective, inquiry was guided by the following research question: what is known in the

academic and grey literature about programs for the care of pregnant patients experiencing problematic substance use in Alberta?

2.4 Inclusion and Exclusion Criteria

The inclusion and exclusion criteria are presented in Table 1. These were developed prior to study commencement and subsequently refined during the scoping process. First, as recommended by Peters, Godfrey et al. (34), the population, concept, context, and types of sources of evidence were stipulated and these are described below.

Types of participants: The target population for this review was pregnant patients experiencing problematic substance use. In the context of this research, substances include alcohol and other drugs.

Concept: The overarching concept of interest for this review was models of care for substance use during pregnancy in Alberta, Canada. For the purposes of this research, a model of care is "an overarching design for the provision of a particular type of health care service that is shaped by a theoretical basis, EBP [evidence-based practice] and defined standards" (16 pp49). Documents that describe or evaluate programs for the care of pregnant patients experiencing problematic substance use were included. Characteristics of the model of care for each program were then extracted.

Context: The review was limited to programs in Alberta, Canada for the care of pregnant patients experiencing problematic substance use. As this research sought to inform recommendations for the development of a program for the care of pregnant patietns experiencing problematic substance use in Edmonton, Alberta, only programs in Alberta were included to best identify models of care that exist within the province's political, social, economic, and cultural contexts.

Types of sources of evidence: To provide a comprehensive overview of the literature on programs for the care of pregnant patients experiencing problematic substance use in Alberta, this review included all types of evidence and did not specify a publication age range for most documents (exception: only the most recent version of program documents were included if multiple versions exist). Moreover, the scope was limited to documents published in the English language and publicly available online or via University of Alberta holdings. Lastly, the program described in the evidence source had to be in operation for the source to be included in the review. To verify that the program was currently operating, a Google search was conducted of the name of the program.

Table 1. Inclusion and exclusion criteria

Aspect	**Inclusion Criteria**	**Exclusion Criteria**
Year of publication	No limit*	No limit*
Language	Available in English	Unavailable in English
Types of participants	Pregnant patients experiencing problematic substance use	Does not apply to pregnant patients experiencing problematic substance use
Concept	Describes a program focused on providing care to pregnant patients experiencing problematic substance use or that prioritizes admission of pregnant patients experiencing problematic substance use Name of program is indicated A description of program structure is available (i.e., components of the program including goals, mission and/or purpose) Program is currently in operation	Does not describe a program focused on providing care to pregnant patients experiencing problematic substance use or that prioritizes admission of pregnant patients experiencing problematic substance use No program name is indicated No description of program structure is available Program is no longer operating
Context	Program must be in Alberta, Canada	Program is located outside of Alberta, Canada
Types of sources of evidence	No restriction	No restriction
Study designs	No restriction	No restriction

*Only most recently published/updated documents were reviewed during the search of program documents published on the Internet if multiple versions exist.

2.5 Search Strategy

The search strategy consisted of searches of nine health-related databases that catalogue both peer-reviewed and grey literature. Databases were selected to be comprehensive and relevant to the topic. To minimize the risk of omitting relevant sources of evidence, the database searches were followed by Google search engine searching and browsing of targeted websites of relevant organizations. As databases and search engines employ unique algorithms, the use of a variety of these information sources was more likely to capture a broader selection of records (38).

The following nine databases were searched from November to December 2021:

- MEDLINE (via Ovid),
- EMBASE (via Ovid),
- PsycINFO (via Ovid),
- Web of Science (All Databases and All Collections),
- Scopus,
- CINAHL Plus with Full Text (via EBSCOhost),
- Trip Pro,
- ProQuest Dissertations & Theses Global, and
- Oalster.

The search strategy was developed in collaboration with a research librarian and was first piloted to allow for refinement. Search queries were tailored to the specific requirements of each database and key terms used were documented so that repeating searches could be conducted if required (37). The search strategy for each database, including search queries, is documented in detail in Appendix B.

The results of the database searches were then exported to *Covidence*, a web-based systematic review platform, and duplicates were automatically removed. The titles and abstracts (if available) of all results were reviewed in *Covidence* and titles that appeared relevant were selected for full-text screening. After screening all documents once for relevancy, a second review was conducted of titles and abstracts (if available) of items previously identified as irrelevant to ensure that all potentially relevant documents were captured. After this second review, one additional item was selected for full-text screening. Consultation of reference lists did not identify any further references. After full-text screening, six documents were included for data extraction.

Next, Google searches were conducted for program documents published on the Internet. A limitation to the use of Google is that it is impossible to screen all retrieved results, therefore, one must rely on the power of relevancy ranking within Google. For these searches, all hits (if under 100 results) or the first ten pages (representing 100 results) of each search's hits were reviewed using the title and text underneath. This number of pages was chosen to capture many of the most relevant results while still being a feasible amount to screen (38). Web browser cookies were cleared prior to each search. A combination of the following keywords was used: (pregnan* OR "expect* mother*" OR prenatal OR perinatal) AND (program* OR service* OR care OR intervention* OR treatment OR management) AND ("substance use" OR "substance abuse" OR "drug use" OR "drug abuse" OR addiction* OR alcoholi* OR "alcohol abuse") AND (alberta* and canada*). Additional information on programs that were already known to the researcher or that had been identified in the database searches was also searched for in Google.

Potentially relevant records were then recorded in a *Microsoft Excel* spreadsheet, including the URL of the record. The date searched, search terms, and number of results retrieved/screened were also recorded in the spreadsheet. Each website was then reviewed for relevant program documents. During this phase of the search, only the most recently published program documents (if multiple versions exist) were included to ensure that extracted information was relevant and current. Reference lists (if available) from program documents identified during the search were hand-searched for links to other relevant programs or documents. Lastly, the website (if available) of each program and/or organization operating the program, was reviewed for relevant program information and the list of websites reviewed is indicated in Appendix E.

To further identify programs and program information, searches were then conducted of targeted websites of relevant organizations and associations. This process was divided into two steps. First, a Google search was conducted to identify relevant organizations and websites that may publish documents on the subject. Relevant organizations identified during the initial Google search for relevant documents were also included. Next, the website homepage of each organization was searched for potentially relevant documents using a combination of keywords in the website database or search bar. A combination of the following keywords was used: (pregnan* OR "expect* mother*" OR prenatal OR perinatal) AND (program* OR service* OR care OR intervention* OR treatment OR management) AND ("substance use" OR "substance abuse" OR "drug use" OR "drug abuse" OR addiction* OR alcoholi* OR “alcohol abuse”) AND (alberta* and canada*). All or the first ten pages of each search’s hits were reviewed for potentially relevant results. Websites that did not have a database or search bar were hand searched. Each website (i.e.,

website/organization name and URL) and the date on which each search was conducted were recorded in an Excel spreadsheet. The name, year, and URL of potentially relevant records were then recorded on the spreadsheet within the same row as the main website homepage. The targeted web searches were conducted from January to March 2022 and all results were reviewed against the inclusion criteria as recommended by Peters et al. (37).

2.6 Data Extraction

Prior to beginning this stage, a data extraction form was created in both *Covidence* (for documents retrieved from databases) and *Microsoft Word* (for documents retrieved from the Google searches and searches of targeted websites). The form was developed to record the following information for each document: descriptive information (i.e., citation, document purpose) and information specific to the program (i.e., name, broad program description, program principles and activities). To promote rigor, charting was considered an iterative process so that as data was extracted, the charting form was updated, if necessary (36). The form was first piloted on three randomly selected academic and grey literature publications, respectively, to ensure accuracy and adequacy in capturing relevant data. After piloting, the additional categories of program duration and challenges were included in the data extraction forms. An example of the data extraction form used is included in Appendix G.

2.7 Data Analysis and Presentation

This stage incorporated both descriptive numerical summary and thematic analysis (36). A descriptive numerical summary analysis was used to describe the characteristics of included articles, including the overall number and type of documents included (35–37) and is presented in Table 2. Thematic analysis, which is described as an approach to

"identifying, analyzing, and reporting patterns (themes) within data" (37 pp6) was then used to extract common themes that emerged from the data to provide an overview of the breadth of the literature, but not a synthesis (36).

An inductive thematic analysis was conducted according to the process described by Nowell et al. (40), which involves six phases:

i. familiarize yourself with the data (i.e., review notes and transcripts),
ii. generate initial codes,
iii. search for themes,
iv. review themes,
v. define and name the themes,
vi. produce the report.

This step-by-step approach provides structure to the conduct of a thematic analysis that aims to be both trustworthy and rigorous (40). Although this approach is presented linearly, it was an iterative and reflective process that required moving between phases (40).

Next, it is important that the reporting strategy is made clear so that readers can determine whether there is potential bias in the reporting or recommendations of the review (35). Therefore, in this study, results were reported according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) checklist to increase its relevance for decision-making and promote transparency and rigor (41). Building on PRISMA, the PAGER (Patterns, Advances, Gaps, Evidence for practice, and Research recommendations) framework provided structure and consistency to the analysis and reporting of findings, promoting rigor (42). Lastly, findings

were contextualized as they relate to the study purpose, including implications for future research, practice, and policy (36). This was informed by discussions with members of the graduate student supervisory committee who are involved in the development of a strategy for the care of pregnant patients experiencing problematic substance use, at the Lois Hole Hospital for Women in Edmonton, Alberta.

2.8 Results

Results are reported in narrative and tabular formats according to the PRISMA-ScR checklist which is outlined in Appendix D and the PAGER framework (42,43). As illustrated in the PRISMA Chart (44) (Figure 1), 1,058 unique records were identified from the database searches. A total of 53 duplicates were automatically removed in *Covidence*, resulting in 1,005 records. Of these, 938 records were excluded, resulting in 67 records that were sought for retrieval; however, one was not publicly available. After full text review, 60 records were excluded, therefore, six records from the database searches were included in the scoping review. A total of 75 records were identified from other sources (e.g., Google searches and targeted searches of websites of relevant organizations) and of these, 28 records were sought for retrieval. After full text review, 27 records were selected for inclusion in the scoping review.

As recommended in the first stage of the PAGER framework, Table 2 presents a numerical summary of included evidence sources. In total, 33 evidence sources were included, most of which describe PCAP (*n*=11) and the H.E.R. Pregnancy Program (*n*=9). Other programs that were identified include First Steps, Mothers-To-Be-Mentorship, Aventa Pregnancy Program, EMBRACE Program, Pregnancy Pathways, and Concurrent

Disorders Enhanced Service. Most included documents were either NGO reports (*n*=12) or scholarly journal articles (*n*=7).

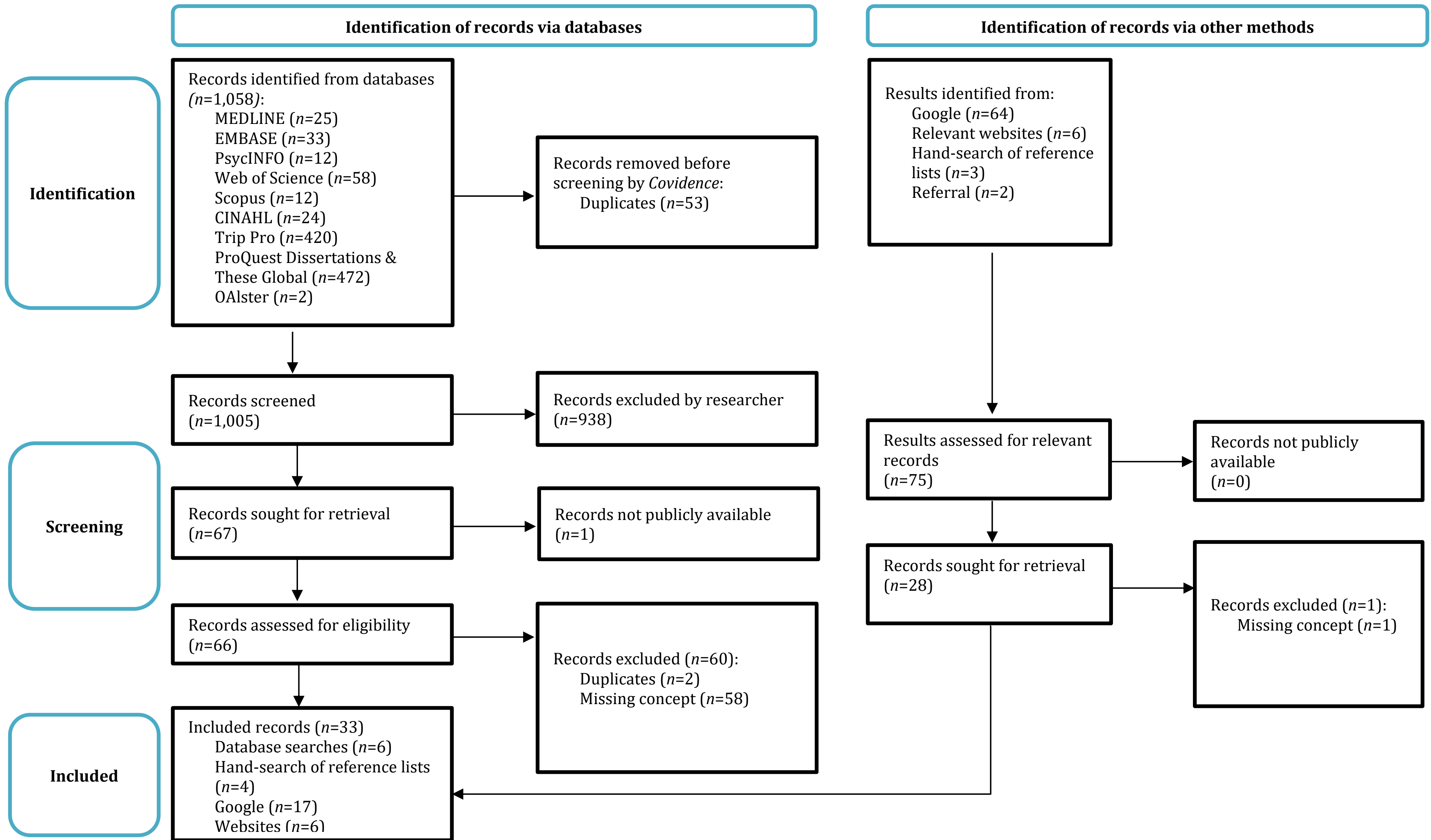

Figure 1. PRISMA flow diagram (44)

Table 2. Numerical summary of included evidence sources (n=33)

Year of Publication	n.d.	5	
	2011	1	
	2012	1	
	2013	5	
	2014	1	
	2015	3	
	2017	3	
	2018	1	
	2019	7	
	2020	1	
	2021	5	
Program Focus	Parent Child Assistance Program (PCAP)	11	
	First Steps	2	
	2nd Floor Women's Recovery Centre	4	
	Mothers-To-Be Mentorship	3	
	H.E.R. Pregnancy Program	9	
	Aventa Pregnancy Program	1	
	EMBRACE Program	2	
	Pregnancy Pathways	2	
	Concurrent Disorders Enhanced Service	1	
Document Type	Journal article	7	
	NGO report	12	
	Government report	2	
	Government and NGO report	2	
	Book	1	
	Handbook	1	
	Brochure	2	
	Quick Reference Guide	1	
	News article	3	
	PowerPoint	1	
	Conference presentation	1	

The general characteristics of each program are described in Table 3. First Nations PCAP is listed separately from PCAP because documents specific to the implementation of PCAP in First Nations communities in rural Alberta were included. All programs identified pregnant patients experiencing problematic substance use as a target population or prioritized the admission of pregnant patients experiencing problematic substance use. In

total, 10 programs are listed, four of which are based on the PCAP model of care (i.e., PCAP, First Nations PCAP, First Steps, and Mothers-To-Be-Mentorship). For most programs, there was no available information on program challenges and there was the least available information on the Concurrent Disorders Enhanced Service program. Lastly, the review identified more out-patient or community supports as compared to in-patient supports.

Table 4 then presents the results of the scoping review according to the PAGER framework. From the thematic analysis, four overarching patterns or themes were identified: i) Services/Activities, ii) Philosophical/Theoretical Approaches, iii) Service Delivery, and iv) Research Approaches.

The programs described similar services/activities that are designed to address patient needs beyond substance use treatment and pregnancy care. For example, both the H.E.R. Pregnancy Program and the PCAP program provide support in a variety of life areas, including housing and child custody support. This may also include referrals to other programs if a specific service is not offered by that program. Therefore, it is important that service delivery is coordinated between programs and that program staff are aware of and able to connect patients with available supports in the community.

Next, most programs identified similar philosophical/theoretical approaches. These approaches largely address patient needs from a holistic perspective while empowering patients to make informed decisions about the care of their infants. Programs often described care delivered from a trauma-informed perspective, recognizing that problematic substance use is often the result of past or current trauma. Therefore, this approach seeks to address the underlying issues of substance use rather than addressing issues in isolation.

In terms of service delivery, many programs identified the importance of partnerships with other organizations and a wraparound model of care. These approaches can help ensure a patient receives comprehensive support and improve the accessibility of services to patients. One program (H.E.R. Pregnancy Program) also described an outreach component in which staff meet with clients on the streets and offer them basic prenatal services, essentially, bringing the services to the clients.

Lastly, research on these programs largely incorporated participatory approaches and mixed methods. Reflecting the relational nature of caring for pregnant patients experiencing problematic substance use, much of the research included in this scoping review involved relationship building with participants beforehand. For example, in an evaluation of the implementation of PCAP in rural Indigenous communities, researchers engaged with the community prior to conducting the research and sought community feedback on research objectives, priorities, and methodologies. Furthermore, the use of mixed methods allowed researchers to develop a comprehensive understanding of the research topic and evaluate both the objective impact of a program as well as the patient's experience of the program from the patient's perspective.

Table 3. Program characteristics

Program name (Location)	Organization	Broad Program Description	Program Duration	Program Approaches and Activities	Challenges
Concurrent Disorders Enhanced Service (Ponoka)	Alberta Health Services	Voluntary, specialized in-patient program that provides assessment and treatment for people with co-occurring severe mental illness and addiction issues; pregnant women are prioritized for admission	22-day program; however, this may vary on an individual basis	Individual and group processes, treatment from a trauma informed perspective, and specialized concurrent disorder programming to support recovery	
EMBRACE (Red Deer)	Alberta Health Services	Seeks to teach new moms who have used opioids during pregnancy how to care for their newborns and monitors newborns for NAS	Three to five days	Pregnant women who have used opioids during pregnancy are connected to the program through doctors' offices, walk-in clinics, methadone programs, and the Virtual Opioid Dependency Program Moms have a private room and family members are encouraged to stay and support them Physicians and nurses regularly monitor and assess the baby Baby-cuddler volunteers are trained to soothe babies and give mothers some relief Partners with new moms so that they can be the primary source of comfort and care for their babies, helping to decrease the likelihood that the newborn will be given morphine to treat for NAS	

First Steps Program (Edmonton region)	Catholic Social Services	Prevent alcohol and drug exposed births among mothers who are at high-risk of using alcohol and drugs during pregnancy or up to 12 months postpartum	3-year program	Modeled after PCAP Trained mentors (case managers) work with clients for three years beginning during pregnancy or within six months after the birth of a child by providing one-on-one personalized supports such as home visitation Mentors develop a positive, empathic relationship with mothers, help them to identify personal goals, obtain alcohol/drug treatment, stay in recovery, choose a method of family planning, access childcare and immunizations, connect with community services, address housing and child custody issues, seek help for domestic violence, and resolve system service barriers Mentors also provide transportation to appointments	
H.E.R. Pregnancy Program (Edmonton)	Boyle Street Community Services' Streetworks	Supports at-risk pregnant women in inner city Edmonton to access healthcare services before and throughout pregnancy and address issues such as addiction, poverty, and violence Aims to assist and empower street-involved women who are pregnant by enhancing their skills,	Provides support to mothers up to six months after delivery	Program delivery is based on the following principles: women centeredness, peer support, harm reduction, strengths-based, relationships-based, equality, evidence informed education, health promotion and primary health care, flexibility, low threshold, collaboration, and hopefulness Most outreach staff are Indigenous and have similar experiences to	Lack of suitable housing available for clients Need for sustainable funding for continuation and expansion of the program

		knowledge, resources, and personal support so they may live safer and healthier lives		clients, such as poverty, intimate partner violence, trauma, and problematic substance use, providing a foundation for building trusting relationships with clients Programming includes outreach (weekly drop-in), one to one support in a variety of life areas, substance use support, prenatal/postnatal care (e.g., STI testing and pregnancy testing), child welfare support, food/nutrition, and basic needs support, transportation and accompaniment, and cultural activities and events (e.g., sewing, sweats, and medicine picking) Connects clients to health and social services and resources delivered by other services providers (e.g., medical services, income support, and housing)	
Mothers to be Mentorship (Cold Lake, Bonnyville, St. Paul, Lac La Biche, Kikino/Buffalo Lake Métis Settlement, Cold Lake First Nations, Fishing Lake/Elizabeth Métis Settlement, Beaver Lake First Nations)	Lakeland Centre for FASD	Free, non-judgmental long-term support program for women who are pregnant or who have recently given birth and have used alcohol or drugs at any time during pregnancy	3-year program	Modeled after PCAP Mentors assist with exploration of treatment options, providing support and advocacy, discussing birth control options, connecting women and their families to community supports, and helping to identify goals and achieving success in goals	
Parent-Child Assistance Program (across Alberta)	Alberta FASD Networks	A 3-year home visitation program for women at risk of abusing substances who are pregnant, at risk	3-year program	Provides specialized and holistic support to women who are pregnant or who have recently	

		of becoming pregnant, and/or up to six months postpartum with the goal of preventing future drug- or alcohol-exposed births		given birth and have used substances during pregnancy Mentors assist clients to avoid substance use before and during pregnancy and to avoid becoming pregnant if unable to achieve sobriety	
First Nation Parent-Child Assistance Program (PCAP) (rural and isolated Alberta First Nation communities)	Alberta FASD Networks	A 3-year home visitation program for women at risk of abusing substances who are pregnant, at risk of becoming pregnant, and/or up to six months postpartum with the goal of preventing future drug- or alcohol-exposed births	3-year program	Mentors engage in relational community work before introducing the program to the community as well as during each stage of program delivery Mentors adopt a trauma-informed approach that is strengths-based and client-driven (i.e., they meet clients where they are at and adapt to community circumstances) Much of the work between mentors and clients involves goal setting and helping clients to meet their own basic needs (e.g., attending appointments, accessing mental health services, addictions management) Mentors engage in work beyond their formal job descriptions (e.g., going fishing or mint and berry picking with clients, participating in community cultural events) Mentors work to raise awareness about PCAP and FASD	Limited access to resources in rural, remote, and isolated communities (e.g., cellphone service, transportation, addictions support, childcare) and long travel distances Many clients experienced unstable and unsafe housing situations, food insecurity, and poverty, making it hard to progress in the program Many clients have complex needs related to trauma histories,

				Mentors use a case management model based on relational service delivery to help women avoid or reduce substance use prior to or during pregnancy, and to avoid becoming pregnant if they are unable to achieve sobriety	mental health issues, and addictions Insufficient funding cycles
Pregnancy Pathways (Edmonton)	Boyle McCauley Health Centre	A transitional housing program for pregnant women who are experiencing homelessness which seeks to provide safe accommodation and comprehensive health and social support services during pregnancy and for the first year of a child's life	6-18 months	Supports are provided from a harm reduction, strengths-based, and trauma-informed perspective Provides holistic health and wellness services such as prenatal care and helps women build life and parenting skills As most clients are Indigenous, the program ensures that they have access to cultural ceremonies and teachings from Elders and traditional knowledge keepers (e.g., smudging, sweats, medicine picking, and traditional teachings about childbirth and parenting) Program operates in a dedicated apartment building with 24-7 staffing and on-site supports Each participant rents an apartment with an affordable rent and Homeward Edmonton Trust provides financial support to assist with housing start-up needs Collaborates with Alberta Health Services to coordinate access to physical, mental health, and addiction support services	Availability of suites for clients, including prolonged delays in preparing suites for occupancy after a client leaves the program

				After 6-18 months, the team helps women transition from the program by developing a plan for affordable housing and access to supports	
Aventa Pregnancy Program (Calgary)	Aventa	Provides low barrier access to live-in addiction treatment programming for pregnant women	Delivers a short term (6-week) and long term (90-day) program; however, pregnant women may stay up to 4.5 months in the long-term program	Adopts a trauma informed, gender-specific, and concurrent capable approach Wraparound services include coordination of prenatal and perinatal medical care, prenatal and perinatal psychosocial services, transportation services for medical appointments, post treatment housing coordination with community partners, and an integrated Parenting in Recovery Program that allows clients to share and relate around parenting and addiction Offers five funded priority admission beds to pregnant women seeking addiction treatment	Childcare is unavailable; therefore, clients must make childcare arrangements before starting treatment
The 2nd Floor Women's Recovery Centre (Cold Lake)	Lakeland Centre for FASD	A live-in addiction recovery program that prioritizes women ≥15 years of age who are pregnant or at risk of pregnancy and who experience alcohol or substance use issues	All women are accepted for a 42-day program and discharge dates are based on each woman's Individual Recovery Plan Pregnant women must	Programming is based on an Individual Recovery Plan that is holistic, relationship based, and focused on harm reduction Adopts a Circle of Courage, medicine wheel-based approach Provides support for needs such as securing stable income, applying for housing, or navigating the justice or child welfare system	Does not provide detox services but pregnant clients are expected to attend medically supervised detox Unable to accommodate children in the

			be discharged one month prior to giving birth	Individual treatment plans are followed by an aftercare plan designed to assist women in returning to their community and women may receive follow-up support from a program such as PCAP Clients have regular access to an addiction counsellor, case coordinator, career and life readiness programmer, registered nurse, physician, and other community service providers Programming includes individual/group counselling, strengths identification and life skills building (e.g., relationship/family/parenting skills), cultural connectivity (e.g., smudging, attending a ceremony), alternative therapies (e.g., drumming, meditation), volunteering in the community, prenatal education, and appointments with health practitioners	facility but will work with women and their support services to help women continue to stay connected No long-term parking available and does not provide transportation but may be able to assist with transportation issues if advised in advance

Table 4. PAGER Framework

Pattern	Advances	Gaps	Evidence for practice	Research recommendations
Services/Activities • Counselling • Education • Referral • Addictions support • Housing support • Peer support • Prenatal, perinatal, and postnatal care • Mental health support • Cultural activities • Goal setting	Many programs address other determinants of health beyond substance use	Lack of housing and transportation	It is important that service delivery is coordinated between service providers and that clients receive assistance with access to housing and transportation It is recommended that reporting forms be adapted for culturally appropriate and respectful use	Conduct an evaluation of services to understand which ones work best and what services may be lacking
Philosophical/Theoretical Approaches • Relational foundation • Trauma-informed • Harm reduction • Strengths-based • Client-driven • Culturally responsive • Non-judgmental	Many programs address client needs from a holistic perspective while empowering clients to make choices about the care of their infants Relationship building is foundational to earning the woman's trust and in helping the woman to progress in care	Approaches are often not clearly defined/definitions may be ambiguous	These approaches are associated with positive outcomes in helping patients to progress during care and maintain this progress after care	Develop a clear and commonly understood definition of these approaches so that they can be consistently applied in practice
Service Delivery • Partnerships with other community organizations • Outreach (i.e., not confined to a single location) • Wraparound support	There is evidence of the benefits of partnerships between community organizations in delivering and coordinating services and of the benefits of wraparound supports in addressing the multifaceted needs of clients	Insufficient program duration	It is important to move away from short-term funding within communities and towards adaptable and sustainable long-term fundings models as significant time may be necessary for relationship building with clients and communities	Conduct research on programs of different durations and compare and contrast the outcomes

Research approaches Participatory approaches Mixed methods	There is evidence of the benefit of participatory approaches in conducting research in this area There is evidence of the need to apply mixed methods to provide a comprehensive overview of a program's impact	There is a paucity of research on programs other than the H.E.R. Pregnancy Program and the PCAP program	It is important to improve data collection and dissemination processes (e.g., timely reporting of program outcomes) It is recommended that there is ongoing evaluation and measurement of program outcomes (both summative and formative)	Conduct research exploring how both patients and families have been impacted by programs Conduct long-term evaluations of programs

2.9 Discussion

The purpose of the scoping review was to identify and describe programs for the care of pregnant patients experiencing problematic substance use in Alberta. Ten programs were identified, specifically, PCAP, First Nations PCAP, First Steps, 2nd Floor Women's Recovery Centre, Mothers-To-Be Mentorship, H.E.R. Pregnancy Program, Aventa Pregnancy Program, EMBRACE Program, Pregnancy Pathways, and Concurrent Disorders Enhanced Service. Of the ten programs, four are modelled after the PCAP approach to care. These include PCAP, First Nations PCAP, First Steps, and Mothers-To-Be Mentorship. PCAP is a three-year home visitation program for women who are at high-risk of abusing alcohol or drugs during pregnancy and who are estranged from community service providers (45). In 1991, the program began in Washington State as a federally funded research demonstration project to test the efficacy of a model that incorporates intensive, long-term paraprofessional advocacy in an intervention for pregnant or parenting women at high-risk of abusing alcohol or drugs (45). PCAP uses a case management approach in which paraprofessional advocates work to establish a trusting relationship with clients (45). Advocates often have similar life experiences as clients and act as positive role models to help motivate clients to make changes, identify personal goals, and take the steps necessary to achieve those goals (45).

In the province of Alberta, the Alberta PCAP Council provides program-specific support to over 30 PCAP programs which serve approximately 500 women (46,47). The Council supports programs to operate in an educated, culturally responsive, and trauma-informed manner that is consistent with the Alberta PCAP model (47). PCAP has been implemented in Alberta since 1999 and in 2007, became the Government of Alberta's

program of choice for FASD prevention (46). The PCAP model is based on the principles of relational theory, stages of change, self-efficacy, and harm reduction (46,47). Like the Washington State model, Alberta PCAP offers specialized and holistic support during and after pregnancy for those experiencing difficulties with substance use and/or other health and/or social issues (47).

According to the Council, the four objectives of PCAP are as follows (47):

i. support participants to reduce or stop alcohol and/or drug use during pregnancy,
ii. achieve and maintain recovery,
iii. support healthy pregnancies and lives for participants and their children, and
iv. support community connections.

Within the program, PCAP mentors seek to build trusting relationships with clients and to support them in building the life that they want (47). This involves a two-pronged approach in which mentors connect with both participants and community supports, helping to reduce community service barriers (47).

The work of PCAP aligns with the Truth and Reconciliation Commission of Canada's (TRC) Calls to Action, specifically, Call to Action number 33 on addressing and preventing FASD (48). In recognition of the historic and ongoing impacts of colonialism on Indigenous peoples, it is recommended that programs providing services in Indigenous communities align with the TRC's Calls to Action (48). Therefore, in 2014, the Alberta Ministry of Health provided funding to Alberta Community and Social Services for six FASD Service Networks to establish or expand PCAP in Indigenous communities in Alberta (48). These included the

South, Northwest, Prairie Central, Northwest Central, Mackenzie, and Lakeland FASD Networks (48).

Pei et al. (48,49) described key considerations for working with rural Indigenous communities in the implementation and delivery of PCAP. Notably, a significant investment of time and effort was necessary to establish PCAP roots and obtain community approval prior to program commencement (46). It was necessary for program staff to be flexible and responsive in their approaches to demonstrate cultural sensitivity and respect for the people and settings in which they worked. This included working outside of their job descriptions by attending community events and prioritizing a holistic, collective, and community-based approach to service provision.

After PCAP, most available literature included in this review described the H.E.R. Pregnancy Program, which supports at-risk pregnant women in inner city Edmonton to access healthcare services before and during pregnancy and address issues such as addictions, poverty, and violence (50–54). The H.E.R. Pregnancy Program provides support to mothers up to six months after delivery and programming includes outreach, one-to-one support in a variety of life areas, substance use support, prenatal/postnatal care, child welfare support, food/nutrition, and basic needs support, transportation and accompaniment, and cultural activities and events (50–54). A 2012-2013 Social Return on Investment Case Study of the H.E.R. Pregnancy program demonstrated that the overall social value of the program was $8.24 for every dollar invested (55). The study also indicated that the H.E.R. Pregnancy Program was successful in helping clients maintain custody of their infants, better assess safety in their surroundings and personal relationships, and adopt safer sexual practices, among other outcomes (50–52,55).

Overall, the programs included in the review offer similar services/activities, such as counselling, education, referral, addictions support, housing support, peer support, prenatal, perinatal, and postnatal care, mental health support, cultural activities, and goal setting support. These programs address multiple determinants of health and recognize that problematic substance use is a complex issue that is often not isolated from other issues. For example, the Concurrent Disorders Enhanced Service offers specialized concurrent disorder programming for assessment and treatment of co-occurring severe mental illness and addiction issues, recognizing that addiction often occurs in conjunction with mental health issues (56).

Although programs primarily focused on supporting the mother during pregnancy, most programs also included the provision of postpartum care and support for the newly parenting mother. For example, the 2nd Floor Women's Recovery Centre supports women in developing an aftercare plan, which may include referrals to other services such as PCAP (57). The H.E.R. Pregnancy program adopts a similar approach; however, in an impact evaluation of H.E.R., clients reported that post-natal home visits may be beneficial to their wellness (58). Of the included programs, only the EMBRACE program directly addresses NAS by incorporating an Eat, Sleep, Console approach (21–23). Pregnant women who have used opioids during pregnancy are introduced to EMBRACE through doctors' offices, walk-in clinics, methadone programs, and the Virtual Opioid Dependency Program (59). EMBRACE then partners with new moms so that they can be the primary source of comfort and care for their babies, thereby adopting a family-centered approach (59).

One of the most common challenges faced by programs, as identified in this review, is a lack of suitable housing for pregnant or parenting patients experiencing problematic

substance use. The Pregnancy Pathways program helps to address this issue by providing safe accommodation and comprehensive health and social support for pregnant women who are experiencing homelessness and during the first year of a child's life (60,61). The program collaborates with Alberta Health Services to coordinate access to physical, mental health, and addiction support services for clients (60,61). However, there is often a lack of available suites for clients, including prolonged delays in preparing suites for occupancy after a client leaves the program (60). Clients have also expressed the need for drug free housing as they do not want their children exposed to drug use (61). Programs such as the 2nd Floor Women's Recovery Centre and the Aventa Pregnancy Program also provide accommodation to patients receiving treatment; however, like with Pregnancy Pathways, program space is limited by the number of beds available. Other programs such as the H.E.R. Pregnancy Program, which do not provide accommodation on site, may refer clients to housing supports although a lack of available and suitable housing remains an issue.

Next, the programs described similar philosophical/theoretical approaches to care based on the following principles: relational foundation, trauma-informed, harm reduction, strengths-based, client driven, and culturally responsive. Most programs emphasized the importance of building relationships based on a foundation of trust. This was expanded to not only include relationships between patients and staff but also among patients and among service providers. To promote relationship building, many programs included a group treatment or peer support component for clients. In group settings, clients can make meaningful connections with others who have had similar experiences (48). For example, as a part of the Aventa Pregnancy Program, clients may participate in an integrated Parenting in Recovery Program that allows clients to share and relate around parenting

and addiction (62). Likewise, clients may be better able to connect with staff who share similar experiences. This is a feature of the H.E.R. Pregnancy Program in which staff often have similar backgrounds and experiences to clients, such as poverty, intimate partner violence, trauma, and problematic substance use (63). As substance use is often related to past or current trauma, most programs adopted a trauma-informed approach to care, which involves striving to understand the client's full story. Moreover, programs employed principles of harm reduction which recognizes that success does not always mean abstinence from alcohol or drug use, but that abstinence is only one possible goal (53). For example, success might mean reducing substance use gradually or focusing on other ways of taking care of oneself, such as eating nutritious meals or attending regular medical appointments (53). Related to harm reduction, multiple programs described a strengths-based approach which recognizes the inherent strengths of each woman and seeks to empower her to achieve her goals (4). This is also central to a client-driven approach in which the care team collaborates with the client to determine how care can be best delivered to meet their needs. Lastly, many programs emphasized the importance of culturally responsive care. For example, in the First Nations PCAP, mentors often participated in community cultural events with clients (49) and the H.E.R. Pregnancy Program offered cultural activities and events such as sewing, sweats, and medicine picking (51). More broadly, the philosophical/theoretical approaches employed by the programs identified in the scoping review are like those identified by the *Co-Creating Evidence: National Evaluation of Multi-Service Programmes Reaching Women at Risk (CCE)* study (30), which identified the following approaches to program delivery: 1) relational; 2) women-centered; 3) harm reduction; 4) trauma-informed; 5) culturally grounded; 6) kindness and

compassion; 7) inter-disciplinary with a developmental lens; 8) non-judgmental, safe, and strengths-based; and 9) community-focused.

Next, research approaches were extracted from included documents to inform future research initiatives, such as an evaluation framework, for a program for the care of pregnant patients experiencing problematic substance use at LHHW. Future research initiatives may benefit from understanding how others have conducted research in this area and possible challenges, considerations, and/or gaps that may need to be accounted for. In this scoping review, most articles described relational approaches to research. For example, a community-based research approach was used to detail the experiences of pregnant and early-parenting women who accessed the Pregnancy Pathways program during its implementation phase (61). Most studies also employed multiple methods of data collection, including mixed methods. Pei et al. (48,49) used a participatory approach to generate understandings of mentors' experiences of PCAP implementation in rural and isolated First Nations communities in Alberta. This involved consultation and collaboration with First Nation community leaders on study design and data collection, analysis, and dissemination (49). In using a participatory approach, researchers were able to maximize opportunities for engagement and participation from community members, potentially enhancing the quality of the data (48). Qualitative findings were generated through interviews, a focus group, and a review of narrative reports from First Nations communities in six Alberta FASD networks (49). The results indicated that program planning for Indigenous communities must involve partnership, consultation, cooperation, mutual respect, and collaborative development to ensure program success as this

demonstrates that governing bodies are actively committed to involving Indigenous peoples at all levels of the process (48).

Moreover, Job et al. (64) used a multi-method design that integrated focus groups with a quilting activity to capture the programmatic experiences of FASD mentors across Alberta. Participants shared their stories through conversation and creative expression (i.e., quilting) (64). These methods were combined to enhance methodological rigor and to acknowledge that reality may be better represented with the use of more than one medium (64). Emotional engagement created through visual research data may also push policymakers to listen to advocates' concerns and suggestions more readily (64). In addition, the use of visual methods in research adds a personal element to what may traditionally be an impersonal process (64).

In terms of research recommendations, further evaluation of the impact of PCAP on families and communities was recommended (48). Ongoing evaluation and measurement of programs can help to identify program strengths and weaknesses and to determine whether desired outcomes are being achieved (46,49). However, inconsistent data collection was identified as a challenge to the evaluation of both PCAP and the H.E.R. Pregnancy Program (48,51,52). Therefore, a clear procedure for collecting data must be established (46,51,52). Specific to PCAP, it was recommended that the development of infrastructure for site-level data extraction be made available in each FASD network (48). Moreover, the sharing of this data with staff can help them to better identify program strengths and challenges, and to adapt accordingly (48). This includes increased communication among stakeholders so that they can learn from those who have navigated

similar challenges (48). Finally, program outcomes can also be shared in accessible formats with the community to help strengthen relationships with community partners (46).

With respect to Indigenous communities, continual evaluation would require evaluators to have an ongoing involvement with the community and ideally, use face-to-face data collection (48). For the implementation of programs in smaller rural Indigenous communities, it is necessary to base hiring decisions on the needs of the community (i.e., community driven) and to be aware of community specific factors in program delivery (48). Community approval from Elders and other leaders must also be sought prior to program implementation (46,49). Specific to PCAP, it is recommended that mentors form relationships with clients before attempting to meet program needs (46,49). It is further recommended that staff be aware of the community's experience with other services and service availability (48). Likewise, staff must also be aware of recent community events, particularly those related to community problems and social challenges, and develop an understanding of both community and family dynamics (48).

Lastly, although there was insufficient program information available to be included in the scoping review, there are substance use treatment centers for First Nations in Alberta that accept pregnant patients (65). These centers are funded by the Government of Canada and include the Beaver Lake Wah Pow Treatment Centre on Beaver Lake Cree Nation, the Footprints Healing Centre on Alexander First Nation, the Kainai Healing Lodge Centre on Blood Tribe Nation, the Kapown Rehabilitation Centre on Kapawe'no First Nation, and the Wood Buffalo Wellness Society (Mark Amy Centre) on Fort McMurray First Nation. Alberta Health Services (AHS) also delivers the Health for Two program for women who require extra support during pregnancy and up to two months postpartum (66). The

program offers supports and referrals to community services such as addictions treatment, but there is little published detail on the program structure. Similarly, the Community Perinatal Program and the Adolescent Pregnancy Program delivered by AHS provides referrals for support with substance use issues but there is little published detail on the program structure. These are examples of other programs that provide care to pregnant women experiencing problematic substance use in Alberta but that were not included in the scoping review due to insufficient information available online.

Chapter 3: Health Care Provider Perspectives on Models of Care for Pregnant Patients Experiencing Problematic Substance Use

3.1 Overview

Building on the scoping review, health care providers were invited to share their experiences and perspectives on providing care to pregnant patients experiencing problematic substance use in a circle or interview format. The purpose of this was to contextualize the data at a local level, identify any gaps in knowledge and understanding, and enrich and contextualize the findings. A circle form was used to reflect Indigenous ways of knowing and sharing knowledge (epistemologies) as opposed to ceremony proper, recognizing that sharing circles proper are often Elder-led and approached as ceremony. Indigenous peoples in present-day Canada continue to experience inequitable access to health care as well as a disproportionate burden of harm related to substance use, because of ongoing colonial legacies (67). Therefore, a circle form was chosen because this approach gives equal voice to each person, decreases invisibility, and does not privilege one worldview or version of reality over another, while honoring Indigenous ways of knowing and anti-colonial approaches (68–70). This approach has previously been used in

evaluation, research, teaching, or consultation contexts, providing a more fluid form of research conversation than other highly structured approaches (69,70). Circles create a non-hierarchical environment that embraces the participant-as-expert approach while providing people with the power and choice to participate however they feel best (68). Therefore, a participant is less likely to dominate a discussion in a circle as compared to a focus group. In this study, the graduate student facilitated the circle; however, she did not have formal instruction from an Elder or Knowledge Keeper. Therefore, the term 'circle' rather than 'sharing circle' is used in this manuscript, recognizing that the term 'sharing circle' can have specific meaning.

3.2 Sampling

Potential participants were identified by referrals from the graduate student supervisory committee, thereby adopting a nominated sampling approach. To be included in the study, participants must have been a health care provider with experience providing care to pregnant patients experiencing problematic substance use, resided in Edmonton, and spoke English. These inclusion criteria were selected to best recruit participants with the knowledge and experience necessary to speak about the context of care for pregnant patients experiencing problematic substance use in Edmonton, including challenges and priorities.

Participants were invited via email to partake in the study and a follow up email was sent to those who did not respond after 10 days. In total, 12 participants were contacted, and five participated in the study. Two of the participants were identified from referrals from other potential participants. Three people did not respond after the follow-up email. Among the participants who declined participation in the study, reasons included not

having the capacity to participate at that time and not having much to contribute to the topic because it is a specialized area of expertise. One participant who was unable to participate in the circle due to a time conflict, participated in an interview instead. All participants primarily worked in Edmonton, Alberta at the time of the circle and interview. The participants included two family physicians, an obstetrician and gynecologist (OBGYN), a nurse, and a social worker. Most participants were already known to each other, and patients were frequently referred between their services.

3.3 Methodological Approach

Traditionally, when a sharing circle is used as an Indigenous research methodology, participants are seated in a circle and each person discusses the prompt in turn sequentially around the circle (71). Participants have the option to remain silent during their turn and the discussion continues until everyone is satisfied with their contributions (71). Moreover, sharing circles are traditionally led by Elders and approached as ceremony (69,72). In this study, however, the circle was conducted virtually to minimize exposure to COVID-19 and to provide greater flexibility for participation. Therefore, the circle was conducted on the *Zoho Meeting* platform and was recorded as all participants had provided signed consent.

The circle was held on April 21, 2022. The graduate student opened the circle with a brief introduction of herself, the research project, and the circle guidelines. The questions and guidelines were developed beforehand and members of the graduate student supervisory committee reviewed and provided feedback on these to ensure that they were consistent with the purposes of the research. The circle consisted of five rounds and the circle outline and guidelines are described in detail in Appendix H. For each round, the

graduate student presented the question and participants shared one at a time in alphabetical order based on first names. The sharing order and the question for each round were also indicated in a presentation shared on screen.

The interview was also conducted using the *Zoho Meeting* platform and was recorded as the participant had provided signed consent. The questions for the interview were the same as those for the circle but adapted for a one-on-one interview format. Further clarification questions were also asked based on the participant's responses.

After the circle and interview, a Post-Circle Confidentiality Form and a Post-Interview Confidentiality Form were sent to participants, respectively, to provide them with the opportunity to disclose whether they wish to be recognized for their contributions to the research and to indicate what information they are comfortable with sharing or not. Participants also had the option to request possession of research materials, such as the audio recording and transcript. Each participant received a $25.00 Starbucks gift card in recognition of their time and expertise. All participants (for both the circle and interview) were free to withdraw for whatever reason up until two weeks after the transcription of the audio-recordings. However, no participants chose to withdraw.

3.4 Data Analysis and Presentation

The audio recordings of the circle and interview were transcribed verbatim with the assistance of the audio transcription software, *Trint*. Transcripts were analyzed using inductive thematic analysis and a preliminary list of themes for each question was compiled by highlighting naturally occurring patterns in the data, including words, phrases, or ideas most voiced by participants (40). Novel themes, concepts, and recommendations were interpreted with the transcripts in mind to maintain the meaning of participants'

experiences. Once emergent themes were identified, the transcripts were again reviewed to identify relationships in the data and ensure that the extracted themes were applied correctly in context.

A thematic map was created for both the circle and interview, and relevant quotations were selected to support themes. The thematic map was subsequently shared with participants for review to ensure response accuracy and data completeness. This also helped promote rigor and enhance the trustworthiness of the data. After review, all participants (for both the circle and interview) indicated that the respective thematic map accurately represented their perspectives and ideas.

3.5 Results

Findings were similar between the circle and interview, therefore, results from the two were combined. This was also done to respect the confidentiality of participants. The themes were organized according to the topic of each question and are presented below. The circle and interview focused on three main topics: i) experiences providing care to pregnant patients experiencing problematic substance use, ii) ideas for priorities or areas for change, and iii) perspectives on key elements of a model of care. The key themes for each topic are discussed in the following sections. All participants provided written consent to be quoted. It is important to note that the quotations must be interpreted in context and that they reflect the experiences and perspectives of study participants.

Experiences

Participants were invited to describe their experiences of providing care to pregnant patients experiencing problematic substance use. The discussion on this topic revealed three overarching themes: i) learning the ropes, ii) navigating the challenges, and

iii) celebrating the good. The themes are discussed in detail with the use of supporting quotations from both the circle and interview.

i. Learning the ropes

Participants described their experiences of learning to provide care to pregnant patients experiencing problematic substance use. Many highlighted the importance of mentorship and collaboration, expressing gratitude for these opportunities. For example, one participant shared that she "did not get a lot of formal teaching, but (…) had great mentorship and collaborations (…) learning from my patients and from all the community agencies and other care providers in the community and in the hospital." In her experience, there was a lack of formal exposure for trainees in a clinical setting. Similarly, another participant shared that she "learned the ropes from the experts and from now retired outreach workers and so on, who were (…) the van ride-alongs and so on and I maintain that I probably learned more in that environment than I ever did in medical school," highlighting the limitations to what can be learned in a classroom setting. This point was further echoed by another participant who shared that "in nursing school, we would always talk about social determinants of health, and now, in practice, I'm like this makes sense for everything," illustrating the value of practical or experiential learning, particularly in this context of care.

Furthermore, participants described how their experiences of learning to provide care shaped their philosophy of care. For instance, one participant shared that, in his experience, "having that harm reduction approach allows you to meet the woman where they're at and establish that rapport, and then hopefully something, building a foundation that you can then work off of to, to further help them and, and address their needs, so that's

just another like core foundational philosophy of care that we just hadn't talked about yet today, but that I feel very strongly about." Another participant shared that she was "mentored into how to have right relations with people," emphasizing the importance of relationship-building in her philosophy of care and the key role mentorship can play in learning these philosophies. This also illustrates the value of practical learning as best practices in providing care cannot always be modelled in a classroom setting or described in a way that resonates with learners.

ii. Navigating the challenges

Participants described the challenges that they must navigate in providing care to pregnant patients experiencing problematic substance use. One common challenge is an inconsistent quality of care, particularly between a community and clinical setting, highlighting double standards that can exist between the two settings. For example, one participant shared that she sees "a lot of patients who are really well supported in the community and have lots of great stuff in place and then things kind of fall apart when they get to an in-patient setting [because of] the stigma that's there, the lack of anti-oppressive practice approaches and trauma-informed practice both in- and out-patient, but more so in my practice in an in-patient setting." This was echoed by another participant who shared that, "when it comes to like the care of our clients, whether it's in doctors' offices or in hospitals or with child welfare, it's very based on the worker themselves, how they get treated, and it's unfortunate, there's like no like one standard where there should be," illustrating that there may not necessarily be a double standard but a lack of standardized care between in- and out-patient settings. Lastly, a participant noted that a lot of community members see "[the] institution [the Royal Alexandra Hospital] as the baby

snatchers and that's a real problem, especially because [they] are the only tertiary care center," suggesting that there are not many options available to pregnant patients experiencing problematic substance use who are concerned about child welfare involvement. This is particularly concerning as patients who are already hesitant to seek care may be further discouraged from seeking pregnancy related care in addition to seeking treatment for addiction and other issues.

Participants further highlighted double standards related to a "hierarchy of substance use," emphasizing that certain substances are considered more socially acceptable than others. For example, one participant indicated that, if "you're a (…) wine mom, you drink alcohol on the weekend with your friends, you smoke a joint, okay, whatever, that's legal, (…) that's gonna be okay (…) but maybe (…) your substance of choice is crystal meth or crack (…) well, [CFS; Children's Services] can't safety plan for that." On the other hand, she had seen CFS workers supporting clients experiencing problematic substance use by purchasing a lockbox for their pipes and giving clients the chance to care for their children. Another participant observed that, "patients are so afraid to disclose substance use because their substance may not be the socially accepted substance of choice," revealing an atmosphere of fear and mistrust. This was echoed by another participant who observed that "sometimes people, you know, people seem more comfortable if someone's on a stable dose or something prescribed than they are of something unprescribed and somehow that's not considered as legitimate," emphasizing the stigma that exists regarding certain substances. This stigma further contributes to an atmosphere of fear and mistrust, particularly of health care providers. One participant highlighted the impact of this on clients – "[clients] get treated improperly once, they don't

wanna go back to that doctor, and they don't wanna go back to any doctor," emphasizing the importance of earning the patient's trust from the outset and prioritizing non-judgmental care.

Participants also shared that they had observed tensions between staff because of differing viewpoints. One participant shared that "there's still a lot of deeply held stereotypes and stigma (…) that are really, really hard to counter and unlearn," highlighting challenges related to promoting change, especially when existing models of care have been engrained for many years. Similarly, another participant shared that she found this work "stressful" in terms of promoting change and explained that she is "trying to navigate how to call people in instead of call people out and make change in a way that meets people where they're at in order to be effective, but also not be complicit in all of the stigmatizing and oppressive language and practice that exists." The participant described the delicate nature of promoting change among people who may be resistant to or skeptical of alternative approaches to providing care. Another participant described challenges related to working with other service providers. For example, in his experience providing care at FIR Square, he shared how they "always had to kind of demonstrate and explain and defend (…) our women to move the needle for those community social workers to start to go ahead with making a safe discharge plan for mom and baby to go somewhere together," as there were often doubts regarding the women's ability to parent. Therefore, the participant and his team often advocated on behalf of patients with respect to the patient's ability to parent.

Lastly, participants highlighted that there is often a greater focus on the baby than the mother. As one participant noted, "we tend to get overly focused on the baby at the

expense of the (…) parent and (…) parents and their care needs and (…) their support needs," highlighting the necessity of balancing the needs of the baby with those of the mother. Another participant related this to the mission of the H.E.R. Pregnancy Program, which is founded on "the belief that a healthy woman will have a healthy baby cause that woman first and her health obviously impacts that of the fetus' as well." With respect to an in-patient setting, one participant shared that, "the NICU [neonatal intensive care unit] has to also, that would be the, another set of providers that need to be women-centered, nonjudgmental, trauma-informed because I know NICU nurses can sometimes be quite protective of their patient who really is the baby and, and may pass judgment on the mom or make the mom feel, feel judged, and you can lose the moms that way." This highlights the need for philosophies of care to be streamlined across a patient's experience with health care services.

iii. Celebrating the good

Despite the challenges, participants also described many positive experiences. As one participant shared, "I think one of the things that I have felt so privileged to see (…) is the incredible strength and resilience of the patients with whom we work and the fact that you really can't make any assumptions about what somebody's future is going to look like and so I think that's the, that's the sort of like beautiful part of this, is seeing the incredible resilience and self-advocacy and strength and smarts of the, of our patients." Participants further highlighted moments during which they have seen clients defy the odds and achieve their goals. For example, one participant shared a story about a client who had been underestimated by Children's Services and doctors and labelled as someone who would be "an addict her whole life," but has now transformed and is successfully parenting

her children. Similarly, a participant noted that "hope is underestimated with our clients," a sentiment that was echoed by others. For example, one participant emphasized the need to give patients the benefit of the doubt, saying that "pregnant patients experiencing problematic substance use also just need to be given, you know, like the shot or an option and they want, you know, they wanna do good and they wanna do the right things." Lastly, one participant summarized this perspective with the following: "really seeing when our clients meet all their goals and beyond that and defeat the odds (…) that are put against them is really inspiring and just showing like, it works when people have support, when people are heard, when people are given the true information, they can succeed."

Priorities and Areas for Change

Participants were subsequently invited to share their perspectives on what should be prioritized or changed in services for the care of pregnant patients experiencing problematic substance use. The discussion of this topic revealed four overarching themes: i) building relationships, ii) understanding the full story, iii) developing strengths and competencies, and iv) designing the care environment.

i. Building relationships

Participants highlighted the importance of building relationships based on a foundation of trust between the patient and health care provider. As one participant noted, "people [health care providers] walking in for the first time need to recognize that they have to earn that trust every single time," which may involve meeting the care team beforehand to broker or "establish that kind of trust in advance." Relationship building is also important among patients. As one participant shared, "we've seen that Pregnancy Pathways and even within our own program [H.E.R. Pregnancy Program], where clients

create those, those relationships with one another and have like that peer support beyond their workers." This may create additional support networks for patients outside of health care providers who may not always be available for support. Participants further described the importance of peer support in helping patients to achieve their goals.

Next, participants highlighted the importance of prioritizing patient-centered goals by "letting that person [patient] just define the sort of supports that they need at the proverbial bedside, whether that be in the community or in the hospital" meaning that "no matter where a pregnant person is showing up for support, that we show up for that person and create a team that she wants and a vision for the care that they want as well." In this model of care, the patient plays a key role in determining who will be there as a support during the pregnancy and postpartum period, recognizing that certain patients may define family as either kin or street family. Therefore, participants emphasized that patients must be supported in determining who is considered family and who would be the best support. This may include financial support as well if the patient requests a labor support person who is not considered to be a typical health care professional, such as a doula. The patient's primary care provider would then need to collaborate with the labor support person in caring for the patient. However, one participant shared that she has "seen in some occasions (…) some professionals refuse to work with doulas," noting that "the notion of (…) who are the providers? That's got to be blown up."

Finally, participants highlighted the importance of collaborative case planning in meeting the multifaceted needs of patients. As one participant observed, "you need to have some kind of relationship between all of these different services that we get to know as we all work together." In sharing her vision of a future program for pregnant patients

experiencing problematic substance use at the Lois Hole Hospital for Women, she noted that, “one of the biggest things though, I think is where people are so understandably worried about parenting, CFS [Children’s Services], and social work involvement in [the] hospital and so, if there is a way that I or [the] future program can help facilitate pre- or like antepartum collaborative case planning with some of [the] in-patient team in a way that makes those interactions when a patient is admitted, safe, that would be outstanding.”

ii. Understanding the full story

Likewise, participants described the importance of understanding the patient as a person. In the words of one participant, this begins by, “[giving] people like moms the benefit of the doubt or give them a chance (…) to show that they can do this” and using “people-first language.” In understanding the patient as a person, it is important to prioritize non-judgmental care so that patients do not “[feel] the pressure to lie or, you know, mislead or maybe not give the most full spectrum story because she, she's afraid of the implications of what she's saying.” As one participant shared, non-judgmental care involves “listening to the client and what their needs are and (…) just recognizing their dignity and hearing them out for what for what they want, what they need, what works for them.” This also includes “[looking] at people like they're humans (…) not trying to demonize people who use substances, especially women,” emphasizing the need to treat patients with dignity and to see the patient beyond the substance use. As one participant noted, “I think oftentimes, as professionals, we think we know what's right and we know what should be happening or what clients should do, but the client knows their, their story, their life a lot better than we do and we should see it as an honor that we're engaging in care with them or that they're engaging in care with us.”

Another participant highlighted that the “fear of the stigma that [patients] faced before is just so crippling and it shouldn't be.” Participants shared examples from their experience of when clients were judged for their appearance, choices, or circumstances and how this affected the care that they subsequently received. For example, one participant shared that “pretty much every single time our clients go into delivery and for whatever reason on their prenatal record, or maybe literally just the nurse judging for the way that they look, like obviously Indigenous, maybe all tattooed, on the record that they have previous like opiate use in their pregnancy, whatever it be and then that gets a call from the social worker and then some random social worker just shows up and judges essentially like they're an assessor, but they're essentially just judging our clients at that point in time and not knowing any of their background.” However, it is important to recognize that these comments reflect the participant’s own experience and perspectives and is not generalizable to all contexts and situations.

A further aspect to understanding the full story is addressing social determinants of health. Participants highlighted the importance of addressing the underlying issues that may be instigating the substance use or that may be preventing patients from accessing treatment or pursuing recovery. As one participant noted, “I can build the best multi-disciplinary in-patient approach we can all think of but if there's no housing and there's food insecurity and there's violence, then like none of that actually matters.” Participants often expressed that housing is one social determinant of health that should be prioritized because clients often experience a lack of or unstable housing during pregnancy and the postpartum period. One participant summarized this perspective with the following statement: “I wish there was a billion more Pregnancy Pathways or other supportive living

situations for pregnant and parenting women cause that's even a big one where you might be able to be there while you're pregnant but once that baby comes, then your options are like, what? Go back to homelessness?"

iii. Developing and strengthening competencies

Participants described the importance of developing and strengthening health care provider competencies in caring for substance use disorders and in addressing social determinants of health. This includes "more awareness and understanding of how to (…) incorporate trauma-informed care [and] harm reduction care." As one participant noted, "we also need competencies in how do you manage those social determinants, what do you do? But when, how do you, how do you deal with someone who's experiencing food insecurity and actually has nowhere safe to sleep? And maybe that's actually driving more of the meth use than usual. You know, those sorts of things, having those competencies in place, keeping people comfortable when they're coming down off of (…) something (…) so that they can use more safely, prevention of STIs, you know? So, all of those other skills need to come into it, and I guess that's, that's where, you know, having, having a broad, a broad team with multiple different skill sets is important," highlighting the need for multidisciplinary teams. Participants further emphasized the importance of "having a low barrier access to medical services where [patients are] going to be treated in a trauma-informed, patient-centered way, where they won't be judged for their choices and, and given compassionate care." Moreover, one participant highlighted the importance of coordinating the care team so that health care provider assignments are intentional and there is one main care provider or point of contact for the patient. The participant noted that "nurses should be intentionally assigned to (…) patients so that those patients get

actually good compassionate care and aren't subjected to someone who might again, pass judgment or make the woman feel any lesser in any way." The participant further recommended that "the woman has one primary provider who's doing as much of the care as possible, so that would be like an addictions trained and also a obstetrical trained physician who had competencies in both and then of course consult other people as needed but there's one main touch person who has the skills to kind of look after that entire, that woman's entirety." He shared that currently, at the Royal Alexandra Hospital, the care is quite "piecemeal," therefore, having "people whose kind of expertise is in that area where both maternity and addictions meet, then I think that can make the care more streamlined," potentially improving patient outcomes.

iv. Designing the care environment

Participants highlighted the importance of designing a care environment that facilitates an Eat, Sleep, Console approach to care, particularly for the management of NAS. As one participant described, "the cornerstone of [Eat, Sleep, Console] is that mom is the medicine and so mom has to be able to be with baby rooming-in as close to 24/7 as possible. And so you need a physical space that's gonna allow wherever the baby is admitted in the hospital that the mom can (…) spend as much time as possible, so that means having a cot or a bed for mom to essentially be co-admitted essentially with the baby so that they can be there constantly, as much as possible and, and that's required for the Eat, Sleep, Console framework to work." In terms of a future program at the Royal Alexandra Hospital, participants expressed concerns that that layout of the hospital does not support the Eat, Sleep, Console approach to care, highlighting that this is one area that should be prioritized.

Key Elements of a Model of Care

In the final round, participants were invited to describe key elements of a model of care for pregnant patients experiencing problematic substance use. A summary of the key elements that arose from the discussion is illustrated in Figure 2. From the thematic analysis, the key elements were divided into five themes: i) Service Delivery, ii) Philosophical/Theoretical Approaches, iii) Education and Training, iv) Infrastructure, and v) Services/Activities.

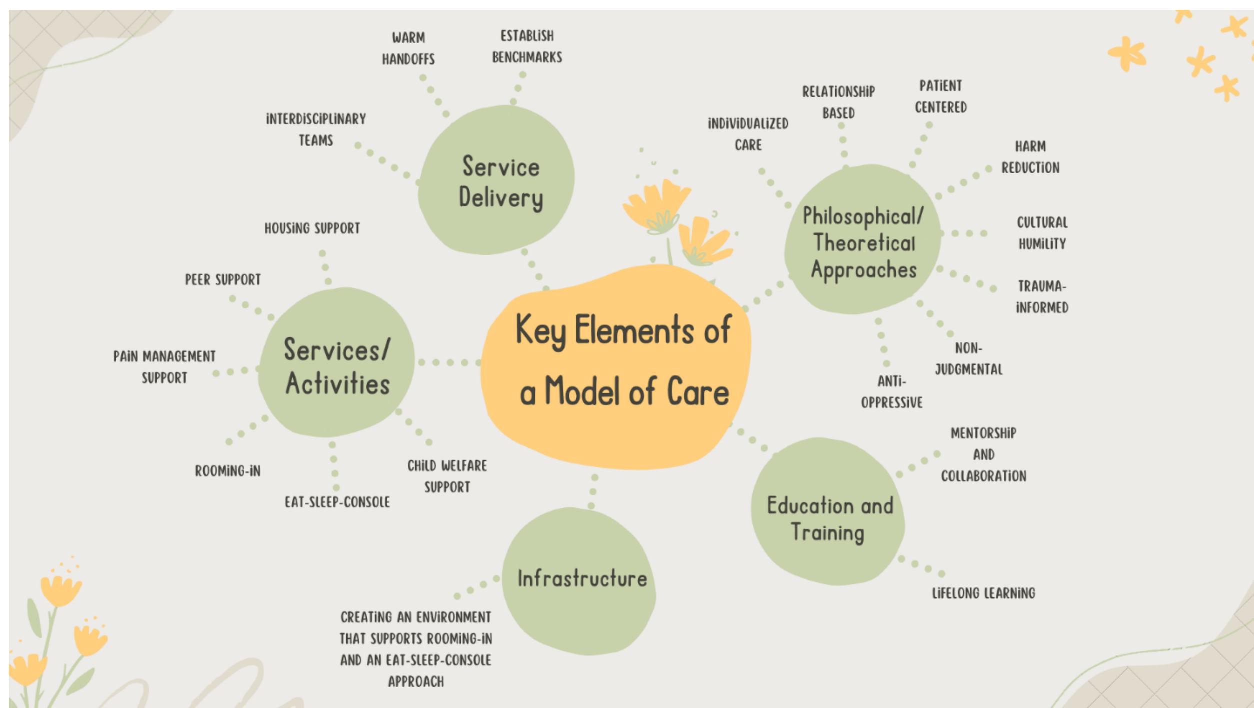

Figure 2. Key elements of a model of care

i. Service Delivery

Participants highlighted the importance of multidisciplinary teams and drawing upon the expertise of various health care providers to address the multifaceted needs of patients. These needs not only include pregnancy care and treatment for substance use issues, but also include social determinants of health such as housing or food needs.

Moreover, the patient's care team may not only include health care providers but may also include other community service providers such as Children's Services, for example. Participants further emphasized the need for warm hand-offs between members of the care team so that the patient can become an active member of the team and is empowered to ask questions and seek clarification. Lastly, participants recommended that benchmarks be established so that the patient is receiving a consistent quality of care. This is largely in response to a discrepancy in the quality of care that a patient receives between an in- and out-patient setting. Therefore, the establishment of benchmarks may help to reduce this discrepancy and increase the likelihood that patients will access care.

ii. Philosophical/Theoretical Approaches

Participants highlighted multiple philosophical/theoretical approaches to care that they have successfully adopted in their own practice. One approach that was often emphasized is a harm reduction approach to care. As participants noted, this may include providing unused equipment to patients and developing treatment goals that may not necessarily include abstinence, essentially meeting the patient where they are at. Furthermore, participants emphasized the need for patient-centered, trauma-informed, and non-judgmental care. These approaches contribute to a model of care that prioritizes the active participation of the patient and that recognizes that substance use is often the product of extenuating circumstances such as past and current trauma. Finally, participants emphasized the need for the current and future generations of health care providers to adopt similar philosophical/theoretical approaches to care and to be open to learning of and applying new approaches.

iii. Education and Training

In sharing their experiences of learning to provide care, participants often highlighted the importance of mentorship and collaboration. Not many participants had received formal training on caring for pregnant patients experiencing problematic substance use but had learned on the job. Moreover, participants noted the limitations to what can be learned in a classroom setting, especially as it relates to learning philosophies of care and building relationships with patients. Therefore, participants highlighted the need for experiential learning opportunities for the next generation of health care providers. However, current health care providers are also responsible for developing and maintaining competencies that reflect the ways in which models of care have evolved.

iv. Infrastructure

Many participants highlighted the importance of an Eat, Sleep, Console or rooming-in approach to care. However, these approaches cannot be successfully implemented without the appropriate physical space. Therefore, care environments must be designed or restructured to facilitate dyad care, ensuring that the mother is able to stay close to baby. To ensure that the appropriate infrastructure is in place, hospital leadership and administration may need to be educated on the benefits of the Eat, Sleep, Console or rooming-in approach to care.

v. Services/Activities

Lastly, participants described multiple services and activities that are important to the care of pregnant patients experiencing problematic substance use. These services should not only address the women's needs related to pregnancy care and substance use treatment but should also address social determinants of health. One service that participants emphasized should be prioritized is housing support. Participants described

the need for safe and affordable housing for patients both during pregnancy and while parenting. Furthermore, participants highlighted the need for child welfare support. This may include accompanying patients to meetings with Children's Services or even advocating on behalf of patients so that they are given the opportunity to parent their children. Other services or activities include creating opportunities for peer support among patients and collaborating with the patient to develop a plan for pain management.

3.6 Discussion

Overall, participants expressed similar perspectives and ideas. In describing their experiences of learning to provide care, participants highlighted the important role of mentorship and collaboration and emphasized the need for experiential learning opportunities. These opportunities are particularly important for learning and applying philosophical/theoretical approaches to care. Therefore, a future program may consider incorporating an educational component in which health care providers mentor students or new employees. A community of practice may also facilitate discussions and continuous learning on best practices.

In terms of philosophical/theoretical approaches, participants highlighted the importance of delivering care centered on the following principles: relationship based, patient-centered, trauma-informed, non-judgmental, anti-oppressive, cultural humility, and harm reduction. These are like those described in the FIR model of care and the *Honouring Our Strengths* framework (4,33). However, participants expressed concerns that these principles are not consistently applied, often deterring patients from seeking care. Therefore, it may be beneficial to provide current and future health care providers with opportunities to learn and apply these approaches in practice. This would involve clearly

defining these principles and then modeling the application of these principles in practice. A community of practice may also provide an opportunity for health care providers to share learnings and discuss challenges in applying these principles. In addition, the inconsistent application of philosophical/theoretical approaches contributes to an inconsistent quality of care, particularly between an in- and out-patient setting. This may be addressed by establishing benchmarks for care and promoting a common set of best practices.

Participants further emphasized the need to support continuity of care by building trusting relationships between health care providers and patients. However, relationship building must also be supported among patients, health care providers, and community service providers to facilitate peer support and improve awareness on how to best meet patient needs. Moreover, health care providers may find it useful to broker connections with community service providers such as Children's Services, as they may be able to leverage these connections and mediate relationships between clients and representatives of the organization. Participants noted that much of their work is relational, therefore, it is crucial that a future program reflects this.

Next, participants highlighted that problematic substance use is not an isolated issue but rather exists in the context of social determinants of health. Therefore, health care providers must be aware of and address social determinants of health along with substance use issues and pregnancy care. This may include providing a meal to address food insecurity or connecting the patient with options for appropriate housing, reflecting a one-stop shop or wraparound model of service delivery (30). With regards to housing, however, participants expressed concern regarding a lack of available housing options that are safe

and affordable for both pregnant and parenting patients. Although the discussions largely focused on pregnant patients, participants noted that patients must also be provided with the necessary supports after pregnancy and as the patient returns to the community. Therefore, a future program may include the development of an appropriate discharge plan in collaboration with the patient. This may involve referrals to other services, further highlighting the importance of developing relationships with community service providers. More broadly, municipal, and provincial governments or community organizations may consider developing housing models that prioritize pregnant and parenting women.

Finally, a future program must be implemented in a space that is designed to promote elements of a model of care for substance use during pregnancy that have been found to be successful. For example, to facilitate peer support, there might be a common area for women to spend time with each other so that they have opportunities to find support not only from health care providers but also from peers who share similar experiences. A future program may also be designed to provide basic needs such as food. For example, there might be a kitchen and dining area for meals, comparable to that of the FIR Square program. In terms of supporting an Eat, Sleep, Console approach, there must be space available to facilitate dyad care, ensuring that the mother is close to baby for the duration of the hospital stay.

Chapter 4: Conclusions

This research sought to address the following objectives: i) conduct a scoping review to identify and describe programs and models of care for patients experiencing problematic substance use in Alberta and ii) consult with health care providers to identify

gaps in knowledge and understanding as well as enrich and contextualize findings. This chapter summarizes the main findings, strengths and limitations, and potential policy and practice implications of the research.

4.1 Main Findings

Regarding the first objective, the scoping review identified nine programs, specifically, the Parent Child Assistance Program (PCAP), First Steps, 2nd Floor Women's Recovery Centre, Mothers-To-Be-Mentorship, H.E.R. Pregnancy Program, Aventa Pregnancy Program, EMBRACE Program, Pregnancy Pathways, and Concurrent Disorders Enhanced Service. All programs were either designed for or prioritized the admission of pregnant patients experiencing problematic substance use. The circle and interview subsequently addressed the second objective by capturing the experiences and insights of health care providers. Five health care providers shared their experiences of providing care to pregnant patients experiencing problematic substance use, their ideas for priorities or areas for change, and their perspectives of key elements of a model of care for substance use during pregnancy. The results from the scoping review and the consultations with health care providers largely yielded similar results.

First, the results of this research identified key elements related to service delivery that are either already employed or have been successfully employed based on the experiences of health care providers. These elements include partnerships or collaboration between community organizations, outreach, wraparound support, and multidisciplinary teams. To ensure that the quality of care is consistent between health care providers and between an in- and out-patient setting, health care providers highlighted the importance of warm hand-offs and establishing benchmarks for care.

Next, the programs included in the scoping review identified philosophical/theoretical approaches to care that are like those described by health care providers. These approaches were largely based on the following principles: individualized care, relationship based, patient-centered, harm reduction, cultural humility, trauma-informed, non-judgmental, and anti-oppressive. Health care providers suggested that both current and future practitioners be taught and mentored into delivering care that reflects these approaches. However, health care providers also noted challenges related to motivating change among current health care providers, particularly when existing perspectives or models of care have been engrained for many years.

Both the scoping review and health care providers identified similar services/activities that address the patient's needs beyond pregnancy care and treatment for problematic substance use. Health care providers highlighted the importance of addressing the social determinants of health and recognizing that a patient's substance use may be influenced by circumstances such as unstable housing or food insecurity. Therefore, the services/activities delivered by programs must reflect the array of supports that participants may need to attain overall health and wellness. These may include a range of supports such as counselling, housing support, child welfare support, cultural activities, and peer support. Likewise, it is recommended that health care providers be aware of supports available in the community so that they can refer patients to these supports if needed.

Furthermore, in sharing their experiences of learning to provide care to pregnant patients experiencing problematic substance use, many health care providers highlighted the important role that mentorship and collaboration had played in their experiences.

Therefore, it is important to provide these opportunities to the next generation of health care providers, especially since many participants shared that they did have not received much practical training in a formal setting on how to provide care for substance use during pregnancy. Opportunities for mentorship may be further extended to patients as the scoping review revealed the importance of mentorship in helping patients to achieve goals and manage problematic substance use through the PCAP program.

Lastly, health care providers described the importance of designing a physical space to facilitate the delivery of care that reflects certain key elements of a model of care, such as the Eat, Sleep, Console approach. This is important because in the absence of a suitable space and the necessary resources, including staff, a strategy for the care of pregnant patients experiencing problematic substance use cannot be successfully implemented. To ensure that the appropriate infrastructure is in place, it may be necessary to educate stakeholders who may not be directly involved in patient care but who play a role in designing or deciding what infrastructure is available.

4.2 Strengths and Limitations

The research incorporated data from multiple sources (i.e., a scoping review, circle, and interview) to achieve data triangulation. In fact, the circle and interview yielded similar results to the scoping review. To increase rigor, the scoping review followed a structured approach (i.e., the JBI methodological framework), thereby reducing the risk of bias from flawed implementation and providing reproducible results. In addition, findings were analyzed and reported according to the PRISMA-ScR checklist and the PAGER framework to provide structure and consistency to the data analysis and presentation.

Next, the research incorporated both Western and Indigenous methodologies to acknowledge and celebrate the strengths of both. The JBI methodological framework was used to guide the scoping review and for the consultations with health care providers, a circle approach was chosen to reflect Indigenous ways of sharing (epistemologies) as opposed to ceremony. Moreover, in the analysis of data from the circle and interview, member checking was used to validate the credibility of the findings. Participants were invited to review the thematic maps generated during the data analysis to check for accuracy and resonance with their experiences and perspectives. All participants reported that they agreed with the findings and that they did not have anything else to add, increasing the trustworthiness of the data.

In terms of limitations, the scoping review was limited to the literature available at the time of the searches and excluded articles that were not written in English or that described programs outside of Alberta. Therefore, relevant sources were likely missed or excluded. In some communities, relevant programs may also be promoted through other channels, such as by word of mouth, and there may not be information published on the Internet. In addition, grey literature is not as searchable as peer-reviewed literature due to its variability, the amount of available information, and an inconsistent organization across websites (38). The scoping review also did not provide information on the quality of the literature, only of the availability. Moreover, although it is recommended that two reviewers complete the article review process (36), there was only reviewer in this study due to resource and time constraints. However, if any uncertainties arose related to article selection, these were addressed in discussion with members of the graduate student supervisory team.

Next, data from the circle was limited to what participants were willing to share in a small-group format as some may be more hesitant to share than others. Participants were likely also influenced by their peers' responses. Another limitation is the relatively small sample size. This may be partly attributed to the specialized nature of the topic as potential participants declined participation because they did not think that they had the necessary expertise to contribute. Other participants indicated that participation was beyond their capacity at this time, due to workload demands or personal circumstances. Furthermore, this research was conducted during the ongoing COVID-19 pandemic, which has often resulted in shifting demands and increased workloads for health care providers. Thus, this may have further contributed to circumstances that prevented participation. In addition, no participants with lived experience of substance use during pregnancy were included in this research; however, it is recognized that the perspectives of these individuals will be invaluable to the design and implementation of a future strategy of care. Finally, in an inductive thematic analysis, themes are derived primarily from the data; however, the researcher's personal background and knowledge likely influenced the interpretation of the findings. The researcher sought to address this by engaging in reflexive journaling to document methodological decisions, rationales, and personal reflections.

4.2 Policy and Practice Implications

The results of this research will serve to inform the development of a strategy for the care of pregnant patients experiencing problematic substance use at the Lois Hole Hospital for Women in Edmonton, Alberta. Key elements of a model of care for substance use during pregnancy were identified in this research which may be incorporated into a future program. These include services/activities that seek to address the social

determinants of health and that recognize that substance use is often not an isolated issue, but one that occurs concurrently with other issues related to mental health, unstable housing, or food insecurity, for example.

Next, policies and programs may be developed from a lens that reflects the philosophical/theoretical approaches highlighted in this research which include harm reduction, trauma-informed, non-judgmental, and patient-centered approaches. These approaches are inherently holistic and strengths-based, recognizing and valuing the dignity and voice of the patient. Therefore, in a strategy for the care of pregnant patients experiencing problematic substance use, these approaches should be clearly defined and perhaps incorporated into the program's mission or values statement. It would also be beneficial to provide opportunities for both current and future health care providers to learn to apply these approaches in practice, such as through mentorship or collaboration. Finally, it may be recommended to establish a community of practice in which health care providers can share learnings and discuss challenges related to their work in this area.

As the needs of pregnant patients experiencing problematic substance are multifaceted, a model of care for substance use during pregnancy must reflect these complexities. Therefore, it is recommended that multidisciplinary teams be established to create and deliver an effective care plan. This may also require establishing partnerships with community agencies and educating these organizations on approaches that have resulted in positive outcomes for patients. However, it is preferable that there be one main point of contact with the patient to help ensure that care is consistent and streamlined.

Furthermore, the implementation of a future strategy must consider the physical space in which the program will be implemented. The space must be designed to facilitate

the key elements of a model of care that were identified in this research. For example, an Eat, Sleep, Console approach cannot be successfully implemented if there is not the space or staff available to facilitate dyad care. This might include a private hospital room and a same or similar staff member caring for the mother from labor until discharge. However, this may require educating stakeholders who may not be directly involved in patient care but who play a role in deciding how space or resources are allocated or designed.

Lastly, many health care providers described an inconsistent quality of care between an in- and out-patient setting. To address this, health care providers recommended establishing benchmarks for care. Although care must also be individualized, the establishment of benchmarks can help to promote a common understanding of the elements that are needed to provide quality patient care. These benchmarks would also need to be established in collaboration with community stakeholders to promote a common understanding of the elements of an effective model of care.

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Appendix A: Preliminary Search for Similar or Related Scoping or Systematic Reviews

Date Searched: November 18, 2021

Database	Search Terms	Number of Records
Cochrane Database of Systematic Reviews	(pregnan* or "pregnant wom?n" or prenatal or perinatal or antepartum or antenatal or "expect* mother?"):ti,ab,kw AND ("substance use disorder?" or "drug abuse" or "substance abuse" or "substance-related disorder?" or alcoholism or “alcohol abuse”):ti,ab,kw AND (Alberta* and Canad*):ti,ab,kw AND ("scoping review" or "systematic review"):ti,ab,kw	0
JBI Evidence Synthesis	(pregnan* or "pregnant women" or "pregnant woman" or prenatal or perinatal or antepartum or antenatal or "expect* mother") and ("substance use disorder" or "drug abuse" or "substance abuse" or "substance related disorder" or alcoholism or “alcohol abuse”) and (Alberta* and Canad*) and ("scoping review" or "systematic review")	3[ǂ] (0 relevant)
CINAHL Plus with Full Text	((pregnan* OR prenatal OR perinatal OR antepartum OR antenatal OR “expect* mother*”)) AND ((“substance use disorder*” OR “drug abuse” OR “substance abuse” OR “substance related disorder” OR alcoholism OR “alcohol abuse”)) AND ((Alberta* AND Canad*)) AND ((“scoping review” OR “systematic review”))	0
PubMed	((pregnan* OR “pregnant women” OR “pregnant woman” OR prenatal OR perinatal OR antepartum OR antenatal OR “expect* mother*”)) AND ((“substance use disorder*”	4[Ɛ] (0 relevant)

	OR “drug abuse” OR “substance abuse” OR “substance related disorder” OR alcoholism OR “alcohol abuse”)) AND ((Alberta* AND Canad*)) AND ((“scoping review” OR “systematic review”))	
Evidence for Policy and Practice Information	(pregnan* OR "pregnant women" OR "pregnant woman" OR prenatal OR perinatal OR antepartum OR antenatal OR "expect* mother*") AND ("substance use disorder*" OR "drug abuse" OR "substance abuse" OR "substance related disorder" OR alcoholism OR “alcohol abuse”) AND (Alberta* AND Canad*) AND ("scoping review" OR "systematic review")	0
Epistemonikos	(pregnan* OR "pregnant women" OR "pregnant woman" OR prenatal OR perinatal OR antepartum OR antenatal OR "expect* mother*") AND ("substance use disorder*" OR "drug abuse" OR "substance abuse" OR "substance related disorder" OR alcoholism OR “alcohol abuse”) AND (Alberta AND Canada) AND ("scoping review" OR "systematic review")	0

Results

‡JBI Evidence Synthesis

1. Hyndman K, Thomas R, Patterson S, Compton S, Schira R, Godfrey C, et al. Effectiveness of tobacco intervention education in health professional students’ practice: A systematic review protocol. JBI Database System Rev Implement Rep [Internet]. 2016;14(6):78–90. Available from: http://dx.doi.org/10.11124/jbisrir-2016-002655

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3. The effectiveness of tobacco intervention education for health professional students’ health promotion practice: A systematic review. JBI Libr Syst Rev [Internet]. 2010;8(16):1–21. Available from: http://dx.doi.org/10.11124/jbisrir-2010-577

[ε] ***PubMed***

1. Amodu OC, Richter MS, Salami BO. A scoping review of the health of conflict-induced internally displaced women in Africa. Int J Environ Res Public Health [Internet]. 2020;17(4):1280. Available from: http://dx.doi.org/10.3390/ijerph17041280

2. Flannigan K, Coons-Harding KD, Anderson T, Wolfson L, Campbell A, Mela M, et al. A systematic review of interventions to improve mental health and substance use outcomes for individuals with prenatal alcohol exposure and fetal alcohol spectrum disorder. Alcohol Clin Exp Res [Internet]. 2020;44(12):2401–30. Available from: http://dx.doi.org/10.1111/acer.14490

3. Silang K, Sanguino H, Sohal PR, Rioux C, Kim HS, Tomfohr-Madsen LM. EHealth interventions to treat substance use in pregnancy: A systematic review and meta-analysis. Int J Environ Res Public Health [Internet]. 2021;18(19):9952. Available from: http://dx.doi.org/10.3390/ijerph18199952

Appendix B: Search Strategy

- The database search queries are a combination of keyword and controlled vocabulary terms to provide the most comprehensive coverage.
- The database search strategy was first developed and finalized using the database MEDLINE (1946-present via OVID) and subsequently translated to eight other databases: EMBASE (via OVID). APA PsycINFO (via OVID), Web of Science (All Databases and All Collections), Scopus, CINAHL Plus with Full Text (via EBSCOhost). TripPro, ProQuest Dissertations & Theses Global, and OAlster.
- The date indicated for 'Date searched' represents the most recent search date

Database: MEDLINE (1946-present via Ovid)
Dates covered by database: 1946 to November 19, 2021
Date searched: November 21, 2021

Set	Search Statement	Number of Records
1	exp pregnancy/ or exp pregnancy trimesters/ or exp prenatal care/ or exp perinatal care/ or exp pregnant women/ or exp maternal health services/ or exp obstetrics/	963724
2	(pregnan* or prenatal or perinatal or antepartum or antenatal or expect* mother*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	1124745
3	exp substance-related disorders/ or exp alcohol-related disorders/ or exp amphetamine-related disorders/ or exp cocaine-related disorders/ or exp drug overdose/ or exp inhalant abuse/ or exp marijuana abuse/ or exp narcotic-related disorders/ or exp opioid-related disorders/ or exp neonatal abstinence syndrome/ or exp phencyclidine abuse/ or exp psychoses, substance-induced/ or exp substance abuse, intravenous/ or exp substance abuse, oral/ or exp substance withdrawal syndrome/ or exp "tobacco use disorder"/	294421
4	(substance-related disorder* or "substance use disorder*" or alcohol-related disorder* or alcoholism or "alcohol use disorder*" or amphetamine-related disorder* or "amphetamine use disorder*" or cocaine-related disorder* or "cocaine use disorder*"	275232

	or drug overdose* or inhalant abuse or "inhalant use disorder*" or marijuana abuse or "marijuana use disorder*" or narcotic-related disorder* or "narcotic use disorder*" or opioid-related disorder* or "opioid use disorder*" or neonatal abstinence syndrome or phencyclidine abuse or substance-induced psychos* or intravenous substance abuse or oral substance abuse or substance withdrawal syndrome or "tobacco use disorder*" or drug addiction* or drug misuse or drug dependen* or drug abuse or "illicit drug use").mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	
5	(program* or service* or care or intervention* or treatment* or management or therap* or rehab* or model* of care or care model* or treatment model*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	12224114
6	(alberta* or (edmonton* not England) or calgary or calgarian* or medicine hat or lethbridge or athabasca or barrhead or beaverlodge or Drayton Valley or Drumheller or Buffalo Lake or Kikino or Kinuso or Okotoks or Onoway or Paddle Prairie or peerless Lake or Pincher Creek or Piyami or Ponoka or Wabasca or Wetaskiwin or Zama or Fort Chippewayan or (Banff not (scor* or grade or grades or criteria or grading or scheme or schema or type* or classification or type or Scotland)) or (Jasper not (jumper or Penfield)) or Waterton or Canmore or Cadotte Lake or Woodland Cree or Fort Macleod or Shaganappi or ((spruce grove or stettler or strathmore or sundre or sylvan lake or airdrie or beaumont or Calling Lake or Camrose or Coronation or (Devon not England) or Didsbury or East Prairie or Eckville or Edson or Elk Point or elnora or evansburg or fairview or Fishing Lake or Gibbons or Gift Lake or	18481

	Glendon or Grande Cache or grande Prairie or Grimshaw or Hanna or Hinton or Hobbema or Innisfail or Kitscoty or Lac la Biche or Leduc or Manyberries or Mill Woods or Morinville or Myrnam or Nanton or (Olds not "year olds") or Rainbow Lake or Raymond or Red Earth Creek or Rimbey or Rocky Mountain House or Sedgewick or Strathmore or Sundre or Taber or Thorhild or Thorsby or Three Hills or Tofield or Trout Lake or Valleyview or Vauxhall or Vegreville or Vermillion or Viking or Vilna or Vulcan or Wainwright or Jasper Place or Westlock or Whitecourt or Winfield or Worsley) and canad*)).mp. or Alberta/	
7	1 or 2	1153608
8	3 or 4	329465
9	5 and 6 and 7 and 8	25
10	limit 9 to english language	25

Database: EMBASE (via Ovid)
Dates covered by database: 1974 to 2021 November 19
Date searched: November 21, 2021

Set	Search Statement	Number of Records
1	exp pregnancy/ or exp prenatal care/ or exp perinatal care/ or exp pregnant woman/ or exp expectant mother/ or exp maternal health service/ or exp obstetrics/	877996
2	(pregnan* or prenatal or perinatal or antepartum or antenatal or expect* mother*).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword heading word, floating subheading word, candidate term word]	1188605
3	exp drug dependence/ or exp alcoholism/ or exp amphetamine dependence/ or exp cocaine dependence/ or exp drug overdose/ or exp inhalant abuse/ or exp "cannabis use"/ or exp drug induced disease/ or exp opiate addiction/ or exp neonatal abstinence syndrome/ or exp phencyclidine abuse/ or exp psychosis/ or exp intravenous drug abuse/ or	709277

	exp substance abuse/ or exp withdrawal syndrome/ or exp tobacco dependence/	
4	(substance-related disorder* or "substance use disorder*" or alcohol-related disorder* or alcoholism or "alcohol use disorder*" or amphetamine-related disorder* or "amphetamine use disorder*" or cocaine-related disorder* or "cocaine use disorder*" or drug overdose* or inhalant abuse or "inhalant use disorder*" or marijuana abuse or "marijuana use disorder*" or narcotic-related disorder* or "narcotic use disorder*" or opioid-related disorder* or "opioid use disorder*" or neonatal abstinence syndrome or phencyclidine abuse or substance-induced psychos* or intravenous substance abuse or oral substance abuse or substance withdrawal syndrome or "tobacco use disorder*" or drug addiction* or drug misuse or drug dependen* or drug abuse or "illicit drug use").mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword heading word, floating subheading word, candidate term word]	324713
5	(program* or service* or care or intervention* or treatment* or management or therap* or rehab* or model* of care or care model* or treatment model*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	16841754
6	(alberta* or (edmonton* not England) or calgary or calgarian* or medicine hat or lethbridge or athabasca or barrhead or beaverlodge or Drayton Valley or Drumheller or Buffalo Lake or Kikino or Kinuso or Okotoks or Onoway or Paddle Prairie or peerless Lake or Pincher Creek or Piyami or Ponoka or Wabasca or Wetaskiwin or Zama or Fort Chippewayan or (Banff not (scor* or grade or grades or criteria or grading or scheme or schema or type* or classification or type or Scotland)) or (Jasper not (jumper or Penfield)) or Waterton or Canmore or Cadotte Lake or Woodland Cree or Fort Macleod or Shaganappi or ((spruce grove or stettler or	23329

	strathmore or sundre or sylvan lake or airdrie or beaumont or Calling Lake or Camrose or Coronation or (Devon not England) or Didsbury or East Prairie or Eckville or Edson or Elk Point or elnora or evansburg or fairview or Fishing Lake or Gibbons or Gift Lake or Glendon or Grande Cache or grande Prairie or Grimshaw or Hanna or Hinton or Hobbema or Innisfail or Kitscoty or Lac la Biche or Leduc or Manyberries or Mill Woods or Morinville or Myrnam or Nanton or (Olds not "year olds") or Rainbow Lake or Raymond or Red Earth Creek or Rimbey or Rocky Mountain House or Sedgewick or Strathmore or Sundre or Taber or Thorhild or Thorsby or Three Hills or Tofield or Trout Lake or Valleyview or Vauxhall or Vegreville or Vermillion or Viking or Vilna or Vulcan or Wainwright or Jasper Place or Westlock or Whitecourt or Winfield or Worsley) and canad*)).mp. or Alberta/	
7	1 or 2	1238161
8	3 or 4	780527
9	5 and 6 and 7 and 8	33
10	limit 9 to english language	33

Database: PsycINFO (via Ovid)
Dates covered by database: 1806 to November Week 3 2021
Date searched: November 21, 2021

Set	Search Statement	Number of Records
1	exp pregnancy/ or exp prenatal care/ or exp perinatal period/ or exp expectant mothers/ or exp antepartum period/ or exp obstetrics/	49444
2	(pregnan* or prenatal or perinatal or antepartum or antenatal or expect* mother*).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh]	85365
3	exp drug abuse/ or exp alcohol abuse/ or exp drug dependency/ or exp alcoholism/ or exp drug addiction/ or exp "substance use disorder"/ or exp "alcohol use disorder"/ or exp drug overdoses/ or exp inhalant abuse/ or exp drug usage/ or exp prescription drug misuse/ or exp "opioid use	213289

	disorder"/ or exp intravenous drug usage/ or exp alcohol withdrawal/ or exp drug withdrawal/ or exp "tobacco use disorder"/	
4	(substance-related disorder* or "substance use disorder*" or alcohol-related disorder* or alcoholism or "alcohol use disorder*" or amphetamine-related disorder* or "amphetamine use disorder*" or cocaine-related disorder* or "cocaine use disorder*" or drug overdose* or inhalant abuse or "inhalant use disorder*" or marijuana abuse or "marijuana use disorder*" or narcotic-related disorder* or "narcotic use disorder*" or opioid-related disorder* or "opioid use disorder*" or neonatal abstinence syndrome or phencyclidine abuse or substance-induced psychos* or intravenous substance abuse or oral substance abuse or substance withdrawal syndrome or "tobacco use disorder*" or drug addiction* or drug misuse or drug dependen* or drug abuse or "illicit drug use").mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh]	174019
5	(program* or service* or care or intervention* or treatment* or management or therap* or rehab* or model* of care or care model* or treatment model*).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh]	1993524
6	(alberta* or (edmonton* not England) or calgary or calgarian* or medicine hat or lethbridge or athabasca or barrhead or beaverlodge or Drayton Valley or Drumheller or Buffalo Lake or Kikino or Kinuso or Okotoks or Onoway or Paddle Prairie or peerless Lake or Pincher Creek or Piyami or Ponoka or Wabasca or Wetaskiwin or Zama or Fort Chippewayan or (Banff not (scor* or grade or grades or criteria or grading or scheme or schema or type* or classification or type or Scotland)) or (Jasper not (jumper or Penfield)) or Waterton or Canmore or Cadotte Lake or Woodland Cree or Fort Macleod or Shaganappi or ((spruce grove or stettler or strathmore or sundre or sylvan lake or airdrie or beaumont or Calling Lake or Camrose or Coronation or (Devon not England) or Didsbury or East Prairie or Eckville or Edson or Elk Point or elnora or evansburg or fairview or Fishing Lake or Gibbons or Gift Lake or	8290

	Glendon or Grande Cache or grande Prairie or Grimshaw or Hanna or Hinton or Hobbema or Innisfail or Kitscoty or Lac la Biche or Leduc or Manyberries or Mill Woods or Morinville or Myrnam or Nanton or (Olds not "year olds") or Rainbow Lake or Raymond or Red Earth Creek or Rimbey or Rocky Mountain House or Sedgewick or Strathmore or Sundre or Taber or Thorhild or Thorsby or Three Hills or Tofield or Trout Lake or Valleyview or Vauxhall or Vegreville or Vermillion or Viking or Vilna or Vulcan or Wainwright or Jasper Place or Westlock or Whitecourt or Winfield or Worsley) and canad*)).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh]	
7	1 or 2	96977
8	3 or 4	254632
9	5 and 6 and 7 and 8	12
10	limit 9 to english language	12

Database: Web of Science – All Databases and All Collections
Dates covered by database: 1900 to Present
Date searched: November 21, 2021

Set	Search Field	Search Statement
1	Topic (TS)	(pregnan* OR prenatal OR perinatal OR antepartum OR antenatal OR obstetrics OR "expect* mother*" OR "maternal health service*")
AND		
2	Topic (TS)	("substance-related disorder*" OR "substance use disorder*" OR "alcohol-related disorder*" OR alcoholism OR "alcohol use disorder*" OR "amphetamine-related disorder*" OR "amphetamine use disorder*" OR "cocaine-related disorder*" OR "cocaine use disorder*" OR "drug overdose*" OR "inhalant abuse" OR "inhalant use disorder*" OR "marijuana abuse" OR "marijuana use disorder*" OR "narcotic-related disorder*" OR "narcotic use disorder*" OR "opioid-related disorder*" OR "opioid use disorder*" OR

		"neonatal abstinence syndrome" OR "phencyclidine abuse" OR "substance-induced psychos*" OR "intravenous substance abuse" OR "oral substance abuse" OR "substance withdrawal syndrome" OR "tobacco use disorder*" OR "drug addiction*" OR "drug misuse" OR "drug dependen*" OR "drug abuse" OR "illicit drug use")
AND		
3	Topic (TS)	(program* or service* or care or intervention* or treatment* or management or therap* or rehab* or “model* of care” or “care model*” or “treatment model*”)
AND		
4	Topic (TS)	(alberta* and canad*)
Refined By: Languages: English		
Final Search Statement		
(((ALL=((pregnan* OR prenatal OR perinatal OR antepartum OR antenatal OR obstetrics OR "expect* mother*" OR "maternal health service*"))) AND ALL=(("substance-related disorder*" OR "substance use disorder*" OR "alcohol-related disorder*" OR alcoholism OR "alcohol use disorder*" OR "amphetamine-related disorder*" OR "amphetamine use disorder*" OR "cocaine-related disorder*" OR "cocaine use disorder*" OR "drug overdose*" OR "inhalant abuse" OR "inhalant use disorder*" OR "marijuana abuse" OR "marijuana use disorder*" OR "narcotic-related disorder*" OR "narcotic use disorder*" OR "opioid-related disorder*" OR "opioid use disorder*" OR "neonatal abstinence syndrome" OR "phencyclidine abuse" OR "substance-induced psychos*" OR "intravenous substance abuse" OR "oral substance abuse" OR "substance withdrawal syndrome" OR "tobacco use disorder*" OR "drug addiction*" OR "drug misuse" OR "drug dependen*" OR "drug abuse" OR "illicit drug use"))) AND ALL=((program* or service* or care or intervention* or treatment* or management or therap* or rehab* or “model* of care” or “care model*” or “treatment model*”))) AND ALL=(((alberta* and canad*)))		
Number of Records		
58		

The decision was made to only use ‘alberta AND canad*’ for the Alberta concept because the number of terms in the final search query exceeded database limits.

Database: Scopus
Dates covered by database: 1788 to Present
Date searched: November 21, 2021

Set	Search Field	Search Statement
1	Article title, Abstract, Keywords (TITLE-ABS-KEY)	(pregnan* OR prenatal OR perinatal OR antepartum OR antenatal OR obstetrics OR "expect* mother*" OR "maternal health service*")
AND		
2	Article title, Abstract, Keywords (TITLE-ABS-KEY)	("substance-related disorder*" OR "substance use disorder*" OR "alcohol-related disorder*" OR alcoholism OR "alcohol use disorder*" OR "amphetamine-related disorder*" OR "amphetamine use disorder*" OR "cocaine-related disorder*" OR "cocaine use disorder*" OR "drug overdose*" OR "inhalant abuse" OR "inhalant use disorder*" OR "marijuana abuse" OR "marijuana use disorder*" OR "narcotic-related disorder*" OR "narcotic use disorder*" OR "opioid-related disorder*" OR "opioid use disorder*" OR "neonatal abstinence syndrome" OR "phencyclidine abuse" OR "substance-induced psychos*" OR "intravenous substance abuse" OR "oral substance abuse" OR "substance withdrawal syndrome" OR "tobacco use disorder*" OR "drug addiction*" OR "drug misuse" OR "drug dependen*" OR "drug abuse" OR "illicit drug use")
AND		
3	Article title, Abstract, Keywords (TITLE-ABS-KEY)	(program* or service* or care or intervention* or treatment* or management or therap* or rehab* or “model* of care” or “care model*” or “treatment model*”)
AND		
4	Article title, Abstract, Keywords (TITLE-ABS-KEY)	(alberta* AND canad*)
AND (LIMIT-TO (LANGUAGE , "English")		
Final Search Statement		
(TITLE-ABS-KEY(pregnan* OR prenatal OR perinatal OR antepartum OR antenatal OR obstetrics OR "expect* mother*" OR "maternal health service*") AND TITLE-ABS-KEY("substance-related disorder*" OR "substance use disorder*" OR "alcohol-related		

disorder*" OR alcoholism OR "alcohol use disorder*" OR "amphetamine-related disorder*" OR "amphetamine use disorder*" OR "cocaine-related disorder*" OR "cocaine use disorder*" OR "drug overdose*" OR "inhalant abuse" OR "inhalant use disorder*" OR "marijuana abuse" OR "marijuana use disorder*" OR "narcotic-related disorder*" OR "narcotic use disorder*" OR "opioid-related disorder*" OR "opioid use disorder*" OR "neonatal abstinence syndrome" OR "phencyclidine abuse" OR "substance-induced psychos*" OR "intravenous substance abuse" OR "oral substance abuse" OR "substance withdrawal syndrome" OR "tobacco use disorder*" OR "drug addiction*" OR "drug misuse" OR "drug dependen*" OR "drug abuse" OR "illicit drug use") AND TITLE-ABS-KEY(program* or service* or care or intervention* or treatment* or management or therap* or rehab* or "model* of care" or "care model*" or "treatment model*") AND TITLE-ABS-KEY(Alberta* And Canad*)) AND (LIMIT-TO (LANGUAGE,"English"))
Number of Records
12

The decision was made to only use 'alberta AND canad*' for the Alberta concept because a search using all keywords for Alberta returned no results, therefore, the search was broadened.

Database: CINAHL Plus with Full Text (via EBSCOhost)
Dates covered by database: 1961 to Present
Date searched: November 20, 2021

Set	Search Statement	Search Options	Number of Records
S1	(MH "Pregnancy Trimesters+") OR (MH "Pregnancy+") OR (MH "Prenatal Care") OR (MH "Perinatal Care") OR (MH "Perinatal Care (Saba CCC)+") OR (MH "Expectant Mothers") OR (MH "Maternal Health Services+") OR (MH "Obstetrics")	Expanders - Apply equivalent subjects Search modes - Find all my search terms	251,151
S2	pregnan* or prenatal or perinatal or antepartum or antenatal or "expect* mother*"	Expanders - Apply equivalent subjects Search modes - Find all my search terms	292,811
S3	(MH "Substance Use Disorders+") OR (MH "Alcohol-Related Disorders+") OR (MH "Overdose+") OR (MH "Intravenous Drug Users") OR (MH "Inhalant Abuse") OR (MH "Substance Abuse, Intravenous") OR (MH "Substance Abusers+") OR (MH "Neonatal Abstinence Syndrome") OR	Expanders - Apply equivalent subjects Search modes - Find all my search terms	194,574

	(MH "Psychoses, Substance-Induced+") OR (MH "Substance Abuse, Intravenous") OR (MH "Substance Dependence+") OR (MH "Substance Withdrawal Syndrome+") OR (MH "Alcohol Withdrawal Syndrome+") OR (MH "Substance Abuse, Perinatal") OR (MH "Substance Use Rehabilitation Programs+") OR (MH "Substance Abuse (Saba CCC)+") OR (MH "Substance Abuse+")		
S4	("substance-related disorder*" OR "substance use disorder*" OR "alcohol-related disorder*" OR alcoholism OR "alcohol use disorder*" OR "amphetamine-related disorder*" OR "amphetamine use disorder*" OR "cocaine-related disorder*" OR "cocaine use disorder*" OR "drug overdose*" OR "inhalant abuse" OR "inhalant use disorder*" OR "marijuana abuse" OR "marijuana use disorder*" OR "narcotic-related disorder*" OR "narcotic use disorder*" OR "opioid-related disorder*" OR "opioid use disorder*" OR "neonatal abstinence syndrome" OR "phencyclidine abuse" OR "substance-induced psychos*" OR "intravenous substance abuse" OR "oral substance abuse" OR "substance withdrawal syndrome" OR "tobacco use disorder*" OR "drug addiction*" OR "drug misuse" OR "drug dependen*" OR "drug abuse" OR "illicit drug use")	Expanders - Apply equivalent subjects Search modes - Find all my search terms	113,893
S5	(program* or service* or care or intervention* or treatment* or management or therap* or rehab* or “model* of care” or “care model*” or “treatment model*”)	Expanders - Apply equivalent subjects Search modes - Find all my search terms	4,149,562
S6	(alberta* or (edmonton* not England) or calgary or calgarian* or “medicine hat” or lethbridge or athabasca or barrhead or beaverlodge or “Drayton Valley” or Drumheller or “Buffalo Lake”	Expanders - Apply equivalent subjects Search modes - Find all my search terms	16,450

	or Kikino or Kinuso or Okotoks or Onoway or ”Paddle Prairie” or ”peerless Lake” or ”Pincher Creek” or Piyami or Ponoka or Wabasca or Wetaskiwin or Zama or ”Fort Chippewayan” or (Banff not (scor* or grade or grades or criteria or grading or scheme or schema or type* or classification or type or Scotland)) or (Jasper not (jumper or Penfield)) or Waterton or Canmore or ”Cadotte Lake” or ”Woodland Cree” or ”Fort Macleod” or Shaganappi or ((”spruce grove” or stettler or strathmore or sundre or ”sylvan lake” or airdrie or beaumont or “Calling Lake” or Camrose or Coronation or (Devon not England) or Didsbury or “East Prairie” or Eckville or Edson or “Elk Point” or elnora or evansburg or fairview or “Fishing Lake” or Gibbons or “Gift Lake” or Glendon or “Grande Cache” or “grande Prairie” or Grimshaw or Hanna or Hinton or Hobbema or Innisfail or Kitscoty or “Lac la Biche” or Leduc or Manyberries or “Mill Woods” or Morinville or Myrnam or Nanton or (Olds not "year olds") or “Rainbow Lake” or Raymond or “Red Earth Creek” or Rimbey or “Rocky Mountain House” or Sedgewick or Strathmore or Sundre or Taber or Thorhild or Thorsby or “Three Hills” or Tofield or “Trout Lake” or Valleyview or Vauxhall or Vegreville or Vermillion or Viking or Vilna or Vulcan or Wainwright or “Jasper Place” or Westlock or Whitecourt or Winfield or Worsley) and canad*)) or (MH "Alberta")		
S7	S1 OR S2	Expanders - Apply equivalent subjects Search modes - Find all my search terms	311,805

S8	S3 OR S4	Expanders - Apply equivalent subjects Search modes - Find all my search terms	203,757
S9	S5 AND S6 AND S7 AND S8	Limiters - English Language Expanders - Apply equivalent subjects Search modes - Find all my search terms	24

Database: Trip Pro
Date searched: November 21, 2021

Search Terms	Number of Records
(pregnan* or prenatal or perinatal or antepartum or antenatal or "expect* mother*") AND ("substance-related disorder*" OR "substance use disorder*" OR "alcohol-related disorder*" OR alcoholism OR "alcohol use disorder*" OR "amphetamine-related disorder*" OR "amphetamine use disorder*" OR "cocaine-related disorder*" OR "cocaine use disorder*" OR "drug overdose*" OR "inhalant abuse" OR "inhalant use disorder*" OR "marijuana abuse" OR "marijuana use disorder*" OR "narcotic-related disorder*" OR "narcotic use disorder*" OR "opioid-related disorder*" OR "opioid use disorder*" OR "neonatal abstinence syndrome" OR "phencyclidine abuse" OR "substance-induced psychos*" OR "intravenous substance abuse" OR "oral substance abuse" OR "substance withdrawal syndrome" OR "tobacco use disorder*" OR "drug addiction*" OR "drug misuse" OR "drug dependen*" OR "drug abuse" OR "illicit drug use") AND (program* or service* or care or intervention* or treatment* or management or therap* or rehab* or "model* of care" or "care model*" or "treatment model*") AND (Alberta* and Canad*)	420

Database: ProQuest Dissertations & Theses Global
Dates covered by database: 1743 - Present
Date searched: November 22, 2021

Set	Search Statement	Number of Records
S1	AB,TI,FT((pregnan* or prenatal or perinatal or antepartum or antenatal or “expect* mother*”))	3,702
S2	AB,TI,FT(("substance-related disorder*" OR "substance use disorder*" OR "alcohol-related disorder*" OR alcoholism OR "alcohol use disorder*" OR "amphetamine-related disorder*" OR "amphetamine use disorder*" OR "cocaine-related disorder*" OR "cocaine use disorder*" OR ("drug overdose" OR "drug overdoses") OR "inhalant abuse" OR "inhalant use disorder*" OR "marijuana abuse" OR "marijuana use disorder*" OR "narcotic-related disorder*" OR "narcotic use disorder*" OR "opioid-related disorder*" OR "opioid use disorder*" OR "neonatal abstinence syndrome" OR "phencyclidine abuse" OR "substance-induced psychos*" OR "intravenous substance abuse" OR "oral substance abuse" OR "substance withdrawal syndrome" OR "tobacco use disorder*" OR ("drug addiction" OR "drug addictions") OR "drug misuse" OR ("drug dependence" OR "drug dependencies" OR "drug dependent") OR "drug abuse" OR "illicit drug use"))	1,356
S3	AB,TI,FT((program* or service* or care or intervention* or treatment* or management or therap* or rehab* or “model* of care” or ("care model" OR "care models") or ("treatment model")))	23,495
S4	AB,TI,FT((alberta* or (edmonton* not England) or calgary or calgarian* or “medicine hat” or lethbridge or athabasca or barrhead or beaverlodge or “Drayton Valley” or Drumheller or “Buffalo Lake” or Kikino or Kinuso or Okotoks or Onoway or ”Paddle Prairie” or ”peerless Lake” or ”Pincher Creek” or Piyami or Ponoka or Wabasca or Wetaskiwin or Zama or ”Fort Chippewayan” or (Banff not (scor* or grade or grades or criteria or grading or scheme or schema or type* or classification or type or Scotland)) or (Jasper not (jumper or Penfield)) or Waterton or Canmore or ”Cadotte Lake” or ”Woodland Cree” or ”Fort Macleod” or Shaganappi or ((”spruce grove” or stettler or strathmore or sundre or ”sylvan lake” or airdrie or beaumont or “Calling Lake” or Camrose or Coronation or (Devon not England) or Didsbury or “East Prairie” or Eckville or Edson or “Elk Point” or elnora or evansburg or fairview or “Fishing Lake” or Gibbons or “Gift Lake” or Glendon or “Grande Cache” or “grande Prairie” or	23,713

	Grimshaw or Hanna or Hinton or Hobbema or Innisfail or Kitscoty or “Lac la Biche” or Leduc or Manyberries or “Mill Woods” or Morinville or Myrnam or Nanton or (Olds not "year olds") or “Rainbow Lake” or Raymond or “Red Earth Creek” or Rimbey or “Rocky Mountain House” or Sedgewick or Strathmore or Sundre or Taber or Thorhild or Thorsby or “Three Hills” or Tofield or “Trout Lake” or Valleyview or Vauxhall or Vegreville or Vermillion or Viking or Vilna or Vulcan or Wainwright or “Jasper Place” or Westlock or Whitecourt or Winfield or Worsley) and canad*)))	
S5	S1 AND S2 AND S3 AND S4	634
S6	S1 AND S2 AND S3 AND S4 Narrowed by: Full text: Full text; Language: English	472

Note: AB = Abstract; TI = Document title; FT = Document text

Database: OAlster
Date searched: December 12, 2021

Search Terms	Number of Records
(pregnan* OR "expect* mother*" OR prenatal OR perinatal) AND ("substance use" OR "substance abuse" OR "drug use" OR "drug abuse" OR addiction* OR alcoholi* OR “alcohol abuse”) AND (program* OR service* OR care OR intervention* OR treatment* OR management) AND (alberta* and canad*)	2

Search Engine: Google

Date searched	Search Terms	Number of Records
January 17, 2022	(pregnan* OR "expect* mother*" OR prenatal OR perinatal) AND (program* OR service* OR care OR intervention* OR treatment OR management) AND ("substance use" OR "substance abuse" OR "drug use" OR "drug abuse" OR addiction* OR alcoholi* OR “alcohol abuse”) AND (alberta* and canada*)	28
January 17, 2022	(pregnan* OR "expect* mother*" OR prenatal OR perinatal) AND (program* OR service* OR care	20

	OR intervention* OR treatment OR management) AND ("substance use" OR "substance abuse" OR "drug use" OR "drug abuse" OR addiction* OR alcoholi* OR “alcohol abuse”) AND (edmonton* or alberta* and Canada*)	
January 17, 2022	(pregnan* OR "expect* mother*" OR prenatal OR perinatal) AND (program* OR service* OR care OR intervention* OR treatment OR management) AND ("substance use" OR "substance abuse" OR "drug use" OR "drug abuse" OR addiction* OR alcoholi* OR “alcohol abuse”) AND (calgary or alberta* and Canada*)	16

Organizations included in Targeted Web Searches

- Alberta Association of Midwives
- Alberta Health Services (AHS)
- Alberta PCAP Council
- Canadian Association of Midwives
- Canadian Centre on Substance Use and Addiction (CCSA)
- Canada Fetal Alcohol Spectrum Disorder Research Network (CanFASD)
- Canadian Pediatric Society
- Centre for Addiction and Mental Health (CAMH)
- FASD Alberta Networks
- Government of Alberta
- Government of Canada

Appendix C: Included Evidence Sources

Citation	Publication Type	Description of Evidence Source	Name of Program Identified from Evidence Source
Pei J, Carlson E, Tremblay M, Poth C. Exploring the contributions and suitability of relational and community-centered fetal alcohol spectrum disorder (FASD) prevention work in First Nation communities. Birth Defects Res. 2019 Jul 15;111(12):835–47.	Journal article	A participatory approach was used to generate understandings of mentors' experiences of services provided through the Parent-Child Assistance Program in rural and isolated Indigenous communities in Alberta and how program implementation was made suitable for these communities	First Nations PCAP
Pei J, Tremblay M, Carlson E, Poth C. PCAP in Alberta First Nation Communities: evaluation report [Internet]. 2017 [cited 2022 Mar 13]. Available from: https://canfasd.ca/wp-content/uploads/2018/02/PCAP-FN-Report_Revised_FINAL_10262017.pdf	NGO report	An evaluation of the Parent-Child Assistance Program, as implemented in First Nations communities	First Nations PCAP
Rasmussen C, Kully-Martens K, Denys K, Badry D, Henneveld D, Wyper K, et al. The Effectiveness of a Community-Based	Journal article	A retrospective analysis of mothers who participated in First Steps and their outcomes at the conclusion of the	First Steps

Intervention Program for Women At-Risk for Giving Birth to a Child with Fetal Alcohol Spectrum Disorder (FASD). Community Mental Health Journal. 2010 Aug 8;48(1):12–21.		program, including whether participants showed improvements in meeting their needs and achieving their goals	
Thanh NX, Jonsson E, Moffatt J, Dennett L, Chuck AW, Birchard S. An Economic Evaluation of the Parent–Child Assistance Program for Preventing Fetal Alcohol Spectrum Disorder in Alberta, Canada. Administration and Policy in Mental Health and Mental Health Services Research. 2014 Jan 30;42(1):10–8.	Journal article	An economic evaluation of the cost-effectiveness and cost-benefit implications of the PCAP programs in Alberta	PCAP
Oei JL, Azim SI, Lee E, Blythe S, Black K et al. Substance use during pregnancy, birth and the postnatal period: an Evidence Check rapid review brokered by the Sax Institute (www.saxinstitute.org.au) NSW Ministry of Health, January 2021	Government and NGO report	A rapid review of peer-reviewed and grey literature to gather and summarize the latest available evidence for the treatment of substance use during pregnancy, birth, and the postnatal period	PCAP
Williams B, Bowles K, Lubman D, Chakraborty S,	Government and NGO report	A rapid review of peer-reviewed and grey literature to	2nd Floor Women's Recovery Centre

Beovich B et al. Women and Women with Children Residential Rehabilitation Best Practice: an Evidence Check rapid review brokered by the Sax Institute (www.saxinstitute.org.au) for the NSW Ministry of Health, 2017.		review and evaluate available evidence on residential rehabilitation programs for women and women with children	
Riley, EP, Clarren, S, Weinberg, J, Jonsson, E. (Eds.). (2011). Fetal alcohol spectrum disorder: management and policy perspectives of FASD. Wiley-Blackwell.	Book	Provides information on the molecular basis, prevalence, treatment options, socioeconomic impact, and prevention strategies for FASD	Mothers-To-Be-Mentorship; First Steps
2nd Floor Women's Recovery Centre. (2021). Client handbook. Retrieved February 10, 2022, from https://lcfasd.com/wp-content/uploads/2021/11/2nd-Floor-Client-Handbook-June-2021.pdf	Handbook	Provides information for clients attending or interested in attending the 2nd Floor Women's Recovery Centre	2nd Floor Women's Recovery Centre
Hubberstey C, Rutman D, Van Bibber M, Poole N. Wraparound programmes for pregnant and parenting women with substance use concerns in Canada: Partnerships are	Journal article	Describes how partnerships operate in wraparound programs supporting pregnant women with substance use and complex concerns,	H.E.R. Pregnancy Program

essential. Health & Social Care in the Community. 2021 Nov 28		and benefits of partnerships	
Aventa Centre of Excellence for Women with Addictions. (n.d.). Pregnancy Program overview. Retrieved February 20, 2022, from https://aventa.org/wp-content/uploads/2021/03/Pregnancy-Program-2021.pdf	Brochure	Provides an overview of Aventa's Pregnancy Program	Aventa Pregnancy Program
Khan, F , Wanke, MI. (2013). Impact evaluation of the H.E.R. Pregnancy Program – program data final report. Prepared by Charis Management Consulting for the Alberta Centre for Child, Family and Community Research. https://fasdprevention.files.wordpress.com/2014/02/her-final-program-data-technical-report-2014.pdf	NGO report	Presents an analysis of the data collected in an impact evaluation of the H.E.R. Pregnancy Program	H.E.R. Pregnancy Program
Wodinski, L, Wanke, MI, Khan, F. (2013). Impact evaluation of the H.E.R. Pregnancy Program – photovoice final report. Prepared by Charis Management	NGO report	Describes the methodology and results of a modified photovoice project for an impact evaluation of the H.E.R. Pregnancy Program	H.E.R. Pregnancy Program

Consulting for the Alberta Centre for Child, Family and Community Research. https://fasdprevention.files.wordpress.com/2014/02/her-final-photovoice-report-2014.pdf			
Wodinski, L, Wanke, MI, Khan, F. (2013). Impact evaluation of the H.E.R. Pregnancy Program – final summary report. Prepared by Charis Management Consulting for the Alberta Centre for Child, Family and Community Research. https://www.catie.ca/sites/default/files/her-final-summary-report-2014.pdf	NGO report	Summarizes the findings of an impact evaluation of the H.E.R. Pregnancy Program	H.E.R. Pregnancy Program
Nathoo, T, Poole, N, Bryans, M, Dechief, L, Hardeman, S, Marcellus, L, Poag, E, Taylor, M. (2013). Voices from the community: developing effective community programs to support pregnant and early parenting women who use alcohol and other substances. First	Journal article	Describes the development of single-access programs to meet the needs of pregnant and early parenting women who use alcohol and other substances in four different communities in Canada	H.E.R. Pregnancy Program

Peoples Child & Family Review, 8(1), 93-106. https://fpcfr.com/index.php/FPCFR/article/view/203/31			
Government of Alberta. (n.d.). Social return on investment (SROI) case study: Healthy Empowered Resilient (H.E.R.) Pregnancy Program. Retrieved March 13, 2022, from https://fasdprevention.files.wordpress.com/2014/02/sroi-her-summary-final-2014.pdf	Government report	Describes the results of a social return on investment case study of the H.E.R. Pregnancy Program	H.E.R. Pregnancy Program
Kennedy, T. (2019, May 7). EMBRACE helps newborns ease into life after opioids. https://www.albertahealthservices.ca/news/Page15025.aspx	News article	Describes the EMBRACE program based at the Red Deer Regional Hospital Centre	EMBRACE Program
Nathoo, T, Marcellus, L, Bryans, M, Clifford, D, Louie, S, Penaloza, D, Seymour, A, Taylor, M, Poole, N. (2015). Harm reduction and pregnancy: community-based approaches to prenatal substance use in Western Canada. https://bccewh.bc.c	NGO report	Provides a brief introduction to Canadian programs and services that use a harm reduction approach to support pregnant women with problematic substance use	H.E.R. Pregnancy Program

a/wp-content/uploads/2015/02/HReduction-and-Preg-Booklet.2015_web.pdf			
Wiart, N. (2015, July 27). Pregnant aboriginal women find 'world of difference' in Edmonton inner-city program. https://www.cbc.ca/news/indigenous/pregnant-aboriginal-women-find-world-of-difference-in-edmonton-inner-city-program-1.3166773	News article	Describes the Healthy, Empowered, Resilient (H.E.R.) Pregnancy Program in Edmonton and shares the perspective of one mother receiving care from the program	H.E.R. Pregnancy Program
Oake, WB. (2019). Pregnancy Pathways annual report. https://www.bmhc.net/uploads/4/5/0/9/45096779/pregnancy_pathways_annual_report_2019.pdf	NGO report	An annual report of the Pregnancy Pathways program that describes key outcomes and key statistics	Pregnancy Pathways
Caine, V, Singh, A, Bouwman Oake, W, Cardinal, C, Peekeekoot, N, Oster, R, Borelli, T, Chaw-Kent, J. (2019). Housing intervention for pregnant or early parenting women who are precariously housed.	NGO report	Describes a study that sought to detail the experiences of pregnant and early parenting women and their children who are a part of the Pregnancy Pathways program	Pregnancy Pathways

https://homewardtrust.ca/wp-content/uploads/2019/07/Caine-Singh-Bouwman-Oake-et-al-2019.-Pregnancy-Pathways-report-1.pdf			
Alberta Health Services. (2018). Concurrent disorders inpatient services referral quick reference. https://www.albertahealthservices.ca/assets/info/hp/arp/if-hp-arp-cz-concurrentdisorder-qr.pdf	Quick reference guide	Provides an overview of the Concurrent Disorders Enhanced Service	Concurrent Disorders Enhanced Service
Bernicki, A, Vick, K. (n.d.). The 2nd Floor Women's Recovery Center [PowerPoint Slides]. Alberta Live-In Addiction Treatment Centers. https://www.abaddictiontx.ca/directory	PowerPoint	Provides an overview of the 2nd Floor Women's Recovery Center	2nd Floor Women's Recovery Center
Zielinski, S. (2019, May 8). New Red Deer program helping babies with opioid withdrawal. https://www.reddeeradvocate.com/news/new-red-deer-program-helping-babies-with-opioid-withdrawal/	News article	Describes the new EMBRACE program at the Red Deer Regional Hospital Centre	EMBRACE Program
Lakeland Centre for FASD. (2019). Lakeland Centre for FASD: annual report 2020-2021.	NGO report	A 2020-2021 annual report that highlights the Lakeland Centre for FASD's	Mothers-to-be-Mentorship; The 2nd Floor Women's Recovery Centre

https://lcfasd.com/wp-content/uploads/2021/07/Annual-Report-2020-2021-Final-Standard.pdf		accomplishments and activities	
Alberta PCAP Council. (n.d.). Alberta PCAP Council: an overview. Retrieved March 21, 2022, from https://alberta-pcap.ca/publications-media/#publications-media	NGO report	Provides an overview of the Alberta Parent Child Assistance Program (PCAP) Council and of PCAP	PCAP
Alberta Clinical and Community-Based Evaluation and Research Team & PolicyWise for Children and Families. (n.d.). PCAP community book: healing together. Retrieved March 21, 2022, from https://alberta-pcap.ca/wp-content/uploads/2018/05/PCAP-Community-Book_10232017_FINAL-1.pdf	NGO report	Presents the stories of mentors during an evaluation of the Parent Child Assistance Program in Alberta First Nations communities	First Nations PCAP
Job JM, Poth CA, Pei J, Wyper K, Teresa O, Taylor L. Combining visual methods with focus groups: An innovative approach for capturing the	Journal article	Presents the results of a multi-method approach to capture the experiences of FASD prevention specialists in Alberta	PCAP

multifaceted and complex work experiences of Fetal Alcohol Spectrum Disorder prevention specialists. The International Journal of Alcohol and Drug Research. 2014 Mar 19;3(1):71.			
Alberta PCAP Council. (2019). PCAP Alberta. https://alberta-pcap.ca/wp-content/uploads/2019/08/PCAP-Brochure-2019-08-12.pdf	Brochure	Provides an overview of the Parent Child Assistance Program (PCAP) Council, the PCAP model, and the PCAP program	PCAP
Flannigan, K, Wrath, AJ, McFarlane, A, Murphy, L, & Rogozinski, L (2021). Integrated service delivery in fetal alcohol spectrum disorder (FASD): A review of the Alberta FASD Service Network Model. *Journal on Developmental Disabilities*, *26*(2). doi:10.5281/zenodo.5711239	Journal article	Presents the results of a scoping review of the academic and grey literature on the Alberta FASD Service Network model to better understand its aims and scope, impacts, and challenges	PCAP

Rutman, D, Hubberstey, C, Van Bibber, M, Poole, N, Schmidt, RA. (2021). Stories and Outcomes of Wraparound Programs Reaching Pregnant and Parenting Women at Risk. Victoria, BC: Nota Bene Consulting Group. https://www.fasd-evaluation.ca/wp-content/uploads/2021/03/FINAL-CCE_Report_Mar-8-for-web.pdf	NGO report	Presents the results of the Co-Creating Evidence Project, a national evaluation of eight multi-service programs in Canada that serve women at high risk of having an infant that has been prenatally exposed to alcohol or other substances	H.E.R. Pregnancy Program
Stonehocker, D. (2012). FASD service network program evaluation expanded portion: Lakeland Network. https://lcfasd.com/wp-content/uploads/2017/07/LCFASD-Service-Network-Program-Evaluation-.pdf	NGO report	Presents the results of an evaluation of the Lakeland FASD Network	Mothers-to-Be-Mentorship
Government of Alberta. (2020c). Fetal alcohol spectrum disorder (FASD) across the lifespan: Alberta FASD 10-Year Strategic Plan 2007-2017 Year 10 Evaluation.	Government report	Provides a brief overview of the history and expansion of the PCAP program and positive program outcomes	PCAP

https://open.alberta.ca/dataset/e26451ea-9a53-40e4-b40b-33fc916fbaef/resource/17a3587a-b593-498b-94ed-c3f9be38af88/download/css-albertas-fasd-10-year-strategic-plan-year-10-evaluation-overview-key-findings-recommendation.pdf			
Pelech, W, van Vugt, P, Crowley, T. (2013). Caring, compassion, & community: An evaluation of the Parent-Child Assistance Program in Alberta [conference presentation]. https://www.ihe.ca/download/fasd_prevention_oral_pres_e6_pelech.pdf	Conference presentation	Describes the PCAP approach, theoretical underpinnings, evaluation methodology, challenges, and preliminary findings related to client demographics and outcome	PCAP

Appendix D: Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist (73)

Section	Item	PRISMA-ScR Checklist Item	Reported on page
Title			
Title	1	Identify the report as a scoping review.	i
Abstract			
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	ii-iv
Introduction			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	30
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.	31-32
Methods			
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.	NA
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	32-33

Information sources*	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.	Appendix B
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	Appendix B
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	32-33
Data charting process‡	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.	37
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	37 and Appendix G
Critical appraisal of individual sources of evidence§	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	NA
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	37-39
Results			
Selection of sources of evidence	14	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.	41
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	Appendix C

Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	NA
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	Appendix C
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	39-53
Discussion			
Summary of evidence	19	Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.	54-63
Limitations	20	Discuss the limitations of the scoping review process.	87-88
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	85-87 and 89-91
Funding			
Funding	22	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.	NA

JBI = Joanna Briggs Institute; PRISMA-ScR = Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews.

* Where sources of evidence (see second footnote) are compiled from, such as bibliographic databases, social media platforms, and Web sites.

† A more inclusive/heterogeneous term used to account for the different types of evidence or data sources (e.g., quantitative and/or qualitative research, expert opinion, and policy documents) that may be eligible in a scoping review as opposed to only studies. This is not to be confused with information sources (see first footnote).

‡ Also known as data extraction.

§ The process of systematically examining research evidence to assess its validity, results, and relevance before using it to inform a decision. This term is used for items 12 and 19 instead of "risk of bias" (which is more applicable to systematic reviews of interventions) to include and acknowledge the various sources of evidence that may be used in a scoping review (e.g., quantitative and/or qualitative research, expert opinion, and policy document).

Appendix E: Program Websites Reviewed

1. Home [Internet]. Aventa. 2016 [cited 2022 Mar 13]. Available from: https://aventa.org/

2. The H.E.R. Pregnancy Program [Internet]. CATIE - Canada's source for HIV and hepatitis C information. 2021 [cited 2022 Mar 13]. Available from: https://www.catie.ca/programming-connection/the-her-pregnancy-program

3. The 2nd Floor [Internet]. Lakeland Centre for FASD. 2021 [cited 2022 Mar 13]. Available from: https://lcfasd.com/the-2nd-floor/

4. Alberta Parent-Child Assistance Program (PCAP) Council [Internet]. Alberta Parent-Child Assistance Program Council (APCAPC). 2013 [cited 2022 Mar 13]. Available from: https://alberta-pcap.ca/

5. Pregnancy Pathways [Internet]. Boyle McCauley Health Centre. [cited 2022 Mar 13]. Available from: https://www.bmhc.net/pregnancy-pathways.html

Appendix F: Excluded Records Retrieved from Databases Following Full-Text Review with Reasons for Exclusion

Excluded records (n = 58)

1	***Citation*** National Collaborating Centre for Methods and Tools. (2020). *What is the effect of the COVID-19 pandemic on opioid and substance use and related harms?* McMaster University. https://www.nccmt.ca/covid-19/covid-19-rapid-evidence-service/13 ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
2	***Citation*** Armbrecht, E., Guzauskas, G., Hansen, R., Pandey, R., Fazioli, K., Chapman, R., Pearson, S. D., & Rind, D. M. (2021). *Supervised injection facilities and other supervised consumption sites: Effectiveness and value; Final evidence report*. Institute for Clinical and Economic Review. https://icer.org/wp-content/uploads/2020/10/ICER_SIF_Final-Evidence-Report_010821.pdf ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
3	***Citation*** Royal College of Occupational Therapists. (2018). *Occupational therapy in neonatal services and early intervention: Practice guideline.* https://www.rcot.co.uk/file/1607/download?token=-DeuKXyS ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
4	***Citation*** Bruneau, J., Ahamad, K., Goyer, M. È., Poulin, G., Selby, P., Fischer, B., Wild, T. C., Wood, E., & CIHR Canadian Research Initiative in Substance Misuse. (2018). Management of opioid use disorders: A national clinical practice guideline. *Canadian Medical Association Journal*, *190*(9), E247–E257. https://doi.org/10.1503/cmaj.170958 ***Reason for exclusion***

	Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
5	***Citation*** Massimo, L. M. (1993). *Native Canadians' experience of recovery from chemical dependency* (Order No. MM82174) [Master's Thesis, University of Alberta]. ProQuest Dissertations & Theses Global. ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
6	***Citation*** Weidenhamer, H. A. (1997). *Abuse during pregnancy: Understanding the silence* (Order No. MQ21273) [Master's Thesis, University of Alberta]. ProQuest Dissertations & Theses Global. ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
7	***Citation*** Canadian Centre on Substance Abuse. (2015). *Collaboration for Addiction and Mental Health Care: Best advice*. https://ccsa.ca/sites/default/files/2019-05/CCSA-Collaboration-Addiction-Mental-Health-Best-Advice-Report-2015-en.pdf ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
8	***Citation*** Canadian Centre on Substance Use and Addiction. (2020). *Submission to Health Canada consultation to inform proposed new regulations for supervised consumption sites and services*. https://www.ccsa.ca/submission-health-canada-consultation-inform-proposed-new-regulations-supervised-consumption-sites ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
9	***Citation*** British Columbia Reproductive Care Program. (2003). *Obstetric Guideline 13: Intimate partner violence during the perinatal period*.

	http://www.perinatalservicesbc.ca/Documents/Guidelines-Standards/Maternal/IntimatePartnerViolenceGuideline.pdf ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
10	***Citation*** U.S. National Library of Medicine. (2017, September 25). *Prevention of fetal alcohol spectrum disorder (FASD) by the use of technology*. ClinicalTrials.gov. https://clinicaltrials.gov/ct2/show/NCT02759874 ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
11	***Citation*** Canadian Centre on Substance Use and Addiction. (2018). *Clearing the Smoke on Cannabis: Maternal Cannabis Use during Pregnancy – An Update*. https://www.ccsa.ca/sites/default/files/2019-04/CCSA-Cannabis-Maternal-Use-Pregnancy-Report-2018-en.pdf ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
12	***Citation*** Rivas, C., Ramsay, J., Sadowski, L., Davidson, L., Dunnes, D., Eldridge, S., Hegarty, K., Taft, A., & Feder, G. (2016). Advocacy interventions to reduce or eliminate violence and promote the physical and psychosocial well-being of women who experience intimate partner abuse: A systematic review. *Campbell Systematic Reviews*, *12*. https://doi.org/10.1002/14651858.CD005043.pub3 ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
13	***Citation*** Furlan, A. D., McKibbon, K. A., Lokker, C., Handler, S. M., Dolovich, L. R., Holbrook, A. M., O'Reilly, D., Tamblyn, R., Hemens, B. J., Basu, R., Troyan, S., Roshanov, P. S., Archer, N. P., & Raina, P. (2011). *Enabling medication management through health information technology (Health IT).* McMaster Evidence-based Practice Center. https://www.ncbi.nlm.nih.gov/books/NBK56110/pdf/Bookshelf_NBK56110.pdf ***Reason for exclusion***

	Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
14	***Citation*** Canadian Centre on Substance Use and Addiction. (2018). *Best Practices across the Continuum of Care for the Treatment of Opioid Use Disorder.* https://ccsa.ca/sites/default/files/2019-04/CCSA-Best-Practices-Treatment-Opioid-Use-Disorder-2018-en.pdf ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
15	***Citation*** Van de Voorde, C., Van den Heede, K., Beguin, C., Bouckaert, N., Camberlin, C., de Bekker, P., Defourny, N., De Schutter, H., Devos, C., Gerkens, S., Grau, C., Jeurissen, P., Kruse, F. M., Lefèvre, M., Lievens, Y., Mistiaen, P., Vaandering, A., Van Eycken, E., & Van Ginneken, E. (2017). *Required hospital capacity in 2025 and criteria for rationalisation of complex cancer surgery, radiotherapy and maternity services*. https://kce.fgov.be/sites/default/files/atoms/files/Download%20the%20short%20report%20in%20English%20%28110%20p.%29.pdf ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
16	***Citation*** Canadian Centre on Substance Use and Addiction. (2019). *Withdrawal Management Services in Canada: The National Treatment Indicators Report (2015-2016 Data)*. https://ccsa.ca/sites/default/files/2019-04/CCSA-National-Treatment-Indicators-Report-2019-en.pdf ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
17	***Citation*** Evans, C., Bullock, H. L., Wilson, M. G., & Lavis, J.N. (2020). *Rapid synthesis: The effectiveness of virtual care for adults with mental health and/or addictions issues.* McMaster Health Forum. https://www.mcmasterforum.org/docs/default-source/product-documents/rapid-responses/assessing-the-effectiveness-of-virtual-care-for-adults-with-mental-health-and-or-addictions-issues.pdf?sfvrsn=8f0f56d5_2 ***Reason for exclusion***

	Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
18	***Citation*** Miah, R. (2013). Does transitional care improve neonatal and maternal health outcomes? A systematic review. *The British Journal of Midwifery*, *21*, 634-646. https://doi.org/10.12968/bjom.2013.21.9.634 ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
19	***Citation*** Canadian Centre on Substance Use and Addiction. (2016). *Addiction and Mental Health Care: Resources to Support Collaboration*. https://www.ccsa.ca/sites/default/files/2019-05/CCSA-Addiction-Mental-Health-Collaborations-Summary-2016-en.pdf ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
20	***Citation*** Canadian Pharmacists Association Conference, Whistler, BC. (2012). *Canadian Pharmacists Journal: CPJ*, *145*(4), S1–S53. https://doi.org/10.3821/145.4.cpjS1 ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
21	***Citation*** Silang, K., Sanguino, H., Sohal, P. R., Rioux, C., Kim, H. S., & Tomfohr-Madsen, L. M. (2021). eHealth interventions to treat substance use in pregnancy: A systematic review and meta-analysis. *International journal of environmental research and public health*, *18*(19), 9952. https://doi.org/10.3390/ijerph18199952 ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
22	***Citation*** Bergman, J., Brandley, J., Gratrix, J., Ross, K., Paradis, K., Parker, P., Anderson, B., Houston, S., & Singh, A. (2011). Outcomes following the introduction of HIV partner notification guidelines in Edmonton, Canada. *Sexually Transmitted Infections*, *87*(1), A325-A326. https://sti.bmj.com/content/87/Suppl_1/A325.3

	Reason for exclusion Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
23	***Citation*** Socias, M. E., Ahamad, K., Le Foll, B., Lim, R., Bruneau, J., Fischer, B., Wild, T. C., Wood, E., & Jutras-Aswad, D. (2018). The OPTIMA study, buprenorphine/naloxone and methadone models of care for the treatment of prescription opioid use disorder: Study design and rationale. *Contemporary Clinical Trials*, *69*, 21–27. https://doi.org/10.1016/j.cct.2018.04.001 ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
24	***Citation*** Pottie, K., Kendall, C. E., Aubry, T., Magwood, O., Andermann, A., Salvalaggio, G., Ponka, D., Bloch, G., Brcic, V., Agbata, E., Thavorn, K., Hannigan, T., Bond, A., Crouse, S., Goel, R., Shoemaker, E., Wang, J., Mott, S., Kaur, H., … Tugwell, P. (2020). Clinical guideline for homeless and vulnerably housed people, and people with lived homelessness experience. *Canadian Medical Association Journal*, *192*(10), E240–E254. https://doi.org/10.1503/cmaj.190777 ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
25	***Citation*** Korownyk, C., Perry, D., Ton, J., Kolber, M. R., Garrison, S., Thomas, B., Allan, G. M., Bateman, C., de Queiroz, R., Kennedy, D., Lamba, W., Marlinga, J., Mogus, T., Nickonchuk, T., Orrantia, E., Reich, K., Wong, N., Dugré, N., & Lindblad, A. J. (2019). Managing opioid use disorder in primary care: PEER simplified guideline. *Canadian Family Physician*, *65*(5), 321–330. ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
26	***Citation*** Graves, L., Carson, G., Poole, N., Patel, T., Bigalky, J., Green, C. R., & Cook, J. L. (2020). Guideline no. 405: Screening and counselling for alcohol consumption during pregnancy. *Journal of Obstetrics and Gynaecology Canada*, *42*(9). https://doi.org/10.1016/j.jogc.2020.03.002

	Reason for exclusion Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
27	***Citation*** Canadian Centre on Substance Use and Addiction. (2017). *Finding quality addiction care in Canada: Drug and alcohol treatment guide.* https://www.ccsa.ca/sites/default/files/2019-04/CCSA-Addiction-Care-in-Canada-Treatment-Guide-2017-en.pdf ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
28	***Citation*** U.S. National Library of Medicine. (2021, June 16). *A pragmatic randomized control trial comparing models of care in the management of prescription opioid misuse (OPTIMA)*. ClinicalTrials.gov. https://clinicaltrials.gov/ct2/show/NCT03033732 ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
29	***Citation*** Canadian Centre on Substance Use and Addiction. (2020). *Rapid access models for substance use services: A rapid review*. https://www.ccsa.ca/sites/default/files/2020-10/CCSA-Rapid-Access-Models-Substance-Use-Services-Rapid-Review-Report-2020-en.pdf ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
30	***Citation*** Public Health Ontario. (2020). *Rapid review: strategies to mitigate risk of substance use-related harms during periods of disruption.* https://www.publichealthontario.ca/-/media/documents/ncov/he/2020/09/mitigation-strategies-substance-use.pdf?la=en ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
31	***Citation***

	Registered Nurses' Association of Ontario. (2015). *Engaging clients who use substances. https://rnao.ca/sites/rnao-ca/files/Engaging_Clients_Who_Use_Substances_13_WEB.pdf* ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
32	***Citation*** Darkwah, V., Yamane, H., Richter, S., Caine, V., Maina, G., Chambers, T., & Johnson, L. (2012). A systematic review on the intersection of homelessness and healthcare in Canada. *Journal of Nursing & Care*, *1*(5). https://doi.org/10.4172/2167-1168.1000115 ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
33	***Citation*** Registered Nurses' Association of Ontario (2012). *Facilitating client centred learning.* https://rnao.ca/sites/rnao-ca/files/BPG_CCL_2012_FA.pdf ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
34	***Citation*** Registered Nurses' Association of Ontario. (2005). *Woman abuse: Screening, identification and initial response.* https://rnao.ca/sites/rnao-ca/files/Woman_Abuse_Screening_Identification_and_Initial_Response.pdf ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
35	***Citation*** Registered Nurses' Association of Ontario. (2008) *Assessment and care of adults at risk for suicidal ideation and behaviour*. https://rnao.ca/sites/rnao-ca/files/Assessment_and_Care_of_Adults_at_Risk_for_Suicidal_Ideation_and_Behaviour_0.pdf ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)

36	***Citation*** Mason, J. L. (1998). *Mandatory treatment for prenatal substance abuse: The need to re-evaluate its potential to promote the best interests of women and children* (Order No. MQ34444) [Master's Thesis, University of Alberta]. ProQuest Dissertations & Theses Global. ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
37	***Citation*** Registered Nurses' Association of Ontario. (2009) *Supporting Clients on Methadone Maintenance Treatment.* https://rnao.ca/sites/rnao-ca/files/Supporting_Clients_on_Methadone_Maintenance_Treatment.pdf ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
38	***Citation*** Canadian Centre on Substance Use and Addiction. (2017). *The National Alcohol Strategy monitoring project: A status report*. https://ccsa.ca/national-alcohol-strategy-monitoring-project-status-report ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
39	***Citation*** Bucharski, D. M. (2002). *Aboriginal women's perspectives on "culturally appropriate" HIV counselling and testing* (Order No. MQ69692) [Master's Thesis, University of Alberta]. ProQuest Dissertations & Theses Global. ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
40	***Citation*** Ratner, P. A. (1991). *The health problems and health care utilization patterns of wives who are physically and/or psychologically abused* (Order No. MM66836) [Master's Thesis, University of Alberta]. ProQuest Dissertations & Theses Global. ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)

41	***Citation*** Forss, K. P. (2003). *Homelessness, substance abuse, and perceived barriers to accessing health care services* (Order No. MQ82275) [Master's Thesis, University of Alberta]. ProQuest Dissertations & Theses Global. ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
42	***Citation*** Cooper, E. L. (2004). *Using social control to change the behaviour of pregnant women who use alcohol: An ethical and empirical analysis* (Order No. MQ95727) [Master's Thesis, University of Alberta]. ProQuest Dissertations & Theses Global. ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
43	***Citation*** Gilbert, M. (2012). *Access and engagement in treatment-aided addiction recovery: Differences between men and women* (Order No. MR90572) [Master's Thesis, University of Alberta]. ProQuest Dissertations & Theses Global. ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
44	***Citation*** Keller, A. M. (2013). *Mobile phones and health communication for young adults: An exploratory case study about incorporating text messaging in pregnancy care support in Edmonton* (Order No. MR92486). [Master's Thesis, University of Alberta]. ProQuest Dissertations & Theses Global. ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
45	***Citation*** Patrie, N. M. (2012). *Help Me Help You: Exploring Re-entry Programs for Incarcerated Women* (Order No. MR87874) [Master's Thesis, University of Alberta]. ProQuest Dissertations & Theses Global. ***Reason for exclusion***

	Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
46	***Citation*** Finlayson, P. (1988). *Smoking in pregnancy the expectant mother's perspective* (Order No. ML45579) [Master's Thesis, University of Alberta]. ProQuest Dissertations & Theses Global. ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
47	***Citation*** Isaac-Mann, S. (2004). *Development of a community-based HIV/AIDS prevention program for urban Aboriginal youth* (Order No. MQ96492) [Master's Thesis, University of Alberta]. ProQuest Dissertations & Theses Global. ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
48	***Citation*** Leipciger, C. A. (2005). *Characteristics and concerns of homeless youth in Calgary, Alberta: Implications for theory development and health promotion strategies* (Order No. MR09217) [Master's Thesis, University of Alberta]. ProQuest Dissertations & Theses Global. ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
49	***Citation*** Canadian Centre on Substance Use and Addiction (2017). *Moving Toward a Recovery-Oriented System of Care: A Resource for Service Providers and Decision Makers.* https://ccsa.ca/sites/default/files/2019-04/CCSA-Recovery-Oriented-System-of-Care-Resource-2017-en.pdf ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
50	***Citation*** Choate, P., Badry, D., MacLaurin, B., Ariyo, K., & Sobhani, D. (2019). Fetal Alcohol Spectrum Disorder: What does public awareness tell us about prevention

	programming?. *International journal of environmental research and public health*, *16*(21), 4229. https://doi.org/10.3390/ijerph16214229 ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
51	***Citation*** McPherson, N. C. (2002). *An exploratory study of the characteristics of injection drug users with recent acquisition of HIV in Edmonton* (Order No. MQ69737) [Master's Thesis, University of Alberta]. ProQuest Dissertations & Theses Global. ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
52	***Citation*** Hidalgo, M. D. (2014). *Social Support and Early Engagement in Addiction Treatment* (Order No. 10100132) [Master's Thesis, University of Alberta]. ProQuest Dissertations & Theses Global. ***Reason for exclusion*** No program name is indicated (missing concept)
53	***Citation*** CADTH. (2019). Programs for the Treatment of Opioid Addiction: An Environmental Scan. https://www.cadth.ca/sites/default/files/es/es0335-programs-for-treatment-opioid-addiction-in-Canada.pdf ***Reason for exclusion*** No program name is indicated (missing concept)
54	***Citation*** Kolahdooz, F., Launier, K., Nader, F., June Yi, K., Baker, P., McHugh, T., Vallianatos, H., & Sharma, S. (2016). Canadian Indigenous women's perspectives of maternal health and health care services: a systematic review. *Diversity & Equality in Health and Care*, *13*(5). http://dx.doi.org/10.21767/2049-5471.100073 ***Reason for exclusion*** No description of program structure is available (missing concept)
55	***Citation*** Thanh, N. X., Moffatt, J., Jacobs, P., Chuck, A. W., Jonsson, E. (2013). Potential impacts of the Alberta fetal alcohol spectrum disorder service networks on

	secondary disabilities: A cost-benefit analysis. *Journal of Population Therapeutics & Clinical Pharmacology*, *20*(2), e193-e200. ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
56	***Citation*** Hughes, C. A., Zuk, D., Foisy, M., Robinson, J., Singh, A. E., & Houston, S. (2009). Prenatal screening and perinatal HIV transmission in Northern Alberta, 1999-2006. *American journal of public health*, *99 Suppl 2*(Suppl 2), S412–S416. https://doi.org/10.2105/AJPH.2007.133306 ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
57	***Citation*** McFarlane, A., & Rajani, H. (2007). Rural FASD diagnostic services model: Lakeland Centre for Fetal Alcohol Spectrum Disorder. *The Canadian Journal of Clinical Pharmacology*, *14*(3), e301-306. ***Reason for exclusion*** Does not describe a program focused on supporting pregnant women with substance use disorders in Alberta (missing concept)
58	***Citation*** Burnside L., & McFarlane, A. (2012, October 21-24). *When nobody is there for you, it's the best thing that can ever happen": the role of mentoring in the lives of Canadian women with high risk substance misuse*. [Poster Abstract]. 2nd European Conference on FASD, Barcelona, Spain. ***Reason for exclusion*** No description of program structure is available (missing concept)

Appendix G: Data Extraction Form for Included Records

Evidence Source Details and Characteristics

Citation:

Date or Review:

Publication Type:
☐ Journal article
☐ Conference abstract
☐ Government report/website
☐ NGO report/website
☐ Dissertation/thesis
☐ Other

Description of Evidence Source (i.e., objective/purpose):

Name of Program identified from Evidence Source:

Program Details

Name:

Location:

Organization:

Broad Program Description:

Program Duration:

Program Approaches and Activities:

Duration:

Appendix H: Circle Outline and Guidelines

Models of Care for Substance Use During Pregnancy in Alberta: A Scoping Review and Sharing Circle (Pro00114443)

Circle Outline

THURSDAY, APRIL 21, 2022
9:30 AM - 12:30 PM (MST)

CIRCLE OPENING: Welcome and Opening Remarks

ROUND 1: Please share your name, occupation, and your favorite springtime sensation.

ROUND 2: Please describe what your experience has been in providing care to pregnant patients experiencing problematic substance use.

10 MINUTE BREAK

ROUND 3: Please describe what you think should be prioritized or changed in services for the care of pregnant patients experiencing problematic substance use.

ROUND 4: Please describe what you think are some key elements of models of care for pregnant patients experiencing problematic substance use.

CIRCLE CLOSING: Invitation to share your thoughts on the day or something that resonated with you.

THANK YOU

Circle Guidelines

1) Speak from the heart and with respect: Speak from your direct experience, knowing that your experience has truth and value. Without feeling rushed, choose your words carefully to convey the essence of your message.

2) Listen from the heart and with respect: Listen with an attitude of unconditional respect for whatever a person brings to the circle and be present in the moment as we listen to each other.

3) Trust the process: Allow your contribution to the circle to naturally unfold, without trying to conform to what you think others expect.

4) Honor confidentiality: What we say in this space will remain in this space unless we would like for it to be passed on to others.

THANK YOU