

# Evidence Brief

## Supporting Pregnant, Lactating, and Parenting People Who Consume Cannabis in Ontario

17 & 18 May 2021



HEALTH FORUM

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**Evidence Brief:**  
**Supporting Pregnant, Lactating and Parenting People**  
**who Consume Cannabis in Ontario**

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McMaster Health Forum and Forum+

The goal of the McMaster Health Forum, and its Forum+ initiative, is to generate action on the pressing health- and social-system issues of our time, based on the best available research evidence and systematically elicited citizen values and stakeholder insights. We aim to strengthen health and social systems – locally, nationally, and internationally – and get the right programs, services and products to the people who need them. In doing so, we are building on McMaster’s expertise in advancing human and societal health and well-being.

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Funding

The evidence brief and the stakeholder dialogue it was prepared to inform were funded by the Mental Health Commission of Canada. The McMaster Health Forum receives both financial and in-kind support from McMaster University. The views expressed in the evidence brief are the views of the authors and should not be taken to represent the views of the Mental Health Commission of Canada.

Conflict of interest

The authors declare that they have no professional or commercial interests relevant to the evidence brief. The funders played no role in the identification, selection, assessment, synthesis, or presentation of the research evidence profiled in the evidence brief.

Merit review

The evidence brief was reviewed by a small number of policymakers, stakeholders and researchers in order to ensure its scientific rigour and system relevance.

Acknowledgments

The authors wish to thank Aunima Bhuiya for assistance with conducting 14 key informant interviews (with policymakers, managers, providers, researchers, and service-user representatives), as well as Saif Alam and Natalie Tchakerian for reviewing the research evidence about the elements. We are grateful to Steering Committee members (Claudette Cardinal, Saara Greene, Gabrielle Griffith, Jenny Knoll, Theresa Kozak, Rochelle Maurice, Kelly Pridding, Alison Shea) and merit reviewers (Carley Hay and Sarah Head) for providing feedback on previous drafts of the brief. The views expressed in the evidence brief should not be taken to represent the views of these individuals.

Citation

Gauvin FP, Ion A, Wilson MG. Evidence brief: Supporting pregnant, lactating and parenting people who consume cannabis in Ontario. Hamilton: McMaster Health Forum | Forum+, 17-18 May 2021.

Product registration numbers

ISSN 1925-2250 (online)

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## KEY MESSAGES

### What's the problem?

- We identified five factors that make it challenging to support pregnant, lactating and parenting people who consume cannabis in Ontario:
  - cannabis is one of the most commonly consumed psychoactive substances during pregnancy, and consumption will likely increase;
  - there is limited research evidence available to understand the impact of cannabis consumption during pregnancy, lactation and parenting;
  - providers cannot easily turn to clear and evidence-based guidance about cannabis consumption during pregnancy, lactation and parenting;
  - current practices perpetuate a dominant (and subjective) discourse of 'risk', and challenges remain to ensure collaborative, relational, and strengths-based approaches are prioritized to move beyond this discourse; and
  - there is a lack of harm-reduction and person-centred approaches that could foster a paradigm shift to better respond to this issue.

### What do we know (from systematic reviews) about three elements of a potentially comprehensive approach to addressing the problem?

- Element 1 – Elevating the voices of pregnant, lactating and parenting people who consume cannabis
  - This element aims to elevate the voices of those with lived experience to ensure that maternity care, social work, and child-welfare practices are informed by the best-available evidence, and also operate from an equity, human rights, and social-justice perspective for all family members.
  - This element could include a range of strategies, including (but not limited to): promoting research strategies to illuminate their realities (e.g., arts-based approaches such as Body Mapping and Photovoice); using other types of care settings or venues that help make it comfortable to talk about care and decisional needs (e.g., outreach activities, group-based care, peer-based support); integrating advocacy support (e.g., support from peer networks or doulas); identifying strategies that help to address stigma; and identifying strategies and factors that encourage empowerment and agency around cannabis consumption decision-making throughout the perinatal and parenting journey (e.g., shared decision-making).
- Element 2 – Co-designing harm-reduction models and tools focused on supporting pregnant, lactating and parenting people who consume cannabis
  - This element aims to support co-designing research to improve knowledge about cannabis consumption and perinatal and parenting outcomes, and harm-reduction models and tools to advance practices that reimagine and reconstruct 'risk' and 'harm' in the context of parenting and cannabis consumption.
  - There is a growing body of synthesized research evidence about co-designing research, programs and services, and most reviews generally found beneficial outcomes for co-design approaches, notably about improving knowledge, patient engagement, patient satisfaction and social cohesion.
- Element 3 – Supporting the uptake of harm-reduction models and tools, and a broader paradigm shift in health and social care
  - This element considers how to operationalize harm-reduction philosophies in health- and social-care practices, such as: using strategies informed by the 'behaviour-change wheel' to foster health- and social-care provider behaviour change towards harm-reduction philosophies; strategies to foster an organizational culture favourable to harm-reduction philosophies; and strategies to improve stakeholder engagement to support a broader paradigm shift towards harm-reduction philosophies.
  - There is a growing body of synthesized research evidence about such strategies, most focusing on key factors to consider during implementation.

### What implementation considerations need to be kept in mind?

- A key barrier is that policymakers from across sectors (health, social, child-welfare and justice systems) may find it challenging to adopt a common vision and may be reluctant to propose anything other than abstinence, given a lack of robust evidence about the benefits and harms, or ways to mitigate harm from cannabis.
- Windows of opportunity might include the increasing support amongst healthcare providers regarding the consumption of cannabis for health and wellness purposes.





## REPORT

The cannabis landscape has changed significantly over the past two decades in Canada. In 2001, the federal government legalized the use of cannabis for medical indications. This was followed with the legalization of the sale and commercialization of recreational cannabis in 2018. These legislative changes were made against a backdrop of growing social acceptance of cannabis among the public, and the perceived ineffectiveness of existing substance-control systems.(1; 2)

Cannabis is one of the most widely used psychoactive substances in Canada (after alcohol and tobacco),(3; 4) and consumption has been increasing. According to the National Cannabis Survey, 16.8% of Canadians aged 15 or older reported using cannabis in the three months before being surveyed in 2019. This was higher than the 14.9% reporting use, on average, before the legalization of cannabis in 2018.(5) And during the first wave of the COVID-19 pandemic, 52% of existing cannabis users in Canada reported an increase in their consumption (likely to cope with social isolation, boredom, changes in daily routines, as well as the additional stress and anxiety brought on by the pandemic).(6; 7)

Cannabis is also one of the most commonly consumed psychoactive substances during pregnancy (after alcohol and tobacco), with 2% to 5% of pregnant women self-reporting use.(8; 9) Physical and mental health benefits of cannabis consumption have been highlighted by pregnant, lactating and parenting people, including for:

- treating pre-existing conditions (e.g., stabilizing mood in people with bipolar disorder, depression, or post-traumatic stress disorder, controlling seizures, reducing symptoms of premenstrual syndrome, or for skin and hair treatment);(10)
- managing pain and as a harm-reduction strategy (e.g., decreasing the perceived negative impact of unmet physical or mental health needs; substituting other substances such as opiates and benzodiazepines that may be judged as more harmful; facilitating client retention in opiate agonist treatment programs);(11; 12)
- treating new conditions that arise during pregnancy (e.g., alleviating stress, anxiety, fatigue, nausea and vomiting, or improving sleep, appetite, and relaxation); (10; 11; 13; 14) and
- helping to deal with parental responsibilities (e.g., alleviating parental stress, improving ability to cope with difficult circumstances, improving child-parent

### Box 1: Background to the evidence brief

This evidence brief mobilizes both global and local research evidence about a problem, three elements of a comprehensive approach for addressing the problem, and key implementation considerations. Whenever possible, the evidence brief summarizes research evidence drawn from systematic reviews of the research literature and occasionally from single research studies. A systematic review is a summary of studies addressing a clearly formulated question that uses systematic and explicit methods to identify, select and appraise research studies and to synthesize data from the included studies. The evidence brief does not contain recommendations, which would have required the authors of the brief to make judgments based on their personal values and preferences, and which could pre-empt important deliberations about whose values and preferences matter in making such judgments.

The preparation of the evidence brief involved five steps:

- 1) convening a Steering Committee comprised of representatives from the partner organizations, patient partners, key stakeholder groups, and the McMaster Health Forum;
- 2) developing and refining the terms of reference for an evidence brief, particularly the framing of the problem and three elements of a comprehensive approach for addressing it, in consultation with the Steering Committee and a number of key informants, and with the aid of several conceptual frameworks that organize thinking about ways to approach the issue;
- 3) identifying, selecting, appraising and synthesizing relevant research evidence about the problem, elements of a comprehensive approach for addressing it, and implementation considerations;
- 4) drafting the evidence brief in such a way as to present concisely and in accessible language the global and local research evidence; and
- 5) finalizing the evidence brief based on the input of several merit reviewers.

The three elements of a comprehensive approach for addressing the problem were not designed to be mutually exclusive. They could be pursued simultaneously or in a sequenced way, and each element could be given greater or lesser attention relative to the others.

The evidence brief was prepared to inform a stakeholder dialogue at which research evidence is one of many considerations. Participants' views and experiences and the tacit knowledge they bring to the issues at hand are also important inputs to the dialogue. One goal of the stakeholder dialogue is to spark insights – insights that can only come about when all of those who will be involved in or affected by future decisions about the issue can work through it together. A second goal of the stakeholder dialogue is to generate action by those who participate in the dialogue and by those who review the dialogue summary and the video interviews with dialogue participants.

relationship, and positively influencing one's parenting experience and capacity).(15; 16)

While consuming cannabis may not be harmless,(17) evidence about the harms of cannabis consumption on perinatal outcomes is controversial.(18) Some studies have shown increased risk of adverse outcomes, such as anemia and low birth weight,(19) stillbirth,(20) and admission of newborns to intensive-care units (19) with cannabis consumption, but others have attributed such associations to confounding factors (e.g., socio-economic characteristics, smoking, alcohol and other non-prescription drug use).(19) However, newer studies that control for confounding factors suggest an association between cannabis and adverse outcomes, such as:

- low birth weight;(21; 22; 23; 24)
- preterm birth and neonatal effects;(22; 23)
- neonatal intensive-care unit admission;(23)
- neonatal morbidity or death;(22; 25)
- adverse neurodevelopmental consequences;(26) and
- long-term neurodevelopmental outcomes (e.g., hyperactivity, impulsivity in early childhood, emotional and behaviour problems, and autism spectrum disorder).(27; 28)

While existing clinical guidelines acknowledge the limited body of evidence, they err on the side of caution by recommending that pregnant and lactating people should abstain from consuming cannabis.(29; 30; 31; 32)

There are also concerns about the risks associated with cannabis consumption by parents. Current evidence and guidelines emphasize the potential health implications for children exposed to second-hand cannabis smoke,(33; 34) the risks of unintentional cannabis ingestion in children (e.g., from resin, cookies, joints, candies, beverages, oil),(34) or the risk of impairing the ability of parents to care for their children.(35; 36) However, there is a dearth of research assessing the impact of moderate, recreational use of cannabis on parental reflective functioning (i.e., the parent's capacity to consider both their own and their child's thoughts, feelings and behaviours).(37)

This context leaves care providers struggling to provide guidance to pregnant, lactating and parenting people who consume cannabis, in a way that encourages them to make evidence-informed decisions that are best for them. This may be particularly challenging for those who may have compelling reasons to consume cannabis, and abstaining from cannabis altogether may actually result in greater physical, mental and social harm.(29; 38)

Thus, there have been calls for a paradigm shift that challenges current maternity care, social work, and child-welfare practices.(16; 39) Such calls underscore that alternative practices should be grounded in the realities of people with lived experience and should extend or expand conceptualizations of 'harm reduction'. These alternative models of care could improve the health and safety of parents and children while also attending to the holistic needs of the family.

### **Aim of the evidence brief**

This evidence brief will inform deliberations about how care providers and policymakers can improve support for pregnant, lactating and parenting people who consume cannabis in Ontario. In doing so, it mobilizes the best available evidence to identify: 1) the challenges in supporting the perinatal and parenting needs and experiences of people who consume cannabis in Ontario; 2) three elements of a potentially comprehensive approach to address the problem; and 3) key implementation considerations for these elements. As explained in Box 1, the evidence brief does not contain recommendations. Moving from evidence to recommendations would have required the authors to introduce their own values and preferences. Instead, the intent is for this evidence brief to inform deliberations where participants in a stakeholder dialogue will themselves decide what actions are needed based on the available evidence, their own experiential knowledge, and insights arising through the deliberations.

To draw attention to equity considerations in the framing of the problem and identification of potential solutions, the evidence brief also focuses on two perspectives that were identified by the Steering Committee of this project and by key informants who were interviewed during the process of preparing this evidence brief. Specifically, when considering the challenges in supporting the perinatal and parenting needs and experiences of people who consume cannabis, the evidence brief explores equity considerations from the perspective of: 1) people who are racialized; and 2) people who live in poverty (or have low income) (see Box 2, and more fully discussed later in the report). These two groups were selected because they may be particularly negatively affected by current maternity care, social work, and child-welfare practices, and may be affected by solutions to improve support to pregnant, lactating and parenting people. Many other groups warrant serious consideration as well, and a similar approach could be adopted for any of them.

The evidence brief does not include any discussion about cannabis legalization, including the legal mechanisms that are in place for people to access, purchase, consume, store, or share cannabis. For example, the evidence brief does not include any commentary about the legal age at which people should be allowed to consume cannabis, or offer recommendations regarding the recreational and medicinal markets through which people acquire cannabis. Instead, the evidence brief emphasizes how health- and social-care providers may operate within the current legal framework of federal cannabis legalization.

### Key definitions

This evidence brief uses several key terms that need to be defined, and in some cases described. The terms and their definitions and descriptions are outlined in Table 1.

### Box 2: Equity considerations

A problem may disproportionately affect some groups in society. The benefits, harms and costs of elements to address the problem may vary across groups. Implementation considerations may also vary across groups.

One way to identify groups warranting particular attention is to use “PROGRESS,” which is an acronym formed by the first letters of the following eight ways that can be used to describe groups†:

- place of residence (e.g., rural and remote populations);
- race/ethnicity/culture (e.g., First Nations and Inuit populations, immigrant populations and linguistic minority populations);
- occupation or labour-market experiences more generally (e.g., those in “precarious work” arrangements);
- gender;
- religion;
- educational level (e.g., health literacy);
- socio-economic status (e.g., economically disadvantaged populations); and
- social capital/social exclusion.

The evidence brief strives to address all Ontarians, but (where possible) it also gives particular attention to two groups:

- people who are racialized; and
- people who live in poverty (or have low income).

Many other groups warrant serious consideration as well, and a similar approach could be adopted for any of them.

† The PROGRESS framework was developed by Tim Evans and Hilary Brown (Evans T, Brown H. Road traffic crashes: operationalizing equity in the context of health sector reform. *Injury Control and Safety Promotion* 2003;10(1-2): 11–12). It is being tested by the Cochrane Collaboration Health Equity Field as a means of evaluating the impact of interventions on health equity.

**Table 1: Key definitions**

Term	Definition and description
<b>Cannabis</b>	<ul style="list-style-type: none"> <li>• Cannabis is a plant that flowers and produces a psychoactive substance</li> <li>• The flower is harvested and used for multiple purposes including medical and recreational</li> <li>• Consumption can vary in terms of frequency, cannabis-potency levels, strain/phenotype of cannabis, and method of consumption (e.g., vapour, combustible, edible, concentrate, etc.)</li> <li>• Cannabis consumption is often framed in problematic terms including through the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) classification of cannabis-use disorder (40) and at the interface of health, social, child-welfare and justice systems</li> </ul>
<b>Disparity</b>	<ul style="list-style-type: none"> <li>• Disparity refers to the unequal outcomes of one group (e.g., based on race/ethnicity, age, gender, class, sexual orientation) as compared to outcomes for another group (41; 42)</li> </ul>
<b>Disproportionality</b>	<ul style="list-style-type: none"> <li>• Disproportionality refers to the under-representation or over-representation of a group (e.g., based on race/ethnicity, age, gender, class, sexual orientation) compared to its percentage in the total population (41)</li> </ul>
<b>Harm</b>	<ul style="list-style-type: none"> <li>• Harm is an adverse consequence that can result in the decline of an individual's or group's biological, psychological, social, legal, or financial health</li> </ul>
<b>Harm reduction</b>	<ul style="list-style-type: none"> <li>• Harm reduction is an evidence-based, client-centred approach that seeks to reduce the health and social harms associated with addiction and substance use, without necessarily requiring people who use substances to abstain or stop (43; 44; 45)</li> </ul>
<b>Intersectional</b>	<ul style="list-style-type: none"> <li>• Intersectional practice seeks to understand what is experienced at the intersection of two or more axes of oppression, recognizing the multidimensional and relational nature of one's social location and positioning (46)</li> <li>• An intersectional approach “places lived experiences, social forces, and overlapping systems of discrimination and subordination at the center of analysis. In this way, an intersectionality analysis captures several levels of difference” (46)</li> </ul>
<b>Mental health and wellness</b>	<ul style="list-style-type: none"> <li>• Mental health is more than the absence of a mental health condition or illness, and is a positive sense of well-being, or the capacity to enjoy life and deal with the challenges we face (47)</li> <li>• The World Health Organization defines mental wellness as a “a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community”(48)</li> </ul>
<b>Paradigm shift</b>	<ul style="list-style-type: none"> <li>• A paradigm shift is an important change that happens when the usual way of thinking or doing something is replaced by a new and different way</li> </ul>
<b>Social justice</b>	<ul style="list-style-type: none"> <li>• Efforts and practices in the name of social justice account for distributive justice, identity, human rights, social welfare and political ideology (49)</li> <li>• Researchers who seek to attend to issues of social justice maintain commitments to equality of conditions, structural transformation, and redistribution, recognition and representation (49)</li> </ul>
<b>Stigma</b>	<ul style="list-style-type: none"> <li>• Stigma is a negative stereotype (50)</li> <li>• There are three main types of stigma: 1) self-stigma (people who use substances internalizing the negative attitudes towards themselves); 2) social stigma (social disapproval of personal characteristics that differ from cultural norms); and 3) structural stigma (stigma from people who provide public services such as first responders, health- and social-care providers, and government representatives) (51)</li> <li>• Stigmatization can result in discrimination, social repercussion, increased surveillance, or feelings of shame and isolation, which can cause people to hide their substance use, to use alone, and to be less likely to seek out help or treatment and use harm-reduction services (51)</li> </ul>

## **THE PROBLEM**

We identified five factors that make it challenging to support pregnant, lactating and parenting people who consume cannabis in Ontario:

- 1) cannabis is one of the most commonly consumed psychoactive substances during pregnancy, and consumption will likely increase;
- 2) there is limited research evidence available to understand the impact of cannabis consumption during pregnancy, lactation and parenting;
- 3) providers cannot easily turn to clear and evidence-based guidance about cannabis consumption during pregnancy, lactation and parenting;
- 4) current practices perpetuate a dominant (and subjective) discourse of ‘risk’, and challenges remain to ensure collaborative, relational, and strengths-based approaches are prioritized to move beyond this discourse; and
- 5) there is a lack of harm-reduction and person-centred approaches that could foster a paradigm shift to better respond to this issue.

We describe each of these challenges in turn below based on data and evidence we identified from our searches, as well as from insights we identified through the key-informant interviews that we conducted during the preparation of this evidence brief.

### **Cannabis is one of the most commonly consumed psychoactive substances during pregnancy, and consumption will likely increase**

Cannabis is identified as one of the most commonly consumed substances during pregnancy (after alcohol and tobacco),(3; 4) and cannabis consumption is likely to increase due to federal legalization.(23) Existing data show that:

- the prevalence of cannabis consumption among the general reproductive-age population (15–44 years old) is high (37.8% in Canada);(52)
- regular consumers are likely to continue to consume during the perinatal period;(53)
- some studies indicate that 2% to 5% of pregnant women self-reported consuming cannabis,(8; 9) but other studies estimate prevalence of cannabis consumption ranging from 2% to 36% during pregnancy;(38)
- little is known about cannabis consumption during lactation,(38) although it is likely higher as some users will re-initiate consumption in the early postpartum period;(54) and
- close to four in 10 Canadian parents (37%) reported consuming cannabis.(55)

Rates of cannabis consumption are difficult to establish and are most likely underestimated among pregnant, lactating and parenting people. For example, estimates of prevalence may depend on the population under study, how data is collected, and how key concepts are defined (e.g., use, frequency, duration). In Ontario, pregnant people are asked about cannabis consumption at both their antenatal appointment and upon admission to hospital (if they should deliver at a hospital). Such data is being collected in the [Ontario Perinatal Record](#) (which is captured and stored in the Better Outcomes Registry Network database), which has a specific question about cannabis use. However, the [Healthy Babies Healthy Children Screening Tool](#)

#### **Box 3: Mobilizing research evidence about the problem**

The available research evidence about the problem was sought from a range of published and ‘grey’ research literature sources. Published literature that provided a comparative dimension to an understanding of the problem was sought using three health services research ‘hedges’ in MedLine, namely those for appropriateness, processes and outcomes of care (which increase the chances of us identifying administrative database studies and community surveys). Published literature that provided insights into alternative ways of framing the problem was sought using a fourth hedge in MedLine, namely the one for qualitative research. Grey literature was sought by reviewing the websites of a number of domestic and international organizations, such as the Canadian Mental Health Association, Public Health Ontario, Statistics Canada, Public Health Agency of Canada, Society of Obstetricians and Gynaecologists of Canada, American Academy of Pediatrics, and American College of Obstetricians and Gynecologists.

Priority was given to research evidence that was published more recently, that was locally applicable (in the sense of having been conducted in Canada), and that took equity considerations into account.

has only a general question on maternal drug use (no separate questions about cannabis use and frequency of use).

In addition, some health- and social-care providers may have biases and rely on stereotypes about who is consuming cannabis,(56) which may affect how they ask questions about consumption, and collect and report data (which may disproportionately represent some populations in the rates of cannabis consumption). Lastly, data about cannabis consumption is commonly self-reported, which is not the most accurate due to social-desirability bias, recall bias, as well as reluctance to self-report to a provider due to fear of surveillance, involvement of the child-welfare system, or criminal/legal involvement.(23)

### **There is limited research evidence available to understand the impact of cannabis consumption during pregnancy, lactation and parenting**

Although cannabis is not a ‘harm-free’ substance,(17) the current body of research evidence remains limited about the impact of cannabis consumption during pregnancy and lactation on neonatal, behavioural and neurocognitive outcomes in early life.(3) The research about the impact of cannabis on parenting is also limited and inconclusive.(57) Indeed, there is limited knowledge about the potential relationship between child maltreatment, supervisory neglect, and parental cannabis consumption, and the motivations of parents to consume cannabis remain poorly understood.(57)

Several factors may explain the limitations in the current body of research evidence, including:

- many studies examining cannabis consumption and perinatal outcomes have not considered potentially confounding factors (e.g., socio-economic characteristics, smoking, alcohol, and other prescription and non-prescription drug use);(18; 19)
- many studies do not examine the reasons why a person may seek to consume cannabis during pregnancy, lactation and parenting;(38) and
- most studies focused on smoked cannabis, and do not examine the perinatal and parenting outcomes associated with the consumption of other forms of cannabis products (e.g., low-THC products, edibles, beverages, or extracts).(38)

The last point highlights the limited body of research evidence about the effects of different ways of consuming cannabis. This appears particularly challenging since the cannabis landscape has changed significantly since legalization, and will likely continue to evolve. Indeed, different cannabis strains (e.g., indica, sativa and hybrid) with different cannabinoid levels (e.g., from low to high levels of THC and CBD) are now available across the country, which are transformed into a wide range of products, such as:

- flowers (e.g., dried flowers, milled flowers, pre-rolls, seeds);
- edibles (e.g., chocolate, cookies, distillate liquids, distillate powder, hard candies, iced teas and tea bags, oral strips, sodas, soft chews, sparkling beverages);
- vapes (e.g., disposable vape pen, prefilled vape cartridge, vape kits);
- extracts (e.g., badder/budder/batter, capsules, caviar, crumble, distillate, high terpene concentrate, ice hash, isolate, kief, live ice hash, live resin, live rosin, oil, oral spray, rosin, shatter, soft gel, sublingual strips, wax, tinctures); and
- topical (e.g., bath and body, skin care, salves).(58)

This emerging landscape means that there is a need for more robust research evidence about the risks and benefits of cannabis consumption (both perceived and actual). This research evidence could support the development of evidence-based guidelines and strategies to mitigate risks while also ensuring pregnant individuals and parents who consume cannabis for various reasons feel supported by their health- and social-care providers.

## **Providers cannot easily turn to clear and evidence-based guidance about cannabis consumption during pregnancy, lactation and parenting**

Pregnant, lactating and parenting people who consume cannabis may face different types of complex decisions. For example, a recent typology identified three types of decisions about cannabis consumption during pregnancy:

- **desistance decisions** about whether and how to reduce or stop consuming cannabis;
- **self-treatment decisions** made by those exploring whether cannabis could help alleviate pregnancy-related symptoms (e.g., nausea or anxiety); and
- **substitution decisions** about whether to use cannabis instead of another substance with greater perceived harms (e.g. alcohol, tobacco or opioids).(11)

Providers should be able to recognize these various types of decisions and be ready to have a conversation to provide the best available evidence-based information to those making such decisions.(11) However, providers cannot easily turn to clear and evidence-based guidance to support such conversations and decisions.

Currently available clinical guidelines (such as the ones produced by the Society of Obstetricians and Gynaecologists of Canada, the American Academy of Pediatrics, or the American College of Obstetricians and Gynecologists) about cannabis consumption during pregnancy and lactation remain limited. These guidelines acknowledge the limited body of data and research evidence to draw definite conclusions, and thus recommend that consumption should be discouraged.(4; 30; 31) Similarly, another recent guideline on medical cannabis consumption in primary care recommends against its use for most medical conditions due to the lack of evidence of benefit and known harms.(59)

While existing guidelines err on the side of caution, it leaves providers in all care contexts struggling to acknowledge the uncertainty of the available evidence, while also providing nuanced guidance based on the specific context of each individual in a way that does not exacerbate stigma or affect trust, and that also ensures the health and well-being of all family members and encourages clients to make informed decisions about what is best for them. These guidelines also do not provide insight about how to support those who may have compelling reasons to consume cannabis, which is a particularly important issue when abstaining from cannabis may result in greater social, physical or mental harm.(29; 38) This emphasis on abstinence also shuts down a conversation within a health and social-care encounter. Thus, pregnant, lactating and parenting people may not feel safe or comfortable to open up due to fear of child-welfare involvement on the basis of consuming cannabis (even if for them there are other risks or harms that are being mitigated through their cannabis consumption).

This challenge is magnified by the fact that many pregnant, lactating and parenting people seek information and guidance about cannabis consumption. A recent systematic review revealed that pregnant and lactating women often seek information to modulate their cannabis use to maximize benefit and minimize risk (e.g., changing the form of cannabis they consume, the amount, or using cannabis at particular stages of pregnancy).(38) They sought information from care providers, the internet, friends and family members, and cannabis retailers.(38) However, they struggled to reconcile the diverse and conflicting information they received with what they personally experienced. They described the available information as “confusing, inconsistent, and incomplete.”(38)

In addition, a recent rapid review examined women's perceptions, beliefs and knowledge of the risks associated with cannabis use during pregnancy. The review revealed that women who continued to consume cannabis during pregnancy often perceived less risk compared with non-users (in part due to a lack of information, education, and appropriate counselling from care providers).(14)

**Current practices perpetuate a dominant (and subjective) discourse of ‘risk’, and challenges remain to ensure collaborative, relational, and strengths-based approaches are prioritized to move beyond this discourse**

Maternity care, social work, and child-welfare practices primarily address the intersection of pregnancy, motherhood, parenting and cannabis consumption from a position of ‘risk’ – that being the risk of cannabis consumption on the fetus and children. This is consistent with the recommendations from multiple public-health, obstetric, and pediatric organizations advising against cannabis consumption during pregnancy and lactation because of perceived perinatal risks.(31) Risk also remains a dominant discourse in child-welfare practices, whereby interactions with families can be intrusive, punitive, and not focused on parental strengths.(60; 61; 62) Substance use in a child-welfare context may be viewed as a ‘risk’ that requires some sort of intervention without a nuanced, critical analysis of if, how and why substance use is influencing one’s capacity to parent. This raises questions about how ‘risk’ is being framed in health- and social-care practices, if surveillance and punitive intervention around one’s cannabis consumption is appropriate to mitigate relevant ‘risks’, and also how parents and families, particularly those occupying marginalized positions in society, could be effectively supported.

Current policies also perpetuate dominant discourses of ‘risk’.(60; 63) Conditions have been created in which it is not only accepted but expected that pregnant bodies are monitored and assessed. This is particularly pronounced in contexts where people in authoritative positions such as social work and healthcare have a professional responsibility to intervene once a normative threshold of risk has been identified that could cause harm to the fetus and/or children.(64) Such intervention occurs most often in the context of parental substance use and mental health challenges, and disproportionately affects parents who are racialized and/or live in poverty.(62) This also raises questions about the origins of the normative threshold of risk (from whose worldview and standpoint this threshold has been reified), and how such a threshold can be critically appraised and reimagined to more effectively respond to the needs and realities of pregnant, lactating and parenting people who consume cannabis.

Dominant discourses of risk can create the conditions for antagonistic approaches that are punitive and abstinence-based to become dominant in child-welfare and healthcare settings. These approaches may hamper rapport between providers and clients.(9; 44) For example, research on mothers living with HIV (63; 65; 66) revealed how an HIV diagnosis – in and of itself – sets into motion actions and decisions within health- and social-care settings that create fear and stigma for women living with HIV during the perinatal period. In this way HIV becomes framed as a particular kind of risk that is emphasized during the perinatal period and when interacting with child welfare. An HIV diagnosis becomes a focus of surveillance that takes away from the kind of support that is possible and creates barriers to women seeking out relevant supports. Disclosing cannabis consumption may have similar impact by setting into motion particular actions and decisions within health- and social-care settings that create fear and stigma for pregnant, lactating and parenting women and gender-diverse people.

Despite health and social-care policies and guidelines that emphasize risk reduction,(32) the interpretation of risk among care providers remains subjective. Some care providers may be uncomfortable discussing cannabis and may have a dichotomous perspective of “it’s either good or bad for you.” Other care providers “make subjective assessments based on their own available heuristics or ‘rule of thumb.’”(67)

Research evidence about pregnant and lactating women’s perceptions of risk also reveal a disconnect with researchers and care providers.(10) A recent systematic review found that: “cannabis is almost always compared by study authors to substances where strong evidence of fetal harm exists (e.g., alcohol, tobacco, methamphetamines, opioids). This comparison is carried through to public health and clinical materials which also commonly group cannabis with these substances, belying the emergent and equivocal nature of evidence of fetal harm.”(38) However, pregnant women may not understand cannabis the same way, with one study indicating that they compared cannabis to caffeine and fast food.(54) This is consistent with a recent single



study indicating that “women who continued to use cannabis during pregnancy often perceived no general or pregnancy-specific risk compared to nonusers.”(10)

To move beyond dominant (and subjective) discourses of risk, there is a need for widespread collaborative, relational, and strengths-based practices that could ensure positive health and social outcomes for parents and children.(44; 68) Given the current prevalence of cannabis consumption among pregnant individuals and parents, and the evolving literature about the possible risks and benefits of cannabis consumption, it is important that health- and social-care practices reflect the needs and experiences of parents and their families. It has been highlighted as important to foster informed and non-judgmental dialogues between care providers and those who consume cannabis about the reasons to use cannabis, as well as perceptions of benefits and strategies for risk mitigation.(38)

### **There is a lack of harm-reduction and person-centred approaches that could foster a paradigm shift to better respond to this issue**

There is a lack of harm-reduction approaches to meaningfully support pregnant, lactating and parenting people who consume cannabis. Harm reduction is an evidence-informed and client-centred approach that seeks to reduce the health and social harms associated with addiction and substance use, without necessarily requiring people who use substances to abstain or stop.(43; 44; 45)

Harm-reduction approaches align with the philosophies of critical social work by focusing on humanity in practice, considering the person in their environment, leading with empathy, and understanding behaviour within different contexts.(45) Based on this philosophy, care for pregnant, lactating and parenting people who consume cannabis should be non-punitive and grounded in respect for their autonomy and agency in decision-making.(69)

Included in harm-reduction approaches to substance use is a series of programs, services and practices. Essential to harm-reduction approaches is that they provide people who use substances a voice to understand the reasons why a person wishes to consume cannabis, as well as the benefits they receive from consuming cannabis. Harm-reduction approaches would consider the potential risks and benefits “beyond physiological impact and include the availability of support, personal care, agency, and emotional health.”(38) These approaches also help to identify appropriate harm-reduction strategies and provide a choice to clients about how they will minimize harms (e.g., reducing or quitting use, substituting other drugs or treatments, making lifestyle changes and seeking consistent prenatal care).(38) These approaches ensure that care and support improve the health and safety of parents and their children while attending to the holistic and social needs of the family.(43; 44; 45) This is done through non-judgmental and non-coercive strategies to enhance skills and knowledge to live safer and healthier lives.

Considering cannabis consumption from this standpoint creates space to critically reflect upon and reimagine the ‘risk’ paradigm.(60) Fostering a paradigm shift will not be possible if all stakeholders (from all relevant sectors) are not meaningfully engaged. There is a need for collaborative engagement with community members and key stakeholders, and elevating the knowledge of parents with lived experience, to ensure that maternity care, social work, and child-welfare practices are informed by the best available evidence, and also operate from an equity, human rights, and social justice perspective for all family members. This is particularly crucial in the context of those who experience intersecting axes of oppression (e.g., race, gender, class, and sexual orientation), to ensure that the solutions respond to their needs and realities.

Achieving such a paradigm shift will require engagement from representatives of different population groups and various stakeholders. These may include, but are not limited to:

- pregnant, lactating and parenting individuals who consume cannabis and their families;
- peer support workers/street teams;
- child-welfare workers (e.g., front-line staff, supervisors, and leaders in the sector);

- maternity-care providers (e.g., midwives, doulas, obstetricians, pediatricians);
- primary-care providers (e.g., family physicians, nurses);
- pharmacists;
- allied health and social-service providers who work in regulated and mandated roles (e.g. public-health nurses, hospital-based social workers, healthcare administrators);
- community-health and social-care providers (e.g., harm-reduction workers and community mental health providers);
- cannabis producers and retailers; and
- policymakers.

### **Additional equity-related observations about the problem**

An important element of the problem that requires further discussion is how the problem may disproportionately affect certain groups. As noted above, this evidence brief explores equity considerations from two perspectives: 1) people who are racialized; and 2) people who live in poverty (or have low income).

However, with respect to supporting pregnant, lactating and parenting people who consume cannabis, many other groups warrant particular attention, including (but not limited to):

- people who are young (<24 years);
- people who consume other substances (e.g. tobacco, alcohol, opioids, etc.);
- people who have mental health challenges (e.g., using cannabis in response to or to alleviate mental health concerns and trauma);
- people who have chronic pain or have pregnancy-related symptoms that can be alleviated by cannabis;
- people who have been or are involved in the child-welfare system;
- people who identify as First Nations, Inuit or Métis (e.g., lacking coverage for medical cannabis or being potentially excluded from traditional ceremonies);
- people who have been involved in the prison system; and/or
- people who may have a physical or cognitive disability.(8; 9; 23; 69; 70)

Research evidence reveals that cannabis consumption among parents is often connected to factors such as being young (<24 years), being a lone parent, living in poverty or with low income, consuming other substances (e.g. tobacco, alcohol, other non-prescription drugs), experiencing mental health challenges, and/or having experienced potentially traumatic life events.(8; 9; 23; 57; 69) A study examining cannabis consumption during pregnancy in Ontario revealed that consumption increases were predominately among women of younger ages and those of lower socio-economic status.(23)

Many pregnant, lactating, and parenting people hold intersecting identities, and may experience discrimination and subordination on the basis of these identities (e.g., in terms of age, ethnocultural background, income, gender, sexual orientation, etc.). This requires intersectional practices that seek to understand what is experienced at the intersection of two or more identities, recognizing the multidimensional and relational nature of one's social location and positioning.(46) An intersectional approach "places lived experiences, social forces, and overlapping systems of discrimination and subordination at the center of analysis. In this way, an intersectionality analysis captures several levels of difference."(46)

A recent rapid review revealed a substantial body of evidence documenting the impact of stigmatization (and discrimination) faced by people who use substances, with individuals who use substances having been found to experience three main types of stigma: 1) self-stigma (people who use substances internalizing the negative attitudes towards themselves); 2) social stigma (social disapproval of personal characteristics that differ from cultural norms); and 3) structural stigma (stigma from people who provide public services such as first responders, health- and social-care providers, and government representatives).(51) Stigma, manifested in one or more of these three ways, has various negative effects. Indeed, the review revealed that substance users

often report unmet health and social-care needs due to stigmatizing experiences, and when they do seek and access healthcare and social care, the care received may be of lower quality than that provided to other patients. Finally, internalized stigma among individuals with substance-use disorders not only exerts negative impact on their self-esteem and self-efficacy, but can also serve as a barrier to treatment when it leads to the loss of self-respect.(51)

It is also important to acknowledge systems of oppression that continue to operate at structural levels in health and social-service systems (e.g., systemic racism, sexism, and classism).(71) These structural oppressions have contributed to producing health and social inequities for racialized and low-income families, including disproportionality and disparity in the child-welfare and criminal-justice systems.(72; 73; 74) This is consistent with findings from the Ontario Human Rights Commission which concluded that Indigenous and Black children were over-represented in the child-welfare system.(75) It also resonates with the findings from the Motherisk Commission in Ontario, which revealed how the unreliable hair-strand drug and alcohol tests conducted by the Motherisk lab had significant impact on decisions to remove children from the poorest and most vulnerable families (particularly from Indigenous and racialized communities).(61)

These forms of oppression can also strongly shape the existing body of research evidence about cannabis consumption. Researchers may have expectations or preconceived beliefs about pregnant, lactating and parenting people who consume cannabis. These may introduce biases at any phase of research, including study design (e.g., how problems are framed, how questions are formulated, what outcomes of interest are examined) and data collection, as well as in the process of data analysis and publication.

These equity issues reveal the need to understand oppression (backed by systemic or structural power) as a social determinant of health that has significant influence on health and well-being.(71) In addition, it reveals the need for collaborative engagement with community members and key stakeholders, and elevating the voices of people with lived experience in order to ensure that research, policies and practices operate from an intersectional and anti-oppressive lens.

### **THREE ELEMENTS OF A POTENTIALLY COMPREHENSIVE APPROACH FOR ADDRESSING THE PROBLEM**

Many strategies could be selected as a starting point for deliberations about an approach for supporting pregnant, lactating and parenting people who consume cannabis in Ontario. To promote discussion about the pros and cons of potentially viable strategies, we have selected three elements of a comprehensive approach to support them. The three elements were developed and refined through consultation with the Steering Committee and key informants who we interviewed during the development of this evidence brief. The elements are:

- 1) elevating the voices of pregnant, lactating and parenting people who consume cannabis;
- 2) co-designing harm-reduction models and tools focused on supporting pregnant, lactating and parenting people who consume cannabis; and
- 3) supporting the uptake of harm-reduction models and tools, and a broader paradigm shift in health and social care.

The elements could be pursued separately or simultaneously, or components could be drawn from each element to create a new (fourth) element. They are presented separately to foster deliberations about their respective components, the relative importance or priority of each, their interconnectedness and potential of or need for sequencing, and their feasibility.

The principal focus in this section is on what is known about these elements based on findings from systematic reviews. We present the findings from systematic reviews along with an appraisal of whether their methodological quality (using the AMSTAR tool) (9) is high (scores of 8 or higher out of a possible 11), medium (scores of 4-7) or low (scores less than 4) (see the appendix for more details about the quality-appraisal process). We also highlight whether they were conducted recently, which we define as the search being conducted within the last five years. In the next section, the focus turns to the barriers to adopting and implementing these elements, and to possible implementation strategies to address the barriers.

#### **Box 4: Mobilizing research evidence about elements of a comprehensive approach for addressing the problem**

The available research evidence about elements of a comprehensive approach for addressing the problem was sought primarily from Health Systems Evidence ([www.healthsystemsevidence.org](http://www.healthsystemsevidence.org)), which is a continuously updated database containing more than 8,700 systematic reviews and more than 2,800 economic evaluations of delivery, financial and governance arrangements within health systems. We also ran searches in Social Systems Evidence ([www.socialsystemsevidence.org](http://www.socialsystemsevidence.org)), which is a continuously updated database containing more than 3,600 systematic reviews and more than 400 economic evaluations about the programs and services in a broad range of government sectors and program areas (e.g., children and youth services, community and social services, public safety and justice). The reviews and economic evaluations were identified by searching the database for reviews addressing features of each of the elements.

The authors' conclusions were extracted from the reviews whenever possible. Some reviews contained no studies despite an exhaustive search (i.e., they were 'empty' reviews), while others concluded that there was substantial uncertainty about the element based on the identified studies. Where relevant, caveats were introduced about these authors' conclusions based on assessments of the reviews' quality, the local applicability of the reviews' findings, equity considerations, and relevance to the issue. (See the appendices for a complete description of these assessments.)

Being aware of what is not known can be as important as being aware of what is known. When faced with an empty review, substantial uncertainty, or concerns about quality and local applicability or lack of attention to equity considerations, primary research could be commissioned, or an element could be pursued and a monitoring and evaluation plan designed as part of its implementation. When faced with a review that was published many years ago, an updating of the review could be commissioned if time allows.

## Element 1 – Elevating the voices of pregnant, lactating and parenting people who consume cannabis

The focus of this element is to elevate the voices of those with lived experience to ensure that maternity care, social work, and child-welfare practices are informed by the best available evidence, and also operate from an equity, human rights, and social-justice perspective for all family members. This is particularly important in the context of those who experience intersecting axes of oppression (e.g., race, gender, class, and sexual orientation), to ensure that the solutions respond to their needs and realities. In addition, this element could help to better understand their care needs and decisional needs, which is critical to develop effective harm-reduction models and decision supports.

This element could include a range of strategies, including (but not limited to):

- using research strategies to illuminate the realities of those who have historically been oppressed, stigmatized or marginalized (e.g., arts-based approaches such as Body Mapping and Photovoice);
- using other types of care settings or venues where they may feel comfortable talking about their care needs and decisional needs (e.g., outreach activities, group-based care, peer-based supports, community-based supports);
- integrating advocacy support (e.g., support from peers, doulas, social workers, midwives, etc.);
- identifying strategies that help to address stigma; and
- identifying strategies that encourage empowerment and agency around cannabis consumption decision-making throughout the perinatal and parenting journey (e.g., shared decision-making).

### *Key findings from systematic reviews*

We identified several systematic reviews addressing the five components listed above. None of the identified reviews focused on people who consume cannabis. However, the reviews highlight general strategies to be better informed by, and sensitive to, the perinatal and parenting needs of those who consume cannabis.

### *Using research strategies to illuminate the realities of those who have historically been oppressed, stigmatized or marginalized*

We identified four systematic reviews examining interventions to document and reflect the realities of those who have historically been oppressed, stigmatized or marginalized. One review reported positive experiences when engaging patients during the evaluation of health interventions while using multi-criteria decision analyses (e.g., analytical-hierarchy processes, direct weighting, discrete choice experiments and rank ordering).(76) Additionally, three reviews examined art-based methods (e.g., Photovoice, video production, drawing, multimedia visual arts, photography, storytelling, theatre and literary art forms) across two different contexts, among Indigenous, racialized and vulnerable populations.(77; 78; 79) Findings revealed a growing interest in arts-based research approaches. Such approaches led to increased engagement, improved relationship and capacity building, and support of knowledge generation and community engagement.

### *Using other types of care settings or venues where they may feel comfortable talking about their care needs and decisional needs*

As discussed in the problem section, pregnant, lactating and parenting people may be reluctant to discuss their cannabis consumption with their care providers. Other types of care settings or venues could make them feel more comfortable to talk openly about their care needs and decisional needs (e.g., providing prenatal or parenting care outside of a traditional doctor-patient interaction in a clinic).

Nine systematic reviews described the use of other venues or settings where care is provided, such as utilizing different modalities for perinatal and parenting needs (i.e., mobile clinics, eHealth technologies, group-based care). A recent high-quality review found an increased rate in screening for breast cancer when mobile clinics were used.(80) However, there was no significant impact on children's health and caregiver quality-of-life outcomes that were measured. Additionally, a recent low-quality review reported that eHealth technologies (e.g., blood glucose management using smartphones, telephone screening for postpartum depression, web-

based therapy) were beneficial for perinatal care such as treating gestational diabetes and mental health care when compared to standard care.(81) Seven reviews with varied quality (three low-, two medium-, and two high-quality) evaluated the effects of group-based prenatal/perinatal care on health outcomes compared to individual or usual care for young women (21 years and under),(82) low-risk pregnancies,(83; 84; 85; 86) and/or high-risk population groups for adverse pregnancy outcomes (e.g., adolescents, low-income, racialized groups).(87) These reviews generally reported no differences or mixed findings on the effects of group-based prenatal/perinatal care compared to usual care on health outcomes (e.g., preterm birth, low birthweight, neonatal intensive-care admission, initiation of breastfeeding, education). However, some reviews reported a range of improved benefits, particularly among racialized groups (e.g., African-Americans and Latina) such as increased attendance rates and perinatal care knowledge, improved breastfeeding, reduced rates of preterm birth, and satisfaction of prenatal/perinatal care in group-based settings.(82; 83; 88)

#### *Using advocacy support*

We identified one recent high-quality review that illustrated what advocacy could look like when supporting pregnant, lactating and parenting people through “labour companionship”. This was defined as “any support provided to women [and gender-diverse people] during labour from a partner, family member, friend, doula, or other healthcare professionals with qualities of compassion and trustworthiness”. Examples of support could include providing informational support to bridge communication gaps between healthcare professionals and providing emotional support that empowers women and gender-diverse people during this life experience.(89)

#### *Strategies to address stigma*

One recent and moderate-quality review examined the impacts of strategies to address self-stigma, social stigma, and structural stigma.(51) Approaches to address self-stigma include: 1) the use of communication strategies; 2) educational strategies; 3) encouragement of self-management and empowerment; 4) the use of therapeutic interventions and treatment-adherence support; 5) building culturally competent care; and 6) fostering trust with health providers. Improved outcomes related to self-stigma could include decreased personal shame, internal stigma and alienation, and improved views on society and recovery potential. Related to social stigma, strategies to address this challenge include: 1) the engagement of people with lived experience; 2) educational strategies (e.g., changes to curriculum); and 3) public-awareness campaigns. These are similar to the strategies to address structural stigma, which also include approaches to change care protocols and engagement of local champions to drive change. Addressing social and structural stigma could help improve attitudes towards stigmatized groups.

#### *Identifying strategies that encourage empowerment and agency around cannabis consumption decision-making throughout the perinatal and parenting journey*

There is a growing body of research evidence on shared decision-making (SDM) and tools to support SDM (e.g., decision aids).(90; 91; 92; 93; 94; 95; 96; 97) SDM is a collaborative process whereby health- and social-care providers support individuals in making decisions informed by the best available evidence, and what matters most to these individuals based on their needs, preferences and realities.(98) Findings from systematic reviews show that SDM may be beneficial for people who have limited literacy,(82) and that decision aids can be beneficial to support decisions among pregnant women.(97) We also found one systematic review in progress that will explore how to encourage informed decisions about cannabis consumption during pregnancy and lactation, along with the educational needs of pregnant and lactating people, as well as prenatal-care providers.(95)

A summary of the key findings from the synthesized research evidence is provided in Table 1. For those who want to know more about the systematic reviews contained in Table 2 (or obtain citations for the reviews), a fuller description of the systematic reviews is provided in Appendix 1.

**Table 2: Summary of key findings from systematic reviews relevant to Element 1 – Elevating the voices of pregnant, lactating and parenting people who consume cannabis**

Category of finding	Summary of key findings
Benefits	<ul style="list-style-type: none"> <li>● <b>Using research strategies to illuminate the realities of those who have historically been oppressed and stigmatized</b> <ul style="list-style-type: none"> <li>○ One older low-quality review reported positive experiences when engaging service users in the evaluation of health interventions with multi-criteria decision analyses (e.g., analytical-hierarchy processes, direct weighting, discrete choice experiments, rank-ordering)(76)</li> <li>○ One older medium-quality review found that arts-based methods (e.g., Photovoice, video production, drawing, multimedia visual arts) were beneficial to increase engagement, improve relationship and capacity building, and support the creation of knowledge and community action among Indigenous populations in Canada and other countries (such as the U.S., New Zealand, and Australia)(77)</li> <li>○ One low-quality review described that the use of Photovoice could provide meaningful engagement and interpretation of its use in an education-based setting (e.g., use of Photovoice by teachers in a classroom)(78)</li> </ul> </li> <li>● <b>Using other types of care settings or venues where they may feel comfortable talking about their care needs and decisional needs</b> <ul style="list-style-type: none"> <li>○ One recent high-quality review examined the impact of mobile clinics on women and children’s health in the U.S. and reported increased rates of health screening (80)</li> <li>○ One recent low-quality review found that eHealth technologies (e.g., blood glucose management using smartphones, telephone screening for postpartum depression, web-based therapy) were considered a better alternative to standard care for perinatal care such as gestational diabetes and mental health care, with positive experiences from patients and providers reported in a majority of the included studies (81) <ul style="list-style-type: none"> <li>▪ The authors of the same review described that eHealth involving evidence-based websites, applications, and peer-support platforms were more useful for pregnant women seeking information on pregnancy-related information</li> </ul> </li> <li>○ Two older low-quality reviews and one recent medium-quality review evaluated the effects of antenatal care on maternal and neonatal outcomes, and reported potential benefits <ul style="list-style-type: none"> <li>▪ One older low-quality review evaluated the effects of maternity care on maternal or neonatal outcomes of young women (21 years and under) and found that women in group antenatal care and a multi-disciplinary young women’s clinic had improved attendance rates, reduced rates of preterm birth, and higher rates of breastfeeding (82)</li> <li>▪ One older low-quality review evaluated the “Centering Pregnancy” program, which is a group-based program that includes eight to 12 women with similar risk, education and need of emotional support, and reported increased knowledge of maternity care and maternal weight gain in the prenatal period among the group (88)</li> <li>▪ The authors of the same review mentioned above described this program to be promising for high-risk population groups (e.g., adolescents, low-income women, and racialized groups) (88)</li> <li>▪ One recent medium-quality rapid review reported positive benefits related to prenatal education on pelvic-floor training, nutrition and physical activity for women with low-risk pregnancies (83)</li> <li>▪ In addition, group-based prenatal care led to improved breastfeeding practices and satisfaction with care among racialized populations (e.g., African-American and Latina women) (83)</li> </ul> </li> </ul> </li> </ul>

Category of finding	Summary of key findings
	<ul style="list-style-type: none"> <li>• <b>Advocacy support</b> <ul style="list-style-type: none"> <li>○ A recent high-quality review defined labour companionship as “any support provided to a woman during labour from a partner, family member, friend, doula, or other healthcare professionals”, and found that companions provided informational support and advocacy to bridge communication gaps between healthcare professionals and women, and emotional support to empower women during this life experience (89)                             <ul style="list-style-type: none"> <li>▪ Preferred qualities of a labour companion include compassion and trustworthiness</li> </ul> </li> </ul> </li> <li>• <b>Strategies to address stigma</b> <ul style="list-style-type: none"> <li>○ A recent and moderate-quality review examined the impacts of approaches to address self-stigma, social stigma, and structural stigma related to substance use (51)                             <ul style="list-style-type: none"> <li>▪ For self-stigma, approaches included communication technologies, educational strategies, encouraging empowerment among individuals, the use of therapeutic interventions, building culturally competent care, treatment-adherence support, and fostering trust with the service provider</li> <li>▪ For social stigma, approaches engaged stigmatized groups, provided educational strategies, made changes to grade-school curriculum, and used public-awareness campaigns</li> <li>▪ For structural stigma, approaches altered care protocols, engaged local champions, engaged people with lived experience, provided education materials, and provided skills training</li> <li>▪ Improved outcomes related to self-stigma included decreased personal shame, internal stigma, views of society, alienation, and increased recovery</li> <li>▪ Improved outcomes related to social and structural stigma included improved attitudes towards people with substance-use issues and decreased judgmental attitudes and behaviours</li> </ul> </li> </ul> </li> <li>• <b>Identifying strategies that encourage empowerment and agency around cannabis consumption decision-making throughout the perinatal and parenting journey</b> <ul style="list-style-type: none"> <li>○ Systematic reviews found that shared decision-making can:                             <ul style="list-style-type: none"> <li>▪ Improve the care experiences and health outcomes of individuals (91; 92)</li> <li>▪ Maintain provider satisfaction (90)</li> </ul> </li> <li>○ One systematic review found benefits for shared decision-making interventions among individuals with limited literacy or low socio-economic status:                             <ul style="list-style-type: none"> <li>▪ Increased knowledge</li> <li>▪ Informed choice</li> <li>▪ Participation in decision-making</li> <li>▪ Decision self-efficacy</li> <li>▪ Preference for collaborative decision-making</li> <li>▪ Reduced decisional conflict (96)</li> </ul> </li> <li>○ One systematic review found that decision aids can:                             <ul style="list-style-type: none"> <li>▪ Help patients to be better informed with more realistic expectations</li> <li>▪ Clarify their values and activity in decision-making</li> <li>▪ Reduce the overuse of unnecessary and ineffective care options; and</li> <li>▪ Increase the uptake of effective care options (94)</li> </ul> </li> <li>○ One systematic review found that patient decision aids have the potential to improve obstetric care by:                             <ul style="list-style-type: none"> <li>▪ Reducing anxiety</li> <li>▪ Lowering decisional conflict</li> <li>▪ Improving knowledge</li> <li>▪ Improving satisfaction</li> </ul> </li> </ul> </li> </ul>



Category of finding	Summary of key findings
	<ul style="list-style-type: none"> <li>▪ Increasing perception of having made an informed choice (97)</li> </ul>
Potential harms	<ul style="list-style-type: none"> <li>• None identified</li> </ul>
Costs and/or cost-effectiveness in relation to the status quo	<ul style="list-style-type: none"> <li>• <b>Using other types of care settings or venues where they may feel comfortable talking about their care needs and decisional needs</b> <ul style="list-style-type: none"> <li>○ One recent high-quality review examined the impact of mobile clinics on women and children’s health in the U.S., and reported that mobile clinics were more expensive than usual care in terms of cost per screened patients (80)</li> </ul> </li> </ul>
Uncertainty regarding benefits and potential harms (so monitoring and evaluation could be warranted if the option were pursued)	<ul style="list-style-type: none"> <li>• <b>Using other types of care settings or venues where they may feel comfortable talking about their care needs and decisional needs</b> <ul style="list-style-type: none"> <li>○ One recent high-quality review examined the impact of mobile clinics on women and children’s health and reported no significant impact on children’s care, medication use, and caregiver quality of life (80)</li> <li>○ Five reviews with a wide range of quality (one low-, two medium-, and two high-quality) reported mixed outcomes related to perinatal care and interventions                             <ul style="list-style-type: none"> <li>▪ One recent high-quality review examined the effects of group prenatal care compared to usual prenatal care on perinatal outcomes (i.e., preterm birth, low birthweight, neonatal intensive-care unit admission, initiation of breastfeeding) and found no differences in perinatal outcomes between the two groups; however, 10 observational studies reported that group care was found to be associated with decreased low birthweight (which was not found in the randomized controlled trials)(84)</li> <li>▪ One older low-quality review reported on the effects of group antenatal care compared to one-on-one care on perinatal outcomes (i.e., preterm birth, low birthweight, perinatal mortality) and found no differences in perinatal outcomes between the two groups; however, one study reported five-fold higher satisfaction in care among women receiving group care compared to standard care (86)</li> <li>▪ One recent medium-quality rapid review reported mixed findings on the effects of prenatal education on breastfeeding practices, and no differences in pregnancy outcomes between individual and group-based prenatal education (83)</li> <li>▪ One recent medium-quality review examined group prenatal care among groups classified as having ‘high-risk’ pregnancies, such as women with co-morbidities and women with addictions and substance use, and did not find any differences in outcomes between the group care and usual care; however, African-Americans were more likely to see benefits related to preterm birth, breastfeeding and satisfaction of care in a group setting (87)</li> <li>▪ One older high-quality review evaluated group-based antenatal education programs for pregnant women and their partners compared to individual-based programs and found mixed outcomes (e.g., knowledge acquisition, anxiety, sense of control, pain, labour and birth support, breastfeeding, infant-care abilities, and psychological and social adjustment)</li> <li>▪ The same review found that one study reported similar outcomes between the two groups when examining the effects of educational and social-support interventions on maternal choice related to mode of delivery (e.g., caesarean or vaginal birth)(85)</li> </ul> </li> </ul> </li> </ul>
Key elements of the policy option if it was tried elsewhere	<ul style="list-style-type: none"> <li>• <b>Using research strategies to illuminate the realities of those who have historically been oppressed and stigmatized</b> <ul style="list-style-type: none"> <li>○ One low-quality review reported that 41 studies involving Photovoice engaged students, researchers, physicians and the community with the use of qualitative methods (78)</li> <li>○ One moderate-quality review identified the most popular arts-based methods in</li> </ul> </li> </ul>

Category of finding	Summary of key findings
	<p>community-based research: photography, theatre, poetry, performing and literary art forms (79)</p> <ul style="list-style-type: none"> <li>• <b>Using other types of care settings or venues where they may feel comfortable talking about their care needs and decisional needs</b> <ul style="list-style-type: none"> <li>○ One recent low-quality review about the use of eHealth in perinatal care could not determine the effects of eHealth in low- and middle-income countries (81)</li> </ul> </li> <li>• <b>Identifying strategies that encourage empowerment and agency around cannabis consumption decision-making throughout the perinatal and parenting journey</b> <ul style="list-style-type: none"> <li>○ One high-quality review examining interventions for increasing the use of shared decision-making by providers found that such interventions can target: providers only (e.g., training); patients only (e.g., giving them a decision aid, which is a tool explaining options and inviting them to think about their values and preferences); or both providers and patients (e.g., training plus a decision aid)(93)</li> </ul> </li> </ul>
Stakeholders' views and experience	<ul style="list-style-type: none"> <li>• <b>Using research strategies to illuminate the realities of those who have historically been oppressed and stigmatized</b> <ul style="list-style-type: none"> <li>○ One moderate-quality review identified key challenges of arts-based methods: how to best analyze findings, how to 'give' a meaningful voice to participants, and how to report findings (79)</li> </ul> </li> </ul>

**Element 2 – Co-designing harm-reduction models and tools focused on supporting pregnant, lactating and parenting people who consume cannabis**

This element aims to mobilize existing knowledge and experiences from all stakeholders to co-design harm-reduction models and tools. Such models and tools could then be implemented within health and social-work education programs, maternity care, child welfare practice settings, and other allied health- and social-care settings.

Co-design is an approach that actively involves all stakeholders (including service users, health- and social-care providers) in the design process to help ensure that harm-reduction models and tools meet their needs and are usable in their particular care and service contexts.

This element may include (but is not limited to):

- co-designing research to improve knowledge about cannabis consumption and perinatal and parenting outcomes (which could then inform guidelines, and training about safe consumption and storage); and
- co-designing harm-reduction models and tools (e.g., conversation guides or decision aids with questions service users and/or care teams can ask) to advance practices that reimagine and reconstruct ‘risk’ and ‘harm’ in the context of parenting and cannabis consumption.

*Key findings from systematic reviews*

There is a growing body of synthesized research evidence about co-designing research, as well as co-designing programs and services. In total, we found seven systematic reviews that can inform element 2.(99; 100; 101; 102; 103; 104; 105) There were variations among the reviews in terms of population focus (e.g., patients in acute-care settings or the general public), and the focus of co-design processes (e.g., for co-designing research, technologies, or programs and services). The reviews found beneficial outcomes for co-design approaches, notably about improving knowledge, community engagement and satisfaction, as well as social cohesion.

A summary of the key findings from the synthesized research evidence is provided in Table 2. For those who want to know more about the systematic reviews contained in Table 3 (or obtain citations for the reviews), a fuller description of the systematic reviews is provided in Appendix 2.

**Table 3: Summary of key findings from systematic reviews relevant to Element 2 – Co-designing harm-reduction models and tools focused on supporting pregnant, lactating and parenting people who consume cannabis**

Category of finding	Summary of key findings
Benefits	<ul style="list-style-type: none"> <li>• <b>Co-designing research</b> <ul style="list-style-type: none"> <li>○ A recent, high-quality review that examined research co-design approaches (patient and public involvement, stakeholder engagement, participatory research and methods, consumer engagement, community-based participatory research) revealed mixed effects on the research process, but reported positive emotions from individuals participating in the process (99)</li> </ul> </li> <li>• <b>Co-designing harm-reduction models and tools</b> <ul style="list-style-type: none"> <li>○ A recent and high-quality review examined what is known about the effectiveness of co-design and revealed that co-design can provide the following benefits:(100)                             <ul style="list-style-type: none"> <li>▪ Individual benefits (e.g., improved physical health)</li> <li>▪ Systemic benefits (e.g., improved healthcare services)</li> </ul> </li> <li>○ A recent, moderate-quality review examined hospital tools and services co-produced with patients and found:(101)</li> </ul> </li> </ul>

Category of finding	Summary of key findings
	<ul style="list-style-type: none"> <li>▪ Improved satisfaction rates</li> <li>▪ Moderate usability of tools and services</li> <li>▪ Moderate-to-high uptake and retention of tools and services</li> <li>▪ Improved patient-provider communication (i.e., improved understanding through mobile applications and ‘teach-back’)</li> <li>▪ Improved diagnostic processes (e.g., lower clinic wait times)</li> <li>▪ Increased social support and health services (e.g., mental health services)</li> <li>○ An old, moderate-quality review identified the following benefits related to co-creation and co-production with citizens:(102) <ul style="list-style-type: none"> <li>▪ Increased effectiveness</li> <li>▪ Increased citizen involvement</li> <li>▪ Increased efficiency</li> <li>▪ Increased customer satisfaction</li> <li>▪ Strengthened social cohesion</li> </ul> </li> <li>○ An old, low-quality review examined the effects of co-production of healthcare programs and services, and found the following positive effects:(103) <ul style="list-style-type: none"> <li>▪ Enhanced service quality</li> <li>▪ Increased treatment effectiveness</li> <li>▪ Enhanced patient satisfaction</li> <li>▪ Improved healthcare knowledge</li> </ul> </li> <li>○ An old, moderate-quality review examining strategies that promote patient engagement in the design, delivery and evaluation of health services found:(104) <ul style="list-style-type: none"> <li>▪ Strengthened patient voices</li> <li>▪ Increased patient satisfaction (the process was educational and they felt empowered)</li> </ul> </li> <li>○ One moderate-quality review about experience-based co-design suggested it is a useful tool for service redesign and has potential to be used for design of interventions in the research or policy development setting (105)</li> </ul>
Potential harms	<ul style="list-style-type: none"> <li>• None identified</li> </ul>
Costs and/or cost-effectiveness in relation to the status quo	<ul style="list-style-type: none"> <li>• None identified</li> </ul>
Uncertainty regarding benefits and potential harms (so monitoring and evaluation could be warranted if the option were pursued)	<ul style="list-style-type: none"> <li>• Uncertainty because no systematic reviews were identified <ul style="list-style-type: none"> <li>○ Not applicable</li> </ul> </li> <li>• Uncertainty because no studies were identified despite an exhaustive search as part of a systematic review <ul style="list-style-type: none"> <li>○ Not applicable</li> </ul> </li> <li>• No clear message from studies included in a systematic review <ul style="list-style-type: none"> <li>○ <b>Co-designing harm-reduction models and tools</b> <ul style="list-style-type: none"> <li>▪ An old, moderate quality review indicated that future studies should specifically describe the role of citizens (such as co-implementer, co-designer, co-initiator) and assess long-term effects of co-creation and co-production (102)</li> </ul> </li> </ul> </li> </ul>
Key elements of the policy option if it was tried elsewhere	<ul style="list-style-type: none"> <li>• <b>Co-designing harm-reduction models and tools</b> <ul style="list-style-type: none"> <li>○ One systematic review about experience-based co-design indicated that: <ul style="list-style-type: none"> <li>▪ Individual interviews should be preferred over focus groups when gathering experience data from stakeholders, because individual interviews are more engaging and they enhance their commitment to the experience-based co-design process</li> <li>▪ Joint workshops with service users and providers can help to minimize information asymmetry</li> <li>▪ It is important to limit the time between the information-gathering phase</li> </ul> </li> </ul> </li> </ul>

Category of finding	Summary of key findings
	<p>and the co-design phase to minimize the risk of dropout (105)</p> <ul style="list-style-type: none"> <li>○ One systematic review of co-production in healthcare found the following barriers to co-design: <ul style="list-style-type: none"> <li>▪ Conflicting priorities and beliefs between providers and service users</li> <li>▪ Information asymmetry between participants (103)</li> </ul> </li> </ul>
Stakeholders' views and experience	<ul style="list-style-type: none"> <li>• <b>Co-designing harm-reduction models and tools</b> <ul style="list-style-type: none"> <li>○ An old, moderate-quality review examined factors related to co-creation and co-production of programs and services with citizens (102) <ul style="list-style-type: none"> <li>▪ The review identified organizational facilitators (e.g., organization compatibility and openness with citizen participation, risk-averse culture, and the use of incentives) as well as citizen-level facilitators (e.g., individual skills, socio-economic status, awareness and ownership of program/service/product, social capital, and risk aversion by citizens)</li> </ul> </li> <li>○ An old, low-quality review found that the following elements were important for the co-production of healthcare programs and services:(103) <ul style="list-style-type: none"> <li>▪ A comfortable and familiar environment (as opposed to traditional healthcare settings)</li> <li>▪ Strong professional efforts to bridge the cultural and cognitive gaps between healthcare providers and their patients</li> <li>▪ Time</li> <li>▪ Core competencies for engagement and co-creation</li> <li>▪ Empower service users to become involved in planning, designing and delivery of health interventions</li> </ul> </li> <li>○ An old, moderate-quality review examining strategies that promote community and service-user engagement in the design, delivery and evaluation of health services found:(104) <ul style="list-style-type: none"> <li>▪ Such engagement demanded considerable energy and time from service users</li> <li>▪ Some service users felt as if their opinions were not considered in the decision-making process (tokenistic engagement)</li> </ul> </li> </ul> </li> </ul>

### **Element 3 – Supporting the uptake of harm-reduction models and tools, and a broader paradigm shift in health and social care**

This element considers how to operationalize harm-reduction philosophies in health- and social-care practices. It may include (but is not limited to):

- using strategies informed by the ‘behaviour-change wheel’ to foster health- and social-care provider behaviour change towards harm-reduction philosophies;
- strategies to foster an organizational culture favourable to harm-reduction philosophies;
- strategies to improve community engagement and stakeholder engagement to support a broader paradigm shift towards harm-reduction philosophies (e.g., bringing together stakeholders to examine notions of risk in health- and social-care practice, and to strategize a harm-reduction approach that focuses on prevention and positive support; or convening a community of practice focused on supporting pregnant individuals, parents and families that is guided by harm reduction, intersectional, and strengths-based practice principles).

#### *Using strategies informed by the ‘behaviour-change wheel’*

The ‘behaviour-change wheel’ brings together key approaches to understanding and promoting provider behaviour change into one comprehensive and integrated framework.(81; 106) The behaviour-change wheel proposes that health- and social-care provider decisions and actions depend on three key factors (or ‘sources of behaviour’):

- 1) capability (the physical and psychological capacity to engage in the behaviour);
- 2) motivation (all the brain processes that energize and direct behaviour, not just goals and conscious decision-making, and hence all of the habitual processes, emotional responding and analytical decision-making); and
- 3) opportunity (all the physical and social factors that lie outside the individual that make the behaviour possible or prompt it).

Nine strategies (or ‘intervention functions’) on the behaviour-change wheel may be appropriate to address particular capability, motivation or opportunity concerns related to supporting informed decisions:

- 1) education (providing information to increase knowledge or understanding);
- 2) modelling (providing an example for people to aspire to or imitate);
- 3) persuasion (using imagery and other communications to induce positive or negative feelings or stimulate action);
- 4) training (imparting skills);
- 5) enablement (increasing means or reducing barriers to increase capability or opportunity)
- 6) environmental restructuring (using prompts and other approaches to change the physical or social context);
- 7) incentivization (creating an expectation of reward);
- 8) coercion (creating an expectation of punishment or cost); and
- 9) restrictions (using rules to reduce the opportunity to engage in competing behaviours).

These strategies can in turn be supported by different types of policies on the behaviour-change wheel that may be appropriate in supporting informed decisions:

- 1) guidelines (creating documents that assist health- and social-care providers);
- 2) communication/marketing (using print, electronic or broadcast media to inform health- and social-care providers); and
- 3) service provision (delivering a service that assists health- and social-care providers with making decisions).

Other types of policies may not be considered appropriate here: 1) environmental/social planning; 2) fiscal measures (using taxes to reduce or increase the financial cost); 3) regulation (using voluntary agreements, principles or rules); and 4) legislation (making or changing laws).

We found a high-quality overview of systematic reviews examining behaviour-change policies and interventions targeted towards health professionals in primary-care settings.(107) It revealed that that interactive medical-education programs, training and support systems for clinical decision-making are associated with several benefits (e.g., improved knowledge, patient outcomes, and prescription optimization). Furthermore, it is reported that collaborative polices, which engage family physicians, nurses, and pharmacists, are effective in changing the practice of health professionals in primary-care settings. Lastly, the current evidence does not suggest implementing financial incentives as a means for behaviour and practice change in the long-term.

*Strategies to foster an organizational culture favourable to harm-reduction philosophies*

We found a rapid synthesis investigating strategies that can be adopted to foster an organizational culture (but with a focus on supporting evidence-informed policy).(108)

Findings from the literature can be grouped into three domains: 1) measuring organizational culture change and organizational readiness for change; 2) fostering organizational culture change (and its barriers and facilitators); and 3) sustaining organizational culture change. We address each domain in turn below and note the few instances where the findings are specific to an organizational culture supportive of evidence-informed policymaking (as opposed to findings about organizational culture in general that can be applied to the specific instance of evidence-informed policymaking).(108)

A variety of factors appear to influence organizational culture change (e.g., types of change, degree of change, financial stability of the organization, strategy fit between the proposed change and the organization, public opinion, staff perceptions, and readiness for change of internal and external stakeholders).(108)

The literature on sustaining cultural changes in health-service delivery organizations found that several strategies can be used to manage culture change, including identifying existing commitments and connections, thinking about what needs to be changed, understanding management, practising and piloting the change, and capitalizing on existing momentum. Lastly, six guiding principles can influence the sustainability of organizational culture change:

- align vision and action;
- make incremental change;
- foster distributed leadership;
- promote staff engagement;
- create collaborative interpersonal relationships; and
- continually assess and learn from cultural change.(108)

*Strategies to improve community and stakeholder engagement to support a broader paradigm shift*

We found five systematic reviews relevant to community engagement.(109; 110; 111; 112; 113) It is worth noting that one review explored the conditions of community engagement that are most effective at improving outcomes for pregnant women,(100) and three reviews focused on the role of community engagement to reduce health inequities among various populations.(109; 110; 113)

We also found seven systematic reviews that can provide insights about a variety of issues relevant to stakeholder engagement: the impact of intersectoral action;(114) interprofessional and interorganizational collaboration in healthcare;(115) intersectoral action to advance health equity;(116) stakeholder engagement in prioritizing research or in comparative effectiveness and client-centred outcomes research;(117; 118) effectiveness of specific methods of stakeholder engagement as an implementation strategy (discrete choice experiments);(119) and measuring/evaluating stakeholder engagement.(120)

A summary of the key findings from the synthesized research evidence is provided in Table 3. For those who want to know more about the systematic reviews contained in Table 4 (or obtain citations for the reviews), a fuller description of the systematic reviews is provided in Appendix 3.

**Table 4: Summary of key findings from systematic reviews relevant to Element 3 – Supporting the uptake of harm-reduction models and tools, and a broader paradigm shift in health and social care**

Category of finding	Summary of key findings
Benefits	<ul style="list-style-type: none"> <li>• <b>Strategies to foster health- and social-care provider behaviour change towards harm-reduction philosophies</b> <ul style="list-style-type: none"> <li>○ A high-quality review examining behaviour-change policies and interventions targeted towards health professionals in primary-care settings found that:(107)                             <ul style="list-style-type: none"> <li>▪ Interactive medical education programs, training and support systems for clinical decision-making are associated with several benefits (e.g., improved knowledge, patient outcomes, and prescription optimization)</li> <li>▪ Collaborative policies, which engage family physicians, nurses and pharmacists, are effective in changing behaviours</li> </ul> </li> </ul> </li> <li>• <b>Strategies to improve community and stakeholder engagement to support a broader paradigm shift</b> <ul style="list-style-type: none"> <li>○ An old, moderate-quality review examining the impact of intersectoral action found:(114)                             <ul style="list-style-type: none"> <li>▪ Mixed evidence about the impacts of partnerships on health outcomes and health equity</li> <li>▪ Some partnerships increased the profile of health inequalities on local policy agendas</li> </ul> </li> <li>○ A moderate-quality review found that discrete choice experiments can help to:(119)                             <ul style="list-style-type: none"> <li>▪ Bring key stakeholders together</li> <li>▪ Push scientific innovations</li> <li>▪ Understand how best innovations may be desired, demanded and valued by service users, families, providers and administrators</li> </ul> </li> <li>○ An older, medium-quality review identified two types of community-engagement interventions that may be effective in improving outcomes among pregnant people:                             <ul style="list-style-type: none"> <li>▪ Lay or peer-delivered interventions</li> <li>▪ Interventions where the delivery is undertaken in collaboration with community members and service providers (121)</li> </ul> </li> <li>○ Systematic reviews found that community-engagement interventions have a positive impact on:                             <ul style="list-style-type: none"> <li>▪ Health behaviours (109; 110)</li> <li>▪ Health outcomes (109; 110; 113)</li> <li>▪ Self-efficacy (109)</li> <li>▪ Perceived social support (109)</li> </ul> </li> <li>○ One rapid review found that various community-engagement approaches (e.g., community coalitions, community champions, or community workshops) can improve the planning, design, delivery and governance of health-promotion interventions (112)</li> </ul> </li> </ul>
Potential harms	<ul style="list-style-type: none"> <li>• None identified</li> </ul>
Costs and/or cost-effectiveness in relation to the status quo	<ul style="list-style-type: none"> <li>• <b>Strategies to improve community and stakeholder engagement to support a broader paradigm shift</b> <ul style="list-style-type: none"> <li>○ One systematic review found insufficient or inconsistent evidence to determine that community-engagement interventions are cost-effective (109)</li> </ul> </li> </ul>
Uncertainty regarding benefits and potential harms (so monitoring and evaluation could be warranted if the option were pursued)	<ul style="list-style-type: none"> <li>• Uncertainty because no systematic reviews were identified             <ul style="list-style-type: none"> <li>○ Not applicable</li> </ul> </li> <li>• Uncertainty because no studies were identified despite an exhaustive search as part of a systematic review             <ul style="list-style-type: none"> <li>○ Not applicable</li> </ul> </li> <li>• No clear message from studies included in a systematic review</li> </ul>



Category of finding	Summary of key findings
	<ul style="list-style-type: none"> <li>○ <b>Strategies to improve community and stakeholder engagement to support a broader paradigm shift</b> <ul style="list-style-type: none"> <li>▪ An older, high-quality review found limited and mixed evidence about the effectiveness of intersectoral action to advance health equity (116)</li> <li>▪ Systematic reviews found insufficient or inconsistent evidence to determine:                             <ul style="list-style-type: none"> <li>• Whether one particular model of community engagement is more effective than others (109; 113)</li> <li>• The effects of community engagement on health inequalities (although there is some evidence to suggest that interventions can improve social support)(109)</li> </ul> </li> </ul> </li> </ul>
<p>Key elements of the policy option if it was tried elsewhere</p>	<ul style="list-style-type: none"> <li>• <b>Strategies to foster an organizational culture favorable to harm-reduction philosophies</b> <ul style="list-style-type: none"> <li>○ One review found a variety of factors that influence organizational culture change:(108)                             <ul style="list-style-type: none"> <li>▪ Types of change (i.e., process change or product change)</li> <li>▪ Degree of change (i.e., ranging from minor to radical change)</li> <li>▪ Financial stability of the organization</li> <li>▪ Strategy fit between the proposed change and the organization</li> <li>▪ Public opinion</li> <li>▪ Staff perceptions</li> <li>▪ Readiness for change of internal and external stakeholders</li> </ul> </li> <li>○ The same review found six guiding principles that can influence the sustainability of organizational culture change:(108)                             <ul style="list-style-type: none"> <li>▪ Align vision and action</li> <li>▪ Make incremental change</li> <li>▪ Foster distributed leadership</li> <li>▪ Promote staff engagement</li> <li>▪ Create collaborative interpersonal relationships</li> <li>▪ Continually assess and learn from cultural change</li> </ul> </li> </ul> </li> <li>• <b>Strategies to improve community and stakeholder engagement to support a broader paradigm shift</b> <ul style="list-style-type: none"> <li>○ A moderate-quality review found limited quantitative measures of stakeholder engagement, with some measures focusing on:(120)                             <ul style="list-style-type: none"> <li>▪ Number of stakeholders engaged</li> <li>▪ Perceived motivations for participation</li> <li>▪ Perceived strength of relationship between researcher and community, and researchers' familiarity with community members</li> </ul> </li> <li>○ An old, low-quality review exploring methods of stakeholder engagement in patient-centred outcomes research found that engagement with stakeholders was more common during periods of prioritization, in early stages of research rather than implementation stages (117)</li> <li>○ An old, low-quality review examining best practices for stakeholder engagement in prioritizing research highlighted the need to:(118)                             <ul style="list-style-type: none"> <li>▪ Engage stakeholders early in the process</li> <li>▪ Establish credibility with stakeholders</li> <li>▪ Use multiple methods of engagement (in-person meetings and voting)</li> <li>▪ Document all stakeholder input using audio and video recordings</li> <li>▪ Provide brief and easy to understand materials for all stakeholders</li> </ul> </li> <li>○ A moderate-quality review about interprofessional and interorganizational collaboration in healthcare found the following key components:(115)                             <ul style="list-style-type: none"> <li>▪ Communication</li> <li>▪ Trust</li> <li>▪ Respect</li> <li>▪ Mutual acquaintanceship</li> <li>▪ Power</li> <li>▪ Shared goals</li> </ul> </li> </ul> </li> </ul>

Category of finding	Summary of key findings
	<ul style="list-style-type: none"> <li>▪ Consensus</li> <li>▪ Patient-centredness</li> <li>▪ Task characteristics and their scope</li> <li>▪ Environmental factors that may enhance or constrain collaboration (e.g., external network, political, demographic, social and economic factors)</li> <li>○ One review found that the success of consumer and community engagement is dependent on:               <ul style="list-style-type: none"> <li>▪ The approach taken</li> <li>▪ Contextual factors (e.g., structural facilitators such as governmental support, as well as barriers such as costs, organizational culture and population-specific limitations)(111)</li> </ul> </li> <li>• One rapid review identified potential barriers to using community engagement for health-promotion interventions, including:               <ul style="list-style-type: none"> <li>○ Power not being shared</li> <li>○ Short-term funding</li> <li>○ Individuals or groups coming to the table with their own agendas (and not being open to developing a shared agenda)</li> <li>○ Lack of trust by the community in service organizations (112)</li> </ul> </li> </ul>
Stakeholders' views and experience	<ul style="list-style-type: none"> <li>• None identified</li> </ul>

### **Additional equity-related observations about the three elements**

Several equity-related observations can be made in relation to the three elements. Several interventions appear promising in supporting people who are racialized or people who live in poverty (or have low income) to elevate their voices, address stigma, and meaningfully engage them in co-designing research, programs and services. However, the current body of synthesized research evidence remains limited about the capacity of these interventions to reduce health and social inequalities. In addition, our searches provided limited insights about how to overcome the behavioural, attitudinal, cultural and systemic barriers currently facing racialized and disadvantaged populations (with the exception of strategies to address the stigmatization of substance users).

While this evidence brief does acknowledge the importance of an intersectional approach, the work of adapting the three elements to be responsive to the nuances and complexities of specific populations is a critical consideration in future research, programs and policy action. For example, the application of the elements would need to consider particular realities of pregnant, lactating and parenting individuals who consume cannabis in Ontario along the lines of intersecting and overlapping identities and social circumstances, including but not limited to, gender identities, sexual orientations, and other social and structural determinants of health and well-being (e.g. race, class, immigration status, child-welfare involvement, etc.).

**IMPLEMENTATION CONSIDERATIONS**

A number of barriers might hinder implementation of the three elements of a potentially comprehensive approach to support pregnant, lactating and parenting people who consume cannabis, which needs to be factored into any decision about whether and how to pursue any given element (Table 5). While potential barriers exist at the levels of providers, organizations and systems, perhaps the biggest barrier is that policymakers from across sectors (health, social, child-welfare and justice systems) may find it challenging to adopt a common vision, and may be reluctant to propose anything other than abstinence given a lack of robust evidence about the benefits and harms, or ways to mitigate harm from cannabis.

**Table 5: Potential barriers to implementing the elements**

Levels	Element 1 – Elevating the voices of pregnant, lactating and parenting people who consume cannabis	Element 2 – Co-designing harm-reduction models and tools focused on supporting pregnant, lactating and parenting people who consume cannabis	Element 3 – Supporting the uptake of harm-reduction models and tools, and a broader paradigm shift in health and social care
<b>Patient/ Individual</b>	<ul style="list-style-type: none"> <li>Some people may have a lack of trust towards providers (e.g., may not seek care or share all information since they worry they will be penalized for consuming cannabis), which could lead to further harms for individuals</li> <li>Some people may be concerned about the stigma attached to cannabis, and about the very real concrete harm that may result from the disclosure of their cannabis consumption (e.g., clinicians involving the child-welfare and/or criminal-justice systems)</li> </ul>	<ul style="list-style-type: none"> <li>Pregnant, lactating and parenting people may not have access to decision-support tools (e.g., decision aids or decision coaches) to meet the full range of their decisional needs</li> </ul>	<ul style="list-style-type: none"> <li>Pregnant, lactating and parenting people face significant behavioural, attitudinal, cultural and systemic barriers that can limit their capacity to support a paradigm shift</li> </ul>
<b>Care provider</b>	<ul style="list-style-type: none"> <li>Some providers may be reluctant (or lack the skills, time, or knowledge) to empower people to openly share their care needs and decisional needs (122)</li> </ul>	<ul style="list-style-type: none"> <li>Some providers may be hesitant to include cannabis within their scope of practice (given existing guidelines that encourage abstinence, as well as the lack of evidence about the benefits, harms and/or ways to mitigate harm)</li> <li>Some care providers may be reluctant to engage in co-design processes due to perceived negative impacts and risks (e.g., impact on the research process, on the research itself, professional and personal risks)(123)</li> </ul>	<ul style="list-style-type: none"> <li>There may be resistance from providers to changing how things are being done (behavioural, attitudinal, cultural, and systemic barriers to change)</li> <li>Some providers may not believe in or see the value of a harm-reduction philosophy (versus abstinence-based), and thus be resistant to a paradigm shift</li> <li>Some providers may be concerned about the potential for legal liability if they are seen to encourage cannabis consumption (which may lead to negative prenatal or perinatal outcomes)</li> </ul>

			<ul style="list-style-type: none"> <li>• The current state of evidence (e.g., a lack of evidence about the benefits, harms and/or ways to mitigate harm) can make care providers reluctant to propose anything other than abstinence</li> </ul>
<b>Organization</b>	<ul style="list-style-type: none"> <li>• Some provider organizations may be hesitant to include cannabis within their scope of practice (given existing guidelines that encourage abstinence, as well as the lack of evidence about the benefits, harms and/or ways to mitigate harm)</li> </ul>	<ul style="list-style-type: none"> <li>• Some provider organizations may be hesitant to engage pregnant, lactating and parenting people who consume cannabis in co-designing harm-reduction models and tools (e.g., could be seen as encouraging cannabis consumption, or could be linked to negative views or assumptions about cannabis consumption)</li> </ul>	<ul style="list-style-type: none"> <li>• The current state of evidence (e.g., a lack of evidence about the benefits, harms and/or ways to mitigate harm) can make provider organizations reluctant to propose anything other than abstinence</li> <li>• Some provider organizations may not believe in or see the value of a harm-reduction philosophy (versus abstinence-based), and thus be resistant to a paradigm shift</li> </ul>
<b>System</b>	<ul style="list-style-type: none"> <li>• Some system leaders may be hesitant to elevate the voice of people who consume cannabis, which may be seen as encouraging cannabis consumption</li> </ul>	<ul style="list-style-type: none"> <li>• Some system leaders may be hesitant to engage pregnant, lactating and parenting people who consume cannabis in co-designing harm-reduction models and tools</li> </ul>	<ul style="list-style-type: none"> <li>• Systems of oppression continue to operate at structural levels in health and social systems, and in society more broadly (e.g., systemic racism, sexism, classism, colonial values)</li> <li>• Some policymakers from across sectors (health, social, child-welfare and justice systems) may find it challenging to adopt a common vision and model</li> <li>• There are many silos in the health system and beyond that are hard to break down (which is illustrated by the lack of interprofessional collaboration), but also across the relevant sectors (silos that may be reinforced by competing priorities that may be hard to reconcile)</li> <li>• The current state of evidence (e.g., a lack of evidence about the benefits, harms and/or ways to mitigate harm) can make system leaders reluctant to propose anything other than abstinence</li> </ul>

On the other hand, a number of potential windows of opportunity could be capitalized upon (Table 6), which also need to be factored into any decision about whether and how to pursue one or more of the elements.

**Table 6: Potential windows of opportunity for implementing the elements**

Type	Element 1 – Elevating the voices of pregnant, lactating and parenting people who consume cannabis	Element 2 – Co-designing harm-reduction models and tools focused on supporting pregnant, lactating and parenting people who consume cannabis	Element 3 – Supporting the uptake of harm-reduction models and tools, and a broader paradigm shift in health and social care
<b>General</b>	<ul style="list-style-type: none"> <li>• The growing social acceptability of cannabis consumption, along with the legalization of cannabis for recreational purposes and the wider availability of cannabis products in Ontario through the increase in venues/avenues, may encourage all stakeholders to talk about it more openly</li> <li>• While Ontario Health Teams (OHTs) will be looking to provide services to various populations where gaps in services exist, several OHTs have focused on people with mental health and addictions issues (124)</li> <li>• The COVID-19 pandemic has shone a spotlight on people's social, emotional, and mental health challenges, including growing cannabis consumption among the general public (6; 7)</li> </ul>		
<b>Element-specific</b>	<ul style="list-style-type: none"> <li>• There is an opportunity to draw insights from projects under way, for example:               <ul style="list-style-type: none"> <li>○ A project funded by the Social Sciences and Humanities Research Council and the Canadian Centre on Substance Use and Addiction (principal investigator Saara Greene and co-investigator Allyson Ion) about the use of creative and arts-based methods used by women who come together to learn from and support each other (e.g., Photovoice and Body Mapping workshops)</li> <li>○ Reviews being funded by the Canadian Institutes of Health Research (principal investigator Meredith Vanstone) aim to explore how to encourage informed decisions about cannabis consumption during pregnancy and lactation, along with the experiences, beliefs, and opinions of pregnant people, their partners,</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Ontario has increasing assets in co-design approaches in both health systems and research systems, for example:               <ul style="list-style-type: none"> <li>○ McMaster University's <a href="#">Co-Design VP Hub</a> with the aim to facilitate partnership formation, advance methods of co-design with structurally vulnerable populations (e.g., families of children with disabilities, individuals with mental health challenges, older adults with disabilities, Indigenous communities), and enable knowledge-sharing</li> <li>○ Ontario Health Teams are increasingly moving towards co-designing models of care (125)</li> <li>○ <a href="#">Trillium Health Partners</a> (THP) is using a co-design approach to develop bundled care pathways and is developing a standard co-design approach for use in all such work in future</li> <li>○ <a href="#">Ontario SPOR SUPPORT Unit</a> supports</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Whole-of-government approaches are increasingly being used to work across portfolio boundaries to achieve shared goals and integrated responses to pressing health and social issues (and thus could facilitate stakeholder engagement across sectors), for example:               <ul style="list-style-type: none"> <li>○ Ontario is redesigning its child and family services system, and the first pillar of the strategy emphasizes the need to enhance child, youth and family well-being across ministries and human services sectors (126)</li> </ul> </li> <li>• The report of the Motherisk Commission called for a shift in practices in the child-protection system in ways that strengthen families and communities, address equity issues in the child-welfare system, and promote greater education and collaboration (61)</li> </ul>

	<p>and prenatal care providers (95)</p> <ul style="list-style-type: none"> <li>○ <a href="#">Native Women's Association of Canada</a> project on a community-informed approach to cannabis public education and awareness with upcoming website with resources)</li> <li>• The current context may be perceived as safer to have conversations about cannabis consumption during pregnancy, lactation and parenting because of legalization</li> </ul>	<p>patient-oriented research and research co-production</p> <ul style="list-style-type: none"> <li>• There is an opportunity to learn from a new medical <a href="#">cannabis clinic</a> led by Dr. Shelley Turner in Manitoba that will provide patients with an opportunity to create a personalized health plan based on cannabis treatment, and a specialized continuous care approach, as well as providing online teaching modules aimed at providers</li> </ul>	
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## REFERENCES

1. Health Canada. Canadian Cannabis Survey 2020: Summary. 2020. <https://www.canada.ca/en/health-canada/services/drugs-medication/cannabis/research-data/canadian-cannabis-survey-2020-summary.html#a1> (accessed 27 April 2021).
2. Hajizadeh M. Legalizing and regulating marijuana in Canada: Review of potential economic, social, and health impacts. *International Journal of Health Policy and Management* 2016; 5(8): 453-6.
3. Public Health Ontario. Evidence brief: Health effects of cannabis exposure in pregnancy and breastfeeding. Toronto: Canada: Public Health Ontario, 2018.
4. Brailion A, Bewley S. Committee Opinion No. 722: Marijuana use during pregnancy and lactation. *Obstetrics and Gynecology* 2018; 131(1): 164.
5. Statistics Canada. What has changed since cannabis was legalized? Ottawa: Canada: Statistics Canada, 2020.
6. Centre for Addiction and Mental Health. Half of cannabis users increased consumption during first wave of COVID-19. 2021. <https://www.camh.ca/en/camh-news-and-stories/half-cannabis-users-increased-consumption-1st-wave-covid-19> (accessed 1 April 2021).
7. Imtiaz S, Wells S, Rehm J, et al. Cannabis use during the COVID-19 pandemic in Canada: A repeated cross-sectional study. *Journal of Addiction Medicine* 2020.
8. Badowski S, Smith G. Cannabis use during pregnancy and postpartum. *Canadian Family Physician* 2020; 66(2): 98-103.
9. Jaques SC, Kingsbury A, Henshcke P, et al. Cannabis, the pregnant woman and her child: Weeding out the myths. *Journal of Perinatology* 2014; 34(6): 417-24.
10. Bayrampour H, Zahradnik M, Lisonkova S, Janssen P. Women's perspectives about cannabis use during pregnancy and the postpartum period: An integrative review. *Preventive Medicine* 2019; 119: 17-23.
11. Greyson D, Roosevelt L, Boyd CJ. Desistance, self-treatment, or substitution: Decisions about cannabis use during pregnancy. *Journal of Midwifery and Women's Health* 2021; 66(1): 96-100.
12. Benoit C, Magnus S, Phillips R, Marcellus L, Charbonneau S. Complicating the dominant morality discourse: Mothers and fathers' constructions of substance use during pregnancy and early parenthood. *International Journal for Equity in Health* 2015; 14: 72.
13. Young-Wolff KC, Sarovar V, Tucker LY, et al. Association of nausea and vomiting in pregnancy with prenatal marijuana use. *JAMA Internal Medicine* 2018; 178(10): 1423-4.
14. Weisbeck SJ, Bright KS, Ginn CS, Smith JM, Hayden KA, Ringham C. Perceptions about cannabis use during pregnancy: A rapid best-framework qualitative synthesis. *Canadian Journal of Public Health* 2021; 112(1): 49-59.
15. Donoghue K. Perceived harms and benefits of parental cannabis use, and parents' reports regarding harm-reduction strategies. Perth: Australia: Edith Cowan University, 2015.
16. Kozak T, Ion A, Greene S. Reimagining research with pregnant women and parents who consume cannabis in the era of legalization: The value of integrating intersectional feminist and participatory action approaches. *Cannabis and Cannabinoid Research* 2020.
17. Haines-Saah R. Cannabis and mental health: Insights from Canadian research. *Canadian Journal of Psychiatry* 2019; 64(5): 302-3.

18. Conner SN, Bedell V, Lipsey K, Macones GA, Cahill AG, Tuuli MG. Maternal marijuana use and adverse neonatal outcomes: A systematic review and meta-analysis. *Obstetrics and Gynecology* 2016; 128(4): 713-23.
19. Gunn JK, Rosales CB, Center KE, et al. Prenatal exposure to cannabis and maternal and child health outcomes: A systematic review and meta-analysis. *BMJ Open* 2016; 6(4): e009986.
20. Varner MW, Silver RM, Rowland Hogue CJ, et al. Association between stillbirth and illicit drug use and smoking during pregnancy. *Obstetrics and Gynecology* 2014; 123(1): 113-25.
21. Michalski CA, Hung RJ, Seeto RA, et al. Association between maternal cannabis use and birth outcomes: An observational study. *BMC Pregnancy Childbirth* 2020; 20(1): 771.
22. Shi Y, Zhu B, Liang D. The associations between prenatal cannabis use disorder and neonatal outcomes. *Addiction* 2021.
23. Corsi DJ, Walsh L, Weiss D, et al. Association between self-reported prenatal cannabis use and maternal, perinatal, and neonatal outcomes. *Journal of the American Medical Association* 2019; 322(2): 145-52.
24. Crume TL, Juhl AL, Brooks-Russell A, Hall KE, Wymore E, Borgelt LM. Cannabis use during the perinatal period in a State with legalized recreational and medical marijuana: The association between maternal characteristics, breastfeeding patterns, and neonatal outcomes. *Journal of Pediatrics* 2018; 197: 90-6.
25. Metz TD, Allshouse AA, Hogue CJ, et al. Maternal marijuana use, adverse pregnancy outcomes, and neonatal morbidity. *American Journal of Obstetrics and Gynecology* 2017; 217(4): 478 e1- e8.
26. Thompson R, DeJong K, Lo J. Marijuana use in pregnancy: A review. *Obstetrical and Gynecological Survey* 2019; 74(7): 415-28.
27. Corsi DJ, Donelle J, Sucha E, et al. Maternal cannabis use in pregnancy and child neurodevelopmental outcomes. *Nature Medicine* 2020; 26(10): 1536-40.
28. Roncero C, Valriberas-Herrero I, Mezzatesta-Gava M, Villegas JL, Aguilar L, Grau-López L. Cannabis use during pregnancy and its relationship with fetal developmental outcomes and psychiatric disorders: A systematic review. *Reproductive Health* 2020; 17(1): 25.
29. Vanstone M. Making decisions about cannabis use in pregnancy and breastfeeding: perspectives of pregnant people, their partners and their clinicians. 2020. <https://www.youtube.com/watch?v=bDCpYQGYrjw> (accessed 31 March 2021).
30. Society of Obstetricians and Gynaecologists of Canada. Marijuana use during pregnancy [Position Statement]. Ottawa: Canada, 2017.
31. Ryan SA, Ammerman SD, O'Connor ME. Marijuana use during pregnancy and breastfeeding: Implications for neonatal and childhood outcomes. *Pediatrics* 2018; 142(3).
32. Ordean A, Wong S, Graves L. No. 349-substance use in pregnancy. *Journal of Obstetrics and Gynaecology Canada* 2017; 39(10): 922-37 e2.
33. Posis A, Bellettiere J, Liles S, et al. Indoor cannabis smoke and children's health. *Preventive Medicine Reports* 2019; 14: 100853.
34. Richards JR, Smith NE, Moulin AK. Unintentional cannabis ingestion in children: A systematic review. *Journal of Pediatrics* 2017; 190: 142-52.
35. Public Health Agency of Canada. Thinking about using cannabis while parenting? Ottawa: Canada: Public Health Agency of Canada, 2018.
36. Best Start Resource Centre. Risks of cannabis on fertility, pregnancy, breastfeeding and parenting. Toronto: Canada: Health Nexus Santé, 2019.



37. Daniels S. Cannabis and parenting: An explanatory analysis of the relationship between cannabis use, attachment and parenting outcomes. Okanagan: Canada: The University of British Columbia, 2019.
38. Vanstone M, Panday J, Popoola A, et al. Pregnant people's perspectives on cannabis use during pregnancy: A systematic review and integrative mixed-methods research synthesis. *Authorea (in press)* 2021.
39. Kozak T. Supply, secrecy, and surveillance: Experiences of women who use cannabis for pleasure. Hamilton: Canada: McMaster University; 2017.
40. American Psychiatric Association. Diagnostic and statistical manual of mental disorders (5th ed.). Arlington: United States: American Psychiatric Association, 2013.
41. Child Welfare Information Gateway. Racial disproportionality and disparity in child welfare. Washington, DC: United States: Department of Health and Human Services, Children's Bureau, 2016.
42. Veenstra G. Race, gender, class, and sexual orientation: Intersecting axes of inequality and self-rated health in Canada. *International Journal for Equity in Health* 2011; 10: 3.
43. Canadian Mental Health Association. Harm reduction. 2021. <https://ontario.cmha.ca/harm-reduction> (accessed 9 February 2021).
44. Drabble L, Poole N. Collaboration between addiction treatment and child welfare fields: Opportunities in a Canadian context. *Journal of Social Work Practice in the Addictions* 2011; 11(2): 124-49.
45. Brocato J, Wagner EF. Harm reduction: A social work practice model and social justice agenda. *Health and Social Work* 2003; 28(2): 117-25.
46. Hankivsky O, Reid C, Cormier R, et al. Exploring the promises of intersectionality for advancing women's health research. *International Journal for Equity in Health* 2010; 9: 5.
47. Canadian Mental Health Association. Positive mental health and well-being. 2021. <https://ontario.cmha.ca/documents/positive-mental-health-and-well-being/> (accessed 9 February 2021).
48. U.S. Department of Health & Human Services. What is mental health? 2020. <https://www.mentalhealth.gov/basics/what-is-mental-health> (accessed 9 February 2021).
49. Bonnycastle CR. Social justice along a continuum: A relational illustrative model. *Social Service Review* 2011; 85(2): 267-95.
50. Canadian Mental Health Association. Stigma and discrimination. 2021. <https://ontario.cmha.ca/documents/stigma-and-discrimination/> (accessed 31 March 2021).
51. Gao C, Voorheis P, Filbey L, Wilson M. Rapid synthesis: Identifying impacts of approaches to address stigma associated with substance use. Hamilton: Canada: McMaster Health Forum, 2020.
52. Lowry DE, Corsi DJ. Trends and correlates of cannabis use in Canada: A repeated cross-sectional analysis of national surveys from 2004 to 2017. *CMAJ Open* 2020; 8(3): E487-E95.
53. Mark K, Gryczynski J, Axenfeld E, Schwartz RP, Terplan M. Pregnant women's current and intended cannabis use in relation to their views toward legalization and knowledge of potential harm. *Journal of Addiction Medicine* 2017; 11(3): 211-6.
54. Barbosa-Leiker C, Burduli E, Smith CL, Brooks O, Orr M, Gartstein M. Daily cannabis use during pregnancy and postpartum in a state with legalized recreational cannabis. *Journal of Addiction Medicine* 2020; 14(6): 467-74.
55. Macey J. Only 25% of Canadian parents who consume cannabis edibles are storing them properly. 2020. <https://www.ipsos.com/en-ca/news-polls/Only-25-percent-Of-Canadian-Parents-Who-Consume-Cannabis-Edibles-Are-Storing-Them-Properly> (accessed 31 March 2021).

56. Bottorff JL, Bissell LJ, Balneaves LG, Oliffe JL, Capler NR, Buxton J. Perceptions of cannabis as a stigmatized medicine: A qualitative descriptive study. *Harm Reduction Journal* 2013; 10: 2.
57. Nicolas B, Lacharité C. Is using cannabis in front of children harmful or not? 2019. <https://theconversation.com/is-using-cannabis-in-front-of-children-harmful-or-not-125357> (accessed 9 February 2021).
58. Ontario Cannabis Store. Facts about cannabis consumption. 2021. <https://ocs.ca/blogs/facts-about-cannabis-consumption> (accessed 31 March 2021).
59. Allan GM, Ramji J, Perry D, et al. Simplified guideline for prescribing medical cannabinoids in primary care. *Canadian Family Physician* 2018; 64(2): 111-20.
60. Parton N. Concerns about risk as a major driver of professional knowledge. In: Connolly M, ed. Beyond the risk paradigm in child protection: Palgrave MacMillan; 2017: 3-14.
61. Beaman J. Harmful impacts: The reliance on hair testing in child protection - Report of the Motherisk Commission. Toronto: Canada: Motherisk Commission, Ministry of the Attorney General, 2018.
62. Boyd S. Gendered drug policy: Motherisk and the regulation of mothering in Canada. *International Journal on Drug Policy* 2019; 68: 109-16.
63. Ion A, Greene S, Sinding C, Grace D. Risk and preventing perinatal HIV transmission: Uncovering the social organisation of prenatal care for women living with HIV in Ontario, Canada. *Health, Risk & Society* 2020; 22(2): 136-55.
64. Government of Ontario. Child, Youth and Family Services Act, 2017, S.O. 2017, c. 14, Sched. 1. 2017. <https://www.ontario.ca/laws/statute/17c14> (accessed 9 February 2021).
65. Greene S, Ion A, Kwaramba G, Smith S, Loutfy MR. "Why are you pregnant? What were you thinking?": How women navigate experiences of HIV-related stigma in medical settings during pregnancy and birth. *Social Work in Health Care* 2016; 55(2): 161-79.
66. Greene S, Ion A, Kwaramba G, Lazarus L, Loutfy M. Surviving surveillance: How pregnant women and mothers living with HIV respond to medical and social surveillance. *Qualitative Health Research* 2017; 27(14): 2088-99.
67. Gupton A, Heaman M, Cheung LW. Complicated and uncomplicated pregnancies: Women's perception of risk. *Journal of Obstetric, Gynecologic, and Neonatal Nursing* 2001; 30(2): 192-201.
68. Andrews NCZ, Motz M, Pepler DJ, Jeong JJ, Khoury J. Engaging mothers with substance use issues and their children in early intervention: Understanding use of service and outcomes. *Child Abuse and Neglect* 2018; 83: 10-20.
69. Mark K, Terplan M. Cannabis and pregnancy: Maternal child health implications during a period of drug policy liberalization. *Preventive Medicine* 2017; 104: 46-9.
70. Grywacheski V, Ali J, Baker MM, Gheorghe M, Wong SL, Orpana HM. Opioid and cannabis use during pregnancy and breastfeeding in relation to sociodemographics and mental health status: A descriptive study. *Journal of Obstetrics and Gynaecology Canada* 2021; 43(3): 329-36.
71. McGibbon E. Oppression: A social determinant of health. Halifax: Canada: Fernwood Publishing; 2012.
72. Owusu-Bempah A, Jung M, Sbaï F, Wilton AS, Kouyoumdjian F. Race and incarceration: The representation and characteristics of black people in provincial correctional facilities in Ontario, Canada. *Race and Justice* 2021: 21533687211006461.
73. Owusu-Bempah A, Luscombe A. Race, cannabis and the Canadian war on drugs: An examination of cannabis arrest data by race in five cities. *International Journal of Drug Policy* 2020: 102937.

74. McGuire MM, Murdoch DJ. (In)-justice: An exploration of the dehumanization, victimization, criminalization, and over-incarceration of Indigenous women in Canada. *Punishment & Society* 2021; 14624745211001685.
75. Ontario Human Rights Commission. Interrupted childhoods: Over-representation of Indigenous and Black children in Ontario child welfare. Toronto: Canada: Government of Ontario, 2018.
76. Marsh K, Caro JJ, Hamed A, Zaiser E. Amplifying each patient's voice: A systematic review of multi-criteria decision analyses involving patients. *Applied Health Economics and Health Policy* 2017; 15(2): 155-62.
77. Hammond C, Gifford W, Thomas R, Rabaa S, Thomas O, Domecq M-C. Arts-based research methods with indigenous peoples: An international scoping review. *AlterNative: An International Journal of Indigenous Peoples* 2018; 14(3): 260-76.
78. Suprpto N, Sunarti T, Suliyannah, et al. A systematic review of photovoice as participatory action research strategies. *International Journal of Evaluation and Research in Education* 2020; 9(3): 675-83.
79. Coemans S, Hannes K. Researchers under the spell of the arts: Two decades of using arts-based methods in community-based inquiry with vulnerable populations. *Educational Research Review* 2017; 22: 34-49.
80. Abdel-Aleem H, El-Gibaly OM, El-Gazzar AF, Al-Attar GS. Mobile clinics for women's and children's health. *Cochrane Database of Systematic Reviews* 2016; (8): CD009677.
81. van den Heuvel JF, Groenhof TK, Veerbeek JH, et al. eHealth as the next-generation perinatal care: An overview of the literature. *Journal of Medical Internet Research* 2018; 20(6): e202.
82. Allen J, Gamble J, Stapleton H, Kildea S. Does the way maternity care is provided affect maternal and neonatal outcomes for young women? A review of the research literature. *Women and Birth* 2012; 25(2): 54-63.
83. Waddell K, Belal A, Alam S, Wilson M. Rapid synthesis: Examining the effects of prenatal education. Hamilton: Canada: McMaster Health Forum, 2019.
84. Carter EB, Temming LA, Akin J, et al. Group prenatal care compared with traditional prenatal care: A systematic review and meta-analysis. *Obstetrics and Gynecology* 2016; 128(3): 551-61.
85. Gagnon AJ, Sandall J. Individual or group antenatal education for childbirth or parenthood, or both. *Cochrane Database of Systematic Reviews* 2007; 2007(3): CD002869.
86. Homer CS, Ryan C, Leap N, Foureur M, Teate A, Catling-Paull CJ. Group versus conventional antenatal care for women. *Cochrane Database of Systematic Reviews* 2012; 11: CD007622.
87. Byerley BM, Haas DM. A systematic overview of the literature regarding group prenatal care for high-risk pregnant women. *BMC Pregnancy and Childbirth* 2017; 17(1): 329.
88. Lathrop B. A systematic review comparing group prenatal care to traditional prenatal care. *Nursing for Women's Health* 2013; 17(2): 118-30.
89. Bohren MA, Berger BO, Munthe-Kaas H, Tunçalp Ö. Perceptions and experiences of labour companionship: A qualitative evidence synthesis. *Cochrane Database of Systematic Reviews* 2019; 3(3): CD012449.
90. Hamann J, Langer B, Winkler V, et al. Shared decision making for in-patients with schizophrenia. *Acta Psychiatrica Scandinavica* 2006; 114(4): 265-73.
91. Hibbard JH, Greene J. What the evidence shows about patient activation: Better health outcomes and care experiences; fewer data on costs. *Health Affairs* 2013; 32(2): 207-2014.
92. Shay LA, Lafata JE. Where is the evidence? A systematic review of SDM and patient outcomes. *Medical Decision Making* 2014; 35(1): 114-31.

93. Légaré F, Adepjoud R, Stacey D, et al. Interventions for increasing the use of shared decision making by healthcare professionals. *Cochrane Database of Systematic Reviews* 2018; 7: CD006732.
94. Stacey D, Légaré F, Lewis K, et al. Decision aids for people facing health treatment or screening decisions. *Cochrane Database of Systematic Reviews* 2017; (4): CD001431.
95. Vanstone M, Panday J, Taneja S, et al. Systematic review of mixed studies: protocol - cannabis user and healthcare provider perspectives on the use of cannabis during pregnancy and lactation: PROSPERO, 2020.
96. Durand MA, Carpenter L, Dolan H, et al. Do interventions designed to support shared decision-making reduce health inequalities? A systematic review and meta-analysis. *PLoS One* 2014; 9(4): e94670.
97. Say R, Robson S, Thomson R. Helping pregnant women make better decisions: A systematic review of the benefits of patient decision aids in obstetrics. *BMJ Open* 2011; 1(2): e000261.
98. Charles C, Gafni A, Whelan T. Shared decision-making in the medical encounter: What does it mean? *Social Science & Medicine* 1997; 44(5): 681-92.
99. Slattery P, Saeri AK, Bragge P. Research co-design in health: A rapid overview of reviews. *Health Research Policy and Systems* 2020; 18(1): 17.
100. Halvorsrud K, Kucharska J, Adlington K, et al. Identifying evidence of effectiveness in the co-creation of research: A systematic review and meta-analysis of the international healthcare literature. *Journal of Public Health* 2019.
101. Lim S, Morris H, Pizzirani B, Kajewski D, Lee WK, Skouteris H. Evaluating hospital tools and services that were co-produced with patients: A rapid review. *International Journal for Quality in Health Care* 2020; 32(4): 231-9.
102. Voorberg W, Bekkers V, Trummers L. A systematic review of co-creation and co-production: Embarking on the social innovation journey. *Public Management Review* 2015; 17(2): 1333-57.
103. Palumbo R. Contextualizing co-production of health care: A systematic literature review. *International Journal of Public Sector Management* 2016; 29(1): 72-90.
104. Bombard Y, Baker GR, Orlando E, et al. Engaging patients to improve quality of care: A systematic review. *Implement Science* 2018; 13(1): 98.
105. Green T, Bonner A, Teleni L, et al. Use and reporting of experience-based codesign studies in the healthcare setting: A systematic review. *BMJ Quality and Safety* 2020; 29(1): 64-76.
106. Michie S, van Stralen MM, West R. The behaviour change wheel: A new method for characterising and designing behaviour change interventions. *Implement Science* 2011; 6: 42.
107. Chauhan BF, Jeyaraman MM, Mann AS, et al. Behavior change interventions and policies influencing primary healthcare professionals' practice: An overview of reviews. *Implement Science* 2017; 12(1): 3.
108. Gauvin F, Waddell K, Lavis J. Rapid synthesis: Fostering an organizational culture supportive of evidence-informed policies. Hamilton: Canada: McMaster Health Forum, 2017.
109. OMara-Eves A, Brunton G, McDaid D, et al. Community engagement to reduce inequalities in health: A systematic review, meta-analysis and economic analysis; 2013.
110. Cyril S, Smith BJ, Possamai-Inesedy A, Renzaho AM. Exploring the role of community engagement in improving the health of disadvantaged populations: A systematic review. *Glob Health Action* 2015; 8: 29842.
111. Sarrami-Foroushani P, Travaglia J, Debono D, Braithwaite J. Implementing strategies in consumer and community engagement in health care: Results of a large-scale, scoping meta-review. *BMC Health Services Research* 2014; 14: 402.

112. Swainston K, Summerbell C. The effectiveness of community engagement approaches and methods for health promotion interventions. Middlesbrough: United Kingdom: NICE National Collaborating Centre, 2007.
113. O'Mara-Eves A, Brunton G, Oliver S, Kavanagh J, Jamal F, Thomas J. The effectiveness of community engagement in public health interventions for disadvantaged groups: A meta-analysis. *BMC Public Health* 2015; 15: 129.
114. Ndumbe-Eyoh S, Moffatt H. Intersectoral action for health equity: A rapid systematic review. *BMC Public Health* 2013; 13: 1056.
115. Karam M, Brault I, Van Durme T, Macq J. Comparing interprofessional and interorganizational collaboration in healthcare: A systematic review of the qualitative research. *International Journal of Nursing Studies* 2018; 79: 70-83.
116. National Collaborating Centre for Determinants of Health. Assessing the impact and effectiveness of intersectoral action on the social determinants of health and health equity: An expedited systematic review. Antigonish: Canada: National Collaborating Centre for Determinants of Health, 2012.
117. Concannon TW, Fuster M, Saunders T, et al. A systematic review of stakeholder engagement in comparative effectiveness and patient-centered outcomes research. *Journal of General Internal Medicine* 2014; 29(12): 1692-701.
118. Guise JM, O'Haire C, McPheeters M, et al. A practice-based tool for engaging stakeholders in future research: A synthesis of current practices. *Journal of Clinical Epidemiology* 2013; 66(6): 666-74.
119. Salloum RG, Shenkman EA, Louviere JJ, Chambers DA. Application of discrete choice experiments to enhance stakeholder engagement as a strategy for advancing implementation: A systematic review. *Implement Science* 2017; 12(1): 140.
120. Bowen DJ, Hyams T, Goodman M, West KM, Harris-Wai J, Yu JH. Systematic review of quantitative measures of stakeholder engagement. *Clinical and Translational Science* 2017; 10(5): 314-36.
121. Brunton G, O'Mara-Eves A, Thomas J. The 'active ingredients' for successful community engagement with disadvantaged expectant and new mothers: A qualitative comparative analysis. *Journal of Advanced Nursing* 2014; 70(12): 2847-60.
122. Ng JY, Gilotra K, Usman S, Chang Y, Busse JW. Attitudes toward medical cannabis among family physicians practising in Ontario, Canada: A qualitative research study. *CMAJ Open* 2021; 9(2): E342-E8.
123. Oliver K, Kothari A, Mays N. The dark side of coproduction: Do the costs outweigh the benefits for health research? *Health Research Policy and Systems* 2019; 17(1): 33.
124. Lavis J, Bullock H. OHT Forum: Introduction to day 2. Toronto, Canada: McMaster Health Forum, Ottawa Hospital Research Institute, and Trillium Health Partners, 2020.
125. Ministry of Health. Ministry of Health Update for Ontario Health Teams. 2020. [https://www.mcmasterforum.org/docs/default-source/rise-docs/rise-presentations/deck\\_moh-update-for-ontario-health-teams.pdf?sfvrsn=f52a56d5\\_2](https://www.mcmasterforum.org/docs/default-source/rise-docs/rise-presentations/deck_moh-update-for-ontario-health-teams.pdf?sfvrsn=f52a56d5_2) (accessed 2 May 2021).
126. Ministry of Children CaSS. Child welfare redesign strategy: Strategic pillars - 1. Child, youth, family and community wellbeing. 2021 (accessed 2 May 2021).
127. Wyatt KD, List B, Brinkman WB, et al. Shared decision making in pediatrics: A systematic review and meta-analysis. *Academic Pediatrics* 2015; 15(6): 573-83.

## APPENDICES

The following tables provide detailed information about the systematic reviews identified for each option. Each row in a table corresponds to a particular systematic review and the reviews are organized by element (first column). The focus of the review is described in the second column. Key findings from the review that relate to the option are listed in the third column, while the fourth column records the last year the literature was searched as part of the review.

The fifth column presents a rating of the overall quality of the review. The quality of each review has been assessed using AMSTAR (A MeaSurement Tool to Assess Reviews), which rates overall quality on a scale of 0 to 11, where 11/11 represents a review of the highest quality. It is important to note that the AMSTAR tool was developed to assess reviews focused on clinical interventions, so not all criteria apply to systematic reviews pertaining to delivery, financial, or governance arrangements within health systems. Where the denominator is not 11, an aspect of the tool was considered not relevant by the raters. In comparing ratings, it is therefore important to keep both parts of the score (i.e., the numerator and denominator) in mind. For example, a review that scores 8/8 is generally of comparable quality to a review scoring 11/11; both ratings are considered “high scores.” A high score signals that readers of the review can have a high level of confidence in its findings. A low score, on the other hand, does not mean that the review should be discarded, merely that less confidence can be placed in its findings and that the review needs to be examined closely to identify its limitations. (Lewin S, Oxman AD, Lavis JN, Fretheim A. SUPPORT Tools for evidence-informed health Policymaking (STP): 8. Deciding how much confidence to place in a systematic review. *Health Research Policy and Systems* 2009; 7 (Suppl1):S8.

The last three columns convey information about the utility of the review in terms of local applicability, applicability concerning prioritized groups, and issue applicability. The third-from-last column notes the proportion of studies that were conducted in Canada, while the second-from-last column shows the proportion of studies included in the review that deal explicitly with one of the prioritized groups. The last column indicates the review’s issue applicability in terms of the proportion of studies focused on pregnant, lactating and parenting people who consume cannabis. Similarly, for each economic evaluation and costing study, the last three columns note whether the country focus is Canada, if it deals explicitly with one of the prioritized groups and if it focuses on pregnant, lactating and parenting people who consume cannabis.

All of the information provided in the appendix tables was taken into account by the evidence brief’s authors in compiling Tables 1-3 in the main text of the brief.

**Appendix 1: Systematic reviews relevant to Element 1 - Elevating the voices of pregnant, lactating and parenting people who consume cannabis**

Element	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that dealt explicitly with one of the prioritized groups	Proportion of studies that focused on cannabis consumption
Research strategies to document and reflect the realities of those who have historically been oppressed, stigmatized or marginalized	Examining the use of arts-based methods in community-based research (79)	<p>The review described arts-based methods as either a data collection technique (e.g., images, sculptures or collages to replace traditional interview or observational data) or as a dissemination technique (e.g., drama or dance performance, exhibition of images or a visual representation, artifact or collage).</p> <p>The review found that the art-based methods were commonly applied in neighbourhoods, cities, rural areas, local schools and educational centres with young people and female participants. Majority of the arts-based techniques were used to complement and support traditional qualitative research methods. Additionally, the most common visual art forms were photography and drawing. The most common art form in community-based research was theatre. Examples of analyses included thematic analysis, constant comparative analysis, group analysis, SHOWeD (Photovoice), inductive analysis, interpretive analysis, phenomenological analysis and conceptual mapping analysis. Common dissemination techniques included exhibitions, theatre play, multimedia performances, online platforms, and community forums and workshops. The authors identified key strengths to arts-based methods, including: 1) participant-driven; 2) interesting type of data; and 3) appeal of arts-based methods. However, the authors also highlighted challenges related to arts-based methods such as: 1) the accessibility of arts-based methods; 2) lack of methodological reflection; 3) the notion of empowerment; 4) ethical issues; 5) the practical limitations; 6) analysis of arts-based data; and 7) dealing with academic conventions.</p> <p>The authors suggested that a keyword combination of arts-based methods (e.g., Photovoice, photo novella, cartography, ethno-cinema, participatory video, reader's theatre) with types of arts-based research and/or research phases. Additionally, arts-based research methods may help overcome barriers to engage harder to reach populations and address power relations.</p>	2013	4/9 (AMSTAR rating from McMaster Health Forum)	30/121	Not reported	Not reported
	Investigating the use of multi-criteria decision analyses to capture patient voice (76)	<p>The primary focus of this systematic review was to investigate multi-criteria decision analysis as a method of capturing patient voice and examine past applications of its use.</p> <p>This review identified 10 highly relevant studies which used multi-criteria decision analyses involving patients (for weighting) to evaluate healthcare interventions. Within the included studies, various forms of preference elicitation were used, including: 1) analytical hierarchy process; 2) direct weighting; 3) discrete choice experiment; and 4) ranking-ordering approach.</p>	2014	4/9 (AMSTAR rating from McMaster Health Forum)	1/10	0/10	0/10

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Element	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focused on cannabis consumption
		<p>Generally, there was positive sentiment surrounding the involvement of patients in multi-criteria decision analyses, with findings supporting the feasibility of this method with respect to healthcare reimbursement and investment decisions.</p> <p>Two challenges worth noting, however, are the reported difficulties which may exist in ensuring that the wide range of patient preferences are captured, and finding strategies to best minimize the cognitive challenges associated with this method.</p>					
	Investigate the use of arts-based methods in Indigenous populations across the globe (77)	<p>The primary objective of this scoping review was to examine the use of arts-based methods (ABMs) within Indigenous populations on an international scale – specifically, this review aimed to assess the type(s), location(s), and impact(s) of these practices.</p> <p>The findings from this review noted that a breadth of ABM practices is adopted by Indigenous populations globally, of which the most abundant are visual productions (e.g., photos, images, videos, and textile materials). The most frequently assessed ABMs within the included studies were as follows: Photovoice (n=20); video production (n=7); drawing (n=6); and multimedia visual arts (n=6).</p> <p>With respect to the location of these practices, the vast majority were undertaken in Canada, with others occurring in Australia, the United States of America and New Zealand. Within these countries, these practices were often employed in rural areas/reserve lands.</p> <p>The findings from this review further noted five areas in which ABM practices may possess great benefit for this population: 1) increasing participant engagement; 2) improving relationship building; 3) supporting the creation of Indigenous knowledge; 4) strengthening capacity building; and 5) initiating community action.</p>	2015	5/9 (AMSTAR rating from McMaster Health Forum)	20/36	0/36	0/36
	Investigating the feasibility of Photovoice as a research strategy (78)	<p>The aim of this systematic review was to examine how Photovoice could be used as a research strategy – specifically, this paper reviewed existing literature on photo-elicitation.</p> <p>The review consisted of 41 articles, which were grouped under the three domains of education, health and social sciences. Of all the included studies, 16 were classified under education, eight were part of health studies, and the remaining 17 were designated to be under social research.</p>	Not reported	2/9 (AMSTAR rating from McMaster Health Forum)	Not reported	Not reported	Not reported



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Element	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focused on cannabis consumption
		Within the domain of education, the findings from this study found that the majority of participants engaging in Photovoice consisted of students and researchers. Within the health field, the participants included physicians and community members. It is worth noting that, irrespective of domain, Photovoice research involved qualitative methods. Further, the authors note that the use of Photovoice is able to aid in the interpretation of the contents of an image and can support individuals in bringing meaning to life situations. Overall, the implementation of Photovoice within the domain of education is feasible and can be incorporated into the classroom by teachers.					
Using other types of care settings or venues where they may feel comfortable talking about their care needs and decisional needs	Examining the impact of mobile clinics on the health of women and children (80)	<p>The primary focus of this systematic review was to examine the impact that mobile clinics can have on women’s and children’s health.</p> <p>The authors identified two randomized controlled trials, both of which were conducted in the United States of America. The findings from one of the studies found “low certainty” evidence to support the occurrence of increased screening rates among women when services were held at mobile clinics. Upon performing a cost-effective analysis, the authors further noted that the total cost per screened patients was raised for mobile units when compared to static units. With respect to children’s health, the second study noted that mobile clinics do not have a significant impact on their: 1) asthma symptoms; 2) medication use; 3) urgent care; and 4) caregiver’s quality of life.</p>	2016	11/11 (AMSTAR rating from McMaster Health Forum)	0/2	2/2	0/2
	Examining the current literature on eHealth use in perinatal care (81)	<p>The purpose of this systematic review was to consolidate the available literature on eHealth technology in perinatal care.</p> <p>The review included 71 studies, which were categorized into the following six domains: 1) information and eHealth use; 2) lifestyle (e.g., gestational weight gain, exercise, and smoking cessation); 3) gestational diabetes; 4) mental health; 5) low- and middle-income countries; and 6) telemonitoring or teleconsulting.</p> <p>The results showed that it is common for pregnant women to use online websites for pregnancy-related information. However, due to the divergence of information found on the internet, eHealth may be a useful alternative by providing factual websites, applications and peer-support platforms. In terms of health outcomes, the majority of studies showed that eHealth is a better alternative to standard care for gestational diabetes and mental health care. Interventions for these domains include blood glucose management using smartphones, telephone screening for postpartum depression, and web-based therapy. Lastly, due to insufficient information, conclusions could not be made on the effects of eHealth in low- and middle-income countries.</p>	2017	3/10 (AMSTAR rating from McMaster Health Forum)	6/71	2/71	0/71

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Element	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that dealt explicitly with one of the prioritized groups	Proportion of studies that focused on cannabis consumption
		Overall, the review found that eHealth was well-received by patients and providers, with an upwards of 95% satisfaction. However, given that it is a relatively new intervention, more research is needed, including a cost-effectiveness analysis.					
	Assessing the impact of group prenatal care on perinatal outcomes (84)	<p>The main objective of this review was to examine the effects of group prenatal care when compared to traditional prenatal care on perinatal outcomes. The primary measured outcome was preterm birth, with secondary outcomes including low birthweight (LBW), neonatal intensive-care unit (NICU) admission, and the initiation of breastfeeding.</p> <p>The review evaluated 14 studies, four of which were randomized controlled trials (RCTs) and 10 that were observational studies. Among both types of study designs, the authors did not find a significant difference in the rate of preterm birth for group versus traditional care. Similarly, no significant differences were found in NICU admission or breastfeeding initiation rates, both overall and among study designs. However, group care was found to be associated with a decreased rate of LBW overall and in the observational studies, but not within the RCTs.</p> <p>Limitations include RCTs having small sample sizes and observational studies being at risk for selection bias and confounding.</p>	2016	9/11 (AMSTAR rating from McMaster Health Forum)	1/14	3/14	0/14
	Comparing group versus traditional antenatal care on pregnancy and birth outcomes (86)	<p>The purpose of this review was to examine the effects of group antenatal care when compared to conventional one-on-one care on various pregnancy and birth outcomes. Primary measured outcomes included preterm birth, low birthweight, and perinatal mortality. Secondary outcomes included, but were not limited to, initiation and duration of breastfeeding, maternal and healthcare-provider satisfaction, and postnatal depression.</p> <p>Four studies were included in the review, all of which were randomized controlled trials. The findings from this review demonstrated that no significant differences were found between group care and conventional care for preterm birth, infant birthweight, and perinatal mortality. Further, in the one study which measured satisfaction, women receiving group care had satisfaction rates that were five-fold higher than that of women receiving standard care.</p> <p>A major limitation of this review is the low number of studies included. Further research must be conducted to definitively conclude whether group antenatal care is associated with significant benefits.</p>	2011	9/10 (AMSTAR rating from McMaster Health Forum)	0/4	1/4	0/4
	Evaluating the effects of different models	This review included nine studies and evaluated the effects of maternity care on maternal and neonatal outcomes of young women (21 years of age and under).	2010	4/9 (AMSTAR	0/9	2/9	0/9

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Element	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focused on cannabis consumption
	of care on maternal and neonatal outcomes (82)	The included studies employed non-standard models of maternity care such as midwifery group practices, group antenatal care and a young women's clinic. The strongest evidence demonstrating benefits among young women were from antenatal care groups. These groups were associated with significantly higher attendance among women, lower preterm birth and higher rates of breastfeeding initiation. A multidisciplinary young women's clinic also improved antenatal attendance and reduced rates of preterm birth.		rating from McMaster Health Forum)			
	Comparing group prenatal care to traditional prenatal care on pregnancy outcomes (88)	This review included 12 studies and explored the effects of group prenatal care compared to traditional prenatal care among pregnant women. Most studies evaluated a pregnancy program titled "Centering Pregnancy", which is a group program for eight to 12 women who are in similar stages of pregnancy, and incorporates risk assessment, education and emotional support. The included studies showed that women who received group care had equivalent pregnancy outcomes when it came to birth weight, gestational age and rates of preterm birth. However, group care promoted breastfeeding, increased maternal weight gain in the prenatal period, and increased knowledge of pregnancy. Group prenatal care is particularly promising for high-risk populations such as adolescents, low-income women and those from racialized groups.  The authors note that most of the evidence of this review comes from the model of Centering Pregnancy which may limit the generalizability of the findings.	2011	3/10 (AMSTAR rating from McMaster Health Forum)	0/12	7/12	0/12
	Evaluating the effects of group prenatal care for high-risk pregnant women and their children (87)	This review evaluated group prenatal care among high-risk pregnancy groups such as women with comorbidities, adolescents, African-Americans, low-income women and tobacco or opioid users. Thirty-seven studies were included in this review and diverse models of group care were identified with varying degrees of evidence supporting benefits among pregnant women. In general, group prenatal care did not reduce rates of preterm birth, intensive-care unit admission or breastfeeding. However, this review states that African-American women are more likely to see benefits surrounding preterm birth, breastfeeding and satisfaction of care when engaging in group care.  The authors state that there are possible biases with these findings since possible confounding factors can affect this association. More high-quality and long-term studies are needed to confirm these findings for African-American women.	2017	6/10 (AMSTAR rating from McMaster Health Forum)	0/37	22/37	0/37
	Examining the effects of structured antenatal education programs on pregnancy and	This review examined the evidence surrounding individual or group-based antenatal education programs for pregnant women and their partners. The outcomes of interest were knowledge acquisition, anxiety, sense of control, pain, labour and birth support, breastfeeding, infant-care abilities, and psychological and social adjustment. No consistent findings were identified among the nine	2006	7/9 (AMSTAR rating from McMaster Health Forum)	1/9	2/9	0/9

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Element	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focused on cannabis consumption
	childbirth outcomes (85)	included studies. One large study examined the effects of educational and social-support interventions on the maternal choice of vaginal birth after a previous caesarean section. This high-quality study showed very similar rates between intervention groups receiving supports and control groups.  The authors were unable to come to a conclusion in regards to the best educational approaches in antenatal education, partly due to small sample sizes and low-quality studies.					
	Assessing the possible effects and modes of delivery of prenatal education (83)	The focus of this rapid synthesis was to identify the most effective interventions for improving maternal, infant and dyad (mother and child) outcomes, and the most effective delivery methods for these interventions. Thirty-five systematic reviews were included in this synthesis. The results showed that prenatal education on pelvic-floor training, nutrition and physical activity all had positive effects for women with low-risk pregnancies. Mixed effects were found for the effects of prenatal education on breastfeeding practices. No significant difference in pregnancy outcomes was found for in-person group prenatal education compared to individual education. However, in one systematic review conducted in the United States, group prenatal care led to reductions in rates of preterm births, improved breastfeeding practices and satisfaction with care among African-American and Latina women.	2019	5/9 (AMSTAR rating from McMaster Health Forum)	5/35	1/35	0/35
Advocacy support	Describing the experiences of women, partners, healthcare providers and community members in regards to labour companionship (89)	The primary focus of this review was to explore the experiences of women, their partners, community members and healthcare providers surrounding labour companionship. Labour companionship was defined as any support provided to a woman during labour from a partner, family member, friend, doula or other healthcare professional. Findings from this review state that labour companionship supports women in four ways. Companions provide informational support to bridge communication gaps between healthcare professionals and women, they advocate for the woman's needs, they provide practical support such as massages or holding their hand during labour, and they provide emotional support to empower women during this painful experience. Women also preferred their companion to be compassionate and trustworthy to encourage a positive birth experience.  The authors of this review note that almost all included studies relied on interview or focus-group methods and recommend other forms of qualitative research for future studies to better understand women's needs.	2018	8/9 (AMSTAR rating from McMaster Health Forum)	4/51	5/51	0/51
Strategies to address stigma	Determining the impacts of approaches to address the stigma	This rapid synthesis examined the impacts of approaches to address the stigma associated with substance use in various health systems. Twenty-three systematic reviews and 13 primary studies were included in this synthesis.	2020	5/9 (AMSTAR rating from McMaster)	17/35	1/35	Not reported

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Element	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focused on cannabis consumption
	related to substance abuse in health systems (51)	The approaches focused on addressing self-stigma, social stigma and structural stigma. For addressing self-stigma, approaches included communication technologies, educational strategies, encouraging empowerment among individuals, the use of therapeutic interventions, building culturally competent care, treatment-adherence support and fostering trust with the service provider. To address social stigma, approaches engaged stigmatized groups, provided educational strategies, made changes to grade-school curriculum, and used public awareness campaigns. Finally, to address structural stigma, approaches altered care protocols, engaged local champions, engaged people with lived experience, provided education materials and provided skills training. Successful approaches to addressing self-stigma were assessed through improvements in personal shame, internal stigma, views of society, alienation and recovery. For social and structural stigma, positive outcomes were related to improved attitudes towards people with substance abuse and a decrease in judgmental feelings. Since the measurements used to assess these approaches varied considerably, the authors stated that comparisons between approaches were limited.		Health Forum)			
Identifying strategies that encourage empowerment and agency around cannabis consumption decision-making throughout the perinatal and parenting journey	Examining whether interventions designed to support shared decision-making are effective in reducing health inequalities (96)	The review evaluated the impact of shared decision-making (SDM) interventions on disadvantaged groups and health inequalities. SDM interventions included any intervention or strategy that engaged disadvantaged patients in medical decision-making (e.g., physician and patient coaching, skills workshops, patient prompts, self-management, computerized decision aids, video-based interventions, counselling, booklet, or paper-based handouts). The review included 19 studies and pooled 10 studies in a meta-analysis and found moderate positive effect of SDM interventions. SDM increased knowledge, informed choice, participation, decision self-efficacy, preference or collaborative decision-making, and reduced decisional conflict.	2012	10/11 (AMSTAR rating from McMaster Health Forum)	0/21	0/21	0/21
	Examining the effectiveness of patient decision aids to help pregnant women make better decisions (97)	The review aimed to evaluate the effects of patient decision aids designed for pregnant women on clinical and psychosocial outcomes. The review found that patient decision aids to support prenatal testing, vaginal birth after caesarean section, external cephalic version, and labour analgesia were associated with positive effects (e.g., reduced anxiety, lower decisional conflict, improved knowledge and satisfaction with care, and increased perception of having an informed choice).  The review reported a small number of randomized controlled trials and inconsistencies that may limit the interpretation of the findings.	2010	7/10 (AMSTAR rating from McMaster Health Forum)	0/11	0/11	0/11
	Shared decision-making in pediatrics: A systematic review	The review evaluated the efficacy of shared decision-making (SDM) interventions in pediatrics on patient-centred outcomes. SDM interventions (e.g., live sessions, online content) improved knowledge and reduced decisional conflict, but the	2013	10/11 (AMSTAR rating from	3/31	Not reported	Not reported

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Element	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focused on cannabis consumption
	and meta-analysis (127)	findings were unclear for other outcomes such as satisfaction. The authors identified that most of the interventions targeted parents instead of children.		McMaster Health Forum)			
	Exploring how to encourage informed decisions about cannabis consumption during pregnancy and lactation, along with the educational needs of women and prenatal-care providers (95)	The protocol describes two systematic mixed studies reviews that aim to describe the perspectives of pregnant and lactating people who have experiences with cannabis use, and the perspectives of prenatal-care providers on counselling and screening for cannabis during pregnancy and lactation. The protocol considers pregnancy and breastfeeding as two distinct periods of time and will use comparative analysis to examine the differences in the results based on where cannabis is legalized or depenalized for recreational or medical purposes.	2020	No rating tool available for this document	Not available yet	Not available yet	Not available yet

**Appendix 2: Systematic reviews relevant to Element 2 – Co-designing harm-reduction models and tools focused on supporting pregnant, lactating and parenting people who consume cannabis**

Element	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focused on cannabis consumption
Co-designing research to improve knowledge about cannabis consumption and perinatal and parenting outcomes	Identifying research co-design approaches and their effectiveness (99)	Co-design activities included contributions and review of the research agenda, proposal, study design, outcomes, and materials. Existing co-design approaches include patient and public involvement, stakeholder engagement, participatory research and methods, consumer engagement, community-based participatory research, and patient engagement. The most frequently mentioned types of activity for co-design approaches involved focus groups, interviews, surveys and rating processes, but the frequency and intensity of engagement varied greatly across the studies. The authors reported mixed impact of research co-design on the research process, with reported positive emotions from individuals participating in the process. Researchers are recommended to use existing checklists (Guidance for Reporting Involvement of Patients and Public checklist) and methodologies (ECOUTER).	2019	10/10 (AMSTAR rating from McMaster Health Forum)	Not reported	0/26	0/26
	Addressing the evidence gap in international health research regarding the effectiveness of co-design (100)	<p>The main focus of this paper was to address the evidence gap in health research surrounding the effectiveness of co-design on an international scale.</p> <p>This paper included a total of 26 studies, of which 13 were randomized controlled trials (RCTs), and the remaining 13 were a combination of observational and quasi-experimental studies.</p> <p>The findings of this paper serve as evidence to suggest that co-design is able to provide benefit from the individual (e.g., physical health) to systems (e.g., healthcare services) level. Most notably, the authors found that the implementation of co-design is associated with stronger positive outcomes at the social and/or community level.</p> <p>While the authors have reported several findings, they do acknowledge the exclusion of grey literature as a limitation to their study.</p>	2017	8/11 (AMSTAR rating from McMaster Health Forum)	2/26	7/26	2/26
Co-designing harm-reduction	Examining the use (structure, process and outcomes) and reporting of	The review examined the use and reporting of experience-based co-design (EBCD) in health-service improvement activities. EBCD was described as an integrative research approach with	2018	7/9 (AMSTAR rating)	2/19	0/19	0/19

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Element	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focused on cannabis consumption
models and tools	experience-based co-design in health-service improvement activities (105)	<p>ethnography and service-design methods. The review identified 20 studies that predominately used EBCD for quality improvement in the United Kingdom. Successful factors when engaging with co-design included cohort retention, equal power dynamics between service users and providers, formal engagement throughout the process, and use of funded facilitators. However, the lack of funding, support and time were identified as barriers to co-design workshops and teams.</p> <p>The authors recommended that individual interviews are preferred over focus groups when gathering experience-based data, engaging all appropriate stakeholders, and limiting the time between the information-gathering phase and co-design phase to minimize the risk of drop-out, and provide adequate reporting (e.g., relationships between researchers and participants, details on project management, funding, length and timetable of the project) and outcomes for each phase (e.g., touchpoints and improvement activities, publishable information).</p>		from McMaster Health Forum)			
	Examining factors related to co-creation and co-production with citizens (102)	<p>The review identified factors related to co-creation and co-production with citizens. Influential organizational factors that are attributed to co-creation and co-production include organization compatibility and openness with citizen participation, risk-averse culture, and the use of incentives. From the citizen perspective, contributing factors to co-production included participant characteristics (skills, socio-economic status), awareness and ownership of product, social capital, and risk aversion by citizens.</p> <p>Additionally, the authors identified types of outcomes related to co-production with citizens. Most of the reported outcomes were increased effectiveness and citizen involvement. Other less frequently reported outcomes included increased efficiency and customer satisfaction, and strengthening social cohesion. Future studies should specifically describe the role of citizens (such as co-implementer, co-designer, co-initiator) and assess long-term effects.</p>	2013	4/9 (AMSTAR rating from McMaster Health Forum)	Not reported	0/122	0/122
	Examining the impacts of co-production on health outcomes (103)	<p>This review examined the evidence surrounding co-production of healthcare from the patient point of view, and also the impacts it can have on health outcomes. The co-production of</p>	2015	2/9 (AMSTAR rating	Not provided	0/65	0/65



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Element	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focused on cannabis consumption
		<p>healthcare services has been shown to enhance service quality, increase the effectiveness of treatments, enhance patient satisfaction and improve the understanding of healthcare knowledge.</p> <p>The evidence showed that a comfortable and familiar environment is critical in the implementation of healthcare co-production, which deems traditional healthcare settings unfit for co-production. Co-production also requires strong professional efforts to bridge the cultural and cognitive gaps between healthcare providers and their patients. However, a lack of time and competencies were found to be the main barriers to healthcare co-production.</p> <p>The authors conclude that healthcare organizations should encourage a partnership between healthcare providers and service users in a comfortable environment which empowers patients to become involved in planning, designing and delivery of health interventions.</p>		from McMaster Health Forum)			
	Identifying strategies and contextual factors that promote engagement of patients in the design, delivery and evaluation of health services (104)	<p>This review explored strategies for actively engaging patients and families in the improvement and redesign of healthcare services. Changes in patient engagements were classified as quality-of-care outcomes, and the impact of engagement was classified as patient-experience outcomes.</p> <p>It was found that a higher proportion of patients compared to service providers provided a stronger voice for patients in discussions about redesigns and debriefs. One technique to improve engagement and participation was the creation of a buddy system for mental health service users and their families. Forty-eight studies were included in this review, however only 12 studies formally evaluated patients' experiences with the process of being engaged in improving quality of care. In these evaluations, patients expressed satisfaction with the engagement process, they were interested in continuing their involvement in the long term, they felt the process was educational and felt empowered. Some feedback from users revealed that engagement demanded considerable energy and time and they felt as if their opinions were not considered in the decision-making process.</p>	2016	7/10 (AMSTAR rating from McMaster Health Forum)	3/48	1/48	0/48

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		The authors were not able to make conclusive recommendations on engagement processes to improve the quality of care at a system level.					
	Assessing hospital tools and services produced in conjunction with patient engagement (101)	<p>The primary aim of this article was to assess hospital tools and services produced in conjunction with patient engagement; a total of five outlined research questions helped to guide the authors' search.</p> <p>The article included a total of 13 studies, wherein the form of patient involvement intensity varied from consultative to partnership. Within the studies, health services (e.g., 'teach-back'), care processes, tools (e.g., patient incident-reporting tool), resources, and technology products (e.g., mobile applications) were all examined.</p> <p>With respect to the measured outcomes on an organizational level, the findings identified ratings of high satisfaction, moderate usability, and moderate-to-high uptake and retention. With respect to measured outcomes on a patient level, the findings from this paper demonstrated ratings of high participation, moderate-to-high usability, and moderate satisfaction.</p> <p>The authors found that patient engagement in the production process was associated with positive impact on communication (i.e., improved understanding through mobile applications and 'teach-back') and diagnostic processes (e.g., lower clinic wait times), increased social support and use of health services (e.g., mental health services).</p>	2019	7/10 (AMSTAR rating from McMaster Health Forum)	2/13	0/13	0/13

**Appendix 3: Systematic reviews relevant to Element 3 – Supporting the uptake of harm-reduction models and tools, and a broader paradigm shift in health and social care**

Element	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focused on cannabis consumption
Strategies to foster health- and social-care provider behaviour change towards harm-reduction philosophies	Investigate behaviour-change policies and interventions targeted towards health professionals in primary-care settings (107)	<p>The primary focus of this overview of reviews was to examine behaviour-change policies and interventions targeted towards health professionals in primary-care settings.</p> <p>The findings from this paper provide evidence to suggest that the implementation of interactive medical education programs, training, and support systems for clinical decision-making are associated with numerous practical benefits (e.g., improved knowledge, patient outcomes, and prescription optimization). Furthermore, it is reported that collaborative polices, which engage family physicians, nurses and pharmacists, are effective in changing the practice of health professionals in primary-care settings. Lastly, the current evidence does not suggest implementing financial incentives as a means for behaviour and practice change in the long term.</p>	2015	8/10 (AMSTAR rating from McMaster Health Forum)	22/138	0/138	0/138
Strategies to foster an organizational culture favourable to harm-reduction philosophies	Investigating strategies that can be adopted to foster an organizational culture supportive of evidence-informed policy (108)	<p>The focus of this rapid synthesis aimed to address findings related to strategies that can be implemented in order to foster an organizational culture that is supportive of the adoption of evidence-informed policy.</p> <p>Within this rapid synthesis, eight systematic reviews, four non-systematic reviews, an assessment tool, one overview of systematic reviews, and seven primary studies were included.</p> <p>With respect to the domain of fostering organizational culture change, the findings from this paper demonstrate that a number of factors can have an impact on the adoption of change, including: 1) type and degree of change; 2) organization’s financial status; and 3) perceptions of staff and the public.</p> <p>With respect to the domain of sustaining organizational culture change, a few strategies were highlighted, including determining pre-existing commitments, reflecting on changes that need to be made, and acting upon momentum to adopt necessary changes. Furthermore, six key principles which can reportedly affect the sustainability of organizational culture change were noted within</p>	2017	No rating tool available for this document	4/21	0/21	0/21

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		the paper. These include: 1) the alignment of vision and action; 2) incremental changes; 3) distributed leadership; 4) staff engagement; 5) interpersonal relationships centred on collaboration; and 6) regular monitoring and adapting to cultural change.					
Strategies to improve community and stakeholder engagement to support a broader paradigm shift	Assessing the impact of intersectoral action on the social determinants of health and health equity (114)	<p>This rapid review aimed to evaluate the impact of intersectoral action on the social determinants of health and health equity. Seventeen studies were included in this review and the majority were implemented at the community level, in schools or workplace settings. Interventions were divided into upstream, midstream and downstream interventions. Two studies examined upstream interventions, one improving housing conditions and the other employment. Eight studies reported on midstream interventions addressing a range of social determinants of health: employment and working conditions, early childhood development, housing, physical and social environments, and food security. Seven studies described downstream interventions focusing on access to health services or care.</p> <p>This review found that the strongest positive effects were observed when downstream interventions focusing on access to healthcare services were prioritized, specifically in improving immunization rates and oral health among vulnerable groups. Midstream interventions showed little to no impact on the social determinants of health, and the outcomes related to upstream interventions were difficult to evaluate.</p> <p>The authors state that the majority of included studies assessed setting specific interventions with very few studies focusing on regional-level interventions. This limits the generalizability of the findings.</p>	2011	7/10 (AMSTAR rating from McMaster Health Forum)	1/17	9/17	0/17
	Providing guidance on the best practices for stakeholder engagement in prioritizing research (118)	This study had a focus on developing guidance on the best practices for engaging stakeholders in the prioritization of research needs. The study evaluated the relevant literature, and conducted semi-structured interviews with research organizations in the United States, Canada, the United Kingdom, and in evidence-based practice centres.	2010	2/9 (AMSTAR rating from McMaster Health Forum)	Not reported	0/56	0/56

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		Fifty-six articles were identified, and several themes emerged from both the literature and interviews with researchers. Some key themes were identified: engage stakeholders early in the process; establish credibility with stakeholders; use multiple methods of involvement (in-person meetings and voting); document all stakeholder input using audio and video recordings; provide brief and easy to understand materials for all stakeholders; and many more. The authors state that this review is a summary of common practices in stakeholder engagement, however there still remain questions on how to identify stakeholders, evaluate processes and understand results from such engagements.					
	Exploring methods of stakeholder engagement in comparative effectiveness and patient-centred outcomes research (117)	<p>The focus of this review was to explore methods of stakeholder engagement in comparative effectiveness and patient-centred outcomes research. Seventy studies were included and reported on a range of topics including mental health, violence prevention, chronic diseases and health-insurance enrolment for current patients, ethnic-minority populations, and service providers.</p> <p>Stakeholder engagements varied greatly in quality and content, but common themes emerged from the literature. The findings suggest that there was frequent engagement with patients and infrequent engagement with stakeholders across the healthcare system. Engagement with stakeholders was more common during periods of prioritization, in early stages of research rather than implementation stages. The reduction of engagement in later stages of research could reflect an omission of reporting, however the authors of this review suspect that it reflects actual changes in participation.</p> <p>The authors noticed inconsistencies in the quality of reporting engagement behaviours and developed a 7-Item Stakeholder Engagement Reporting Questionnaire for future research in this area.</p>	2012	3/9 (AMSTAR rating from Program in Policy Decision-making)	0/70	Not reported	0/70
	Describing existing quantitative measures of stakeholder engagement in published research and programs (120)	The focus of this review was to describe existing quantitative measures of stakeholder engagement in published research and programs. Seventy studies were included in this review and covered a broad range of projects such as research projects, community-input projects and other interventions. One important consideration for this review was that none of the articles used the same stakeholder measure for engagement. Only 48% of measures	2016	5/9 (AMSTAR rating from McMaster Health Forum)	5/68	0/68	0/68

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		<p>reported an assessment of the relationship between engagement and outcome, and of those, all studies indicated a significant positive effect.</p> <p>The majority of measures used to assess stakeholder engagements were simply head counts by researchers or participants themselves, which does not show meaningful engagement levels. Other participant-reported measures of engagement used scales with a broad range of concepts such as motivations for participation, strength of relationship between researcher and community, and familiarity with community members. The variety of scales used to assess engagement poses a challenge when comparing projects across multiple communities.</p> <p>The authors state that there is currently no consensus in the literature for the definition of “engagement”, and that reaching a consensus is not realistic due to context-dependant factors. The authors suggest the creation of scales that: 1) use a theory or model; 2) provide psychometric data; 3) can be short and used with large-scale projects; and 4) pick up the key elements of engagement that are critically important for involvement in health-related projects.</p>					
	Exploring the use of discrete choice experiments in stakeholder engagement (119)	<p>This review aimed to explore the use of discrete choice experiments in engaging stakeholders as an implementation strategy. Discrete choice experiments are tools that appraise choices in health-related settings and are used to elicit individual preferences over hypothetical alternative scenarios in health-related applications.</p> <p>All 75 included studies focused on outcomes associated with early phases of implementation and no studies discussed later phases of implementation. Other outcomes that were discussed included appropriateness, adoption, feasibility and fidelity. Characterizing demand was the most common application among included studies where discrete choice experiments were used to predict the demand for new innovations and services prior to implementation. Eleven studies also examined the possibility of incentivizing workforce participation among healthcare providers and healthcare organizations. These studies focused on primary-care settings and discussed strategies to incentivize community-health personnel in low-resource or rural settings.</p>	2016	5/9 (AMSTAR rating from McMaster Health Forum)	13/75	0/75	0/75

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		The authors cannot firmly conclude that discrete choice experiments effectively influence implementation strategies of stakeholder engagement due to lack of long-term follow-ups in these studies.					
	Describing existing frameworks of interprofessional and interorganizational collaboration in healthcare (115)	<p>The focus of this systematic review was to identify and describe existing frameworks of interprofessional and interorganizational collaboration in healthcare. Sixteen studies were included in this review and focused on healthcare settings such as hospitals, primary care, community care, patient homes and more.</p> <p>Key components that emerged from the evidence were communication, trust, respect, mutual acquaintanceship, power, shared goals, consensus, patient-centredness, task characteristics and environment. In both interprofessional and interorganizational collaboration, communication was the core process that allowed collaboration to take place at individual and organizational levels. Having shared goals and consensus were also integral components of frameworks and allowed for the provision of quality care to patients. The authors suggest that nurses could play a major role in tackling challenges of interorganizational collaboration due to their professional status and close interaction with patients. The authors also recommend that interprofessional education be promoted to becoming part of a healthcare team's continuing education.</p> <p>One limitation of the findings was the persistent lack of consensus on the definition of interprofessional collaboration. Some studies noted the confusion surrounding this concept without proposing a new definition.</p>	2014	6/9 (AMSTAR rating from McMaster Health Forum)	6/16	0/16	0/16
	Evaluating the effectiveness of intersectoral action to advance health equity (116)	<p>This review focused on evaluating the effectiveness of intersectoral action as a public-health practice to advance health equity. Seventeen studies were included and only one of these was a high-quality systematic review. The majority of interventions were implemented in local communities, in schools, or workplace settings.</p> <p>The findings of this review suggest that the effects of intersectoral action on health equity are mixed and limited. Upstream or structural interventions were more likely to have a positive impact</p>	2012	8/11 (AMSTAR rating from McMaster Health Forum)	1/17	8/17	0/17

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		<p>on reducing health inequities since they changed the underlying conditions in which people live, work and play. For example, provision of housing for disadvantaged populations moderately improved housing infrastructure and demonstrated no effect on overcrowding and hygienic conditions. Studies also showed that intervening early in life had a positive effect for children and promoted early literacy. Downstream interventions focusing on access to services were moderately effective in increasing the availability and use of care services, reducing the number of emergency visits, improving the management of existing conditions, improving immunization rates, and improving mental health.</p> <p>The authors state that most of the literature identified was descriptive in nature and the interventions were not rigorously evaluated, which could limit the conclusions drawn from this review.</p>					
	Exploring the conditions of community engagement that are most effective at improving disadvantaged pregnant women's outcomes (121)	This secondary analysis aimed to describe the conditions of effective community-engagement interventions for disadvantaged pregnant women and new mothers. The term "disadvantaged" was based on health inequalities, income levels, geographical location and ethnicity, however details on demographic variables were not provided. The extent of community engagement in intervention design and planning varied across studies: member-led, collaborative and no involvement in planning. Two conditions were identified to produce an effective outcome among expecting mothers: lay or peer-delivered interventions and interventions where the delivery is undertaken in collaboration with community members and service providers. The condition of community empowerment was also seen as an effective tool in improving women's health, however only four studies out of 24 mentioned this condition in their interventions. The authors state that this may be due to the challenges that arise when evaluating this type of condition.	2013	4/9 (AMSTAR rating from McMaster Health Forum)	0/24	Not provided	0/24
	Identifying community engagement approaches and evaluating the cost and effectiveness of interventions among disadvantaged populations (109)	This paper focused on: 1) identifying various community engagement approaches that can be implemented to better the health and/or help minimize the health inequalities faced by disadvantaged populations; and 2) evaluating the effectiveness of interventions and the cost burden associated with their use.	2011	8/11 (AMSTAR rating from McMaster Health Forum)	Not reported	132/319	Not reported



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		<p>To narrow the scope of their review, the authors outlined a total of nine research questions to help guide their research.</p> <p>The findings from this paper noted several key community-engagement models, which include patient involvement in development, peer-delivered interventions, and community empowerment. It is worth noting that there is limited evidence to posit whether any specific model is more effective than another. Further, the paper suggested that community-engagement interventions are associated with a positive effect on the following outcomes: 1) health behaviour; 2) health consequences; 3) self-efficacy; and 4) social support. With respect to the cost burden, analyses demonstrated that these interventions are cost-effective. The authors also noted that short-term interventions implemented in non-community settings exhibited increased effectiveness.</p> <p>While the authors noted several findings within the paper, it is worth acknowledging the wide range of heterogeneity among the assessed populations, and therefore, detailed approaches for intervention effectiveness were not identified.</p>					
	Exploring the role of community engagement in improving the health of disadvantaged populations (110)	<p>The review examined the impact of community engagement on health and health inequalities among disadvantaged populations. The review included 24 studies, where the majority of the studies (n = 21) reported positive impacts on health behaviours, public-health planning, health-services access, health literacy, and other health outcomes. Improved social outcomes included self-efficacy skills, social capital and network, community capacity building, empowerment of community leaders, and increased referrals to social services and enabling community linkages. The authors indicated that key community-engagement components included power-sharing, collaborative partnerships, bidirectional learning, incorporating the voice and agency of end-users, and the use of bicultural health workers for intervention delivery. Community-engagement activities were challenging when they did not proactively engage the community, conducted inadequate needs assessment, faced funding constraints, had insufficient capacity of social and welfare services to address needs, and experienced power struggles between stakeholders.</p>	2015	6/9 (AMSTAR rating from McMaster Health Forum)	1/24	0/24	0/24

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	Implementing strategies in consumer and community engagement in healthcare: Results of a large-scale, scoping meta-review (111)	<p>The review examined 90 systematic reviews that described consumer and community-engagement (CCE) research and practice in healthcare. The review found that CCE interventions involved a wide range of stakeholders (e.g., consumers, community members, public, children, adolescents, elderly patients, patients with mental health issues, patients in palliative care, individuals with lower socio-economic backgrounds, Indigenous populations, and linguistically diverse communities) and used different types of methods and tools (e.g., focus groups, shared decision-making, decision aids such as information sheets, pamphlets and videos, online platforms, peer support and community-based interventions).</p> <p>The authors noted barriers to effective community participation such as lack of infrastructure support, skills or confidence, insufficient opportunity for vulnerable groups, weak connections with providers, and disseminating information. Facilitators to overcome these barriers include the availability of tools and information, training, patient champions, appropriate policies, regulations and standards, implementation plans, and incentives. The authors developed a conceptual model based on their review findings and described eight key factors for CCE: 1) aim; 2) type of activity; 3) participants; 4) preparedness; 5) engagement methods; 6) measurement; 7) barriers; and 8) facilitators. Overall, given the complexity of CCE and its diverse use in different settings and populations, the authors concluded that there is no comprehensive approach for engagement, but it requires intentional design, engagement (of micro-, meso-, macro-levels) and context.</p>	Not reported	4/9 (AMSTAR rating from McMaster Health Forum)	4/91	Not reported	Not reported
	The effectiveness of community-engagement approaches and methods for health-promotion interventions (112)	This rapid review examined the effectiveness of community-engagement approaches and methods for health-promotion interventions (e.g., community coalitions, peer educators, community/neighbourhood committees, school health-promotion council, peer leadership groups, community champions, community workshops). Community coalitions may reduce the number of alcohol-related behaviours, improve prevention of injuries to children, feel included in the planning and implementation of health education programs, and promote healthy diet in children. Peer educators may promote behaviour change such as improving vaccination uptake and increasing	Not reported	9/10 (AMSTAR rating from McMaster Health Forum)	4/21	Not reported	Not reported

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		<p>knowledge. Neighbourhood/community committees may improve the planning and design of health interventions such as improving diet and injury prevention. School health-promotion councils may be more effective with specific populations such as high-risk groups. Peer leadership groups increased confidence when planning interventions. Engaging community champions during the planning and design of interventions can increase their level of knowledge, skills and confidence after training, and provide a stronger voice to the community. Finally, community workshops can contribute to improving awareness and adoption of healthy lifestyles.</p>					
	<p>Examining the effectiveness of community engagement in public-health interventions for disadvantaged groups (113)</p>	<p>The review identified 131 studies that evaluated the effectiveness of community engagement in public-health interventions for disadvantaged groups. The meta-analysis found that interventions were effective in improving health-behaviour outcomes such as health behaviour self-efficacy and perceived social support. Most of the interventions targeted minority groups (i.e., Black, African-American, Hispanic/Latino), individuals with lower socio-economic status, young adults, and predominately female. A majority of the interventions targeted substance use (13.7%). Most of the interventions had multiple components such as education provision, advice, social support, skill-development training, and peer support. The review found insufficient evidence to determine which type of intervention was most effective and whether community engagement can reduce health inequalities. Overall, the authors found that: 1) interventions that engage community members in intervention delivery were effective; 2) single component interventions were more effective than multi-component; 3) both universal and targeted interventions were effective; 4) interventions that involved skill development, training strategies, or provided incentives were more effective than educational strategies; 5) interventions involving peers and community members were more effective than involving health professionals; 6) shorter-time interval interventions were more effective than longer-time intervals; and 7) disadvantaged participants benefited more from the interventions.</p>	<p>2011</p>	<p>7/11 (AMSTAR rating from McMaster Health Forum)</p>	<p>8/134</p>	<p>Not reported</p>	<p>Not reported</p>



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