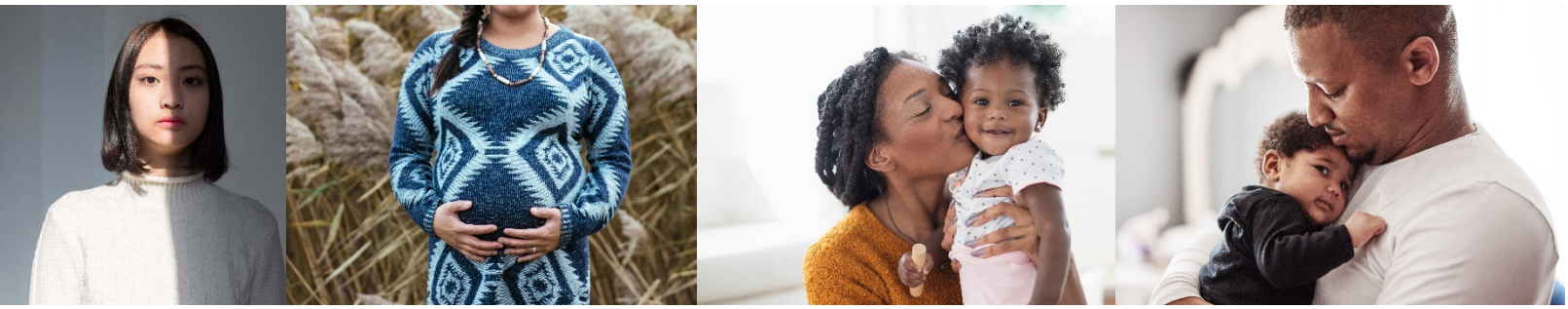


Becoming Trauma-informed:

Trauma-informed Practices and how they can be implemented in relation to the pre-conception, prenatal, and postnatal period

saskatchewan
preventioninstitute
our goal is healthy children

Becoming Trauma-informed: Trauma-informed Practices and how they can be implemented in relation to the pre-conception, prenatal, and postnatal period

A report by Melanie Bayly
for the Saskatchewan Prevention Institute
February 2022

RESOURCE 3-015 02/2022

Table of Contents

1. Introduction

The purpose of this review was to examine recent literature on the application of a trauma-informed approach to working with families, particularly in the pre-conception, prenatal, and postnatal period. The fundamental elements and principles of a trauma-informed approach are applicable to all populations and are reviewed here. However, some literature focuses more specifically on trauma-informed practices that can be implemented during the perinatal period, and those are also described.

It is important to note that historical trauma experienced by First Nations and other Indigenous people in Canada is an important but distinct area of literature, and while it is recognized briefly in this review, deserves to be focused on separately. The content covered in this review is intended to form a knowledge base on the implementation of a trauma-informed approach, which can inform practice at the individual and organizational levels.

2. Trauma

The most commonly used contemporary definition of trauma comes from the Substance Abuse and Mental Health Services Administration (SAMHSA, 2014), who stated that trauma results from "an event, series of events, or set of circumstances that is experienced by an individual as physically or emotionally harmful or life threatening and that has lasting adverse effects on the individual's functioning and mental, physical, social, emotional, or spiritual wellbeing" (p. 7). Within this conceptualization, trauma has three components (the three Es): an *event* (something causing harm or that poses extreme threat, either once or over time); the person's *experience* of that event (the ways in which an event impacts an individual, and the way they make meaning of it, contributes to whether or not it is traumatic); and the *effects* of that event (adverse effects stemming from the event and an individual's experience of it, which may be immediate, delayed onset, short or long term, and may or may not be recognized by the individual as connected to the traumatic event) (SAMHSA, 2014).

There are many types of potentially traumatic events that people may experience, including experiencing or witnessing physical, psychological, or sexual violence and abuse; life threatening accidents or injuries; serious medical procedures; natural or man-made disasters; refugee status; participation in armed combat; and the sudden unexpected death of a loved one (Ameringen et al., 2008). Overall, traumatic events are relatively common, with most persons exposed during their lifetime. In a nationally representative sample of Canadians, Ameringen et al. (2008) found that 76.1% (73.4% of women and 78.5% of men) of their adult sample had experienced at least one potentially traumatic event.

Trauma can also be experienced collectively by members of groups who have experienced colonization or genocide, as was the case in Indigenous communities across Canada. Termed *historical trauma*, this form of trauma is more complex and generally entails many traumatic events

over time, encompasses both psychological and social consequences of multiple traumatic events, and has intergenerational effects (Gone, 2013).

Although individuals may experience trauma at any age, much of the literature focuses specifically on those with a history of trauma during childhood, likely because of children's higher developmental vulnerability for both experiencing trauma and its negative effects. Some potentially traumatic events commonly experienced in childhood include abuse and neglect; witnessing or experiencing violence in the family, school, or community; life-threatening accidents or injuries; frightening and/or painful medical procedures; serious and untreated parental mental illness; loss of or separation from a parent or other loved one; natural or manmade disasters; war or terrorist attacks; forced displacement/refugee status; and discrimination (Bartlett & Steber, 2019).

Adverse childhood experiences (ACEs) are a particular set of potentially traumatic events/circumstances that were linked to negative adult health outcomes in a landmark study (the Adverse Childhood Experiences Study; Dong et al., 2004; Felitti et al., 1998) and are often a focus in trauma-related research. ACEs reflect exposure during childhood to two categories of potentially traumatic experiences: maltreatment (emotional, physical, or sexual abuse, or emotional or physical neglect) and household dysfunction (parental separation or divorce; living with someone who abuses substances, has severe mental illness, or is incarcerated; or witnessing family violence) (Dong et al., 2004; Felitti et al., 1998). Although individuals can experience effects from one traumatic event, many individuals are exposed to multiple forms of trauma or cumulative traumas: this increases trauma's harmful effects.

2.1 Symptoms and Effects of Trauma

Trauma in childhood can lead to mental and physical health problems throughout life (Bartlett & Steber, 2019; Dye, 2018). Childhood trauma has a detrimental and pervasive impact on development, including brain and cognitive development, learning, social-emotional development, attachment relationships, and physical health. Effects and symptoms of trauma may include increased activation of the stress response system and difficulties coping with challenges, adversity, and opportunities in daily life; difficulty with cognitive processes like attention, memory, and thinking; challenges regulating behaviour, setting boundaries, and controlling the expression of emotions; and interpersonal challenges including difficulty trusting and benefitting from relationships (Bartlett & Steber, 2019; Dye, 2018; SAMHSA, 2014). Some of the symptoms and effects of trauma differ depending on the developmental stage of the trauma-exposed person. Early childhood trauma can be more detrimental than later experiences of trauma due to the developmental processes that are occurring both neurologically and psychologically at the time (De Bellis & Zisk, 2014).

Very young children may exhibit signs of trauma such as regression after previously reaching a developmental milestone, fussiness, excessive separation anxiety, fear of strangers, attachment difficulties, and trouble eating and sleeping. School-aged children may have frequent nightmares, challenges with concentration and school performance, and exhibit either

withdrawn or aggressive behaviour (Bartlett & Steber, 2019). Adolescents may exhibit anxiety or depression; engage in risky or self-destructive behaviours (e.g., drug and alcohol misuse, risky sexual behaviour, self-harm, illegal activities); struggle with intense negative emotions like guilt, anger, or shame; and have negative views of people and society as well as persistent thoughts of revenge or suicide (Bartlett & Steber, 2019).

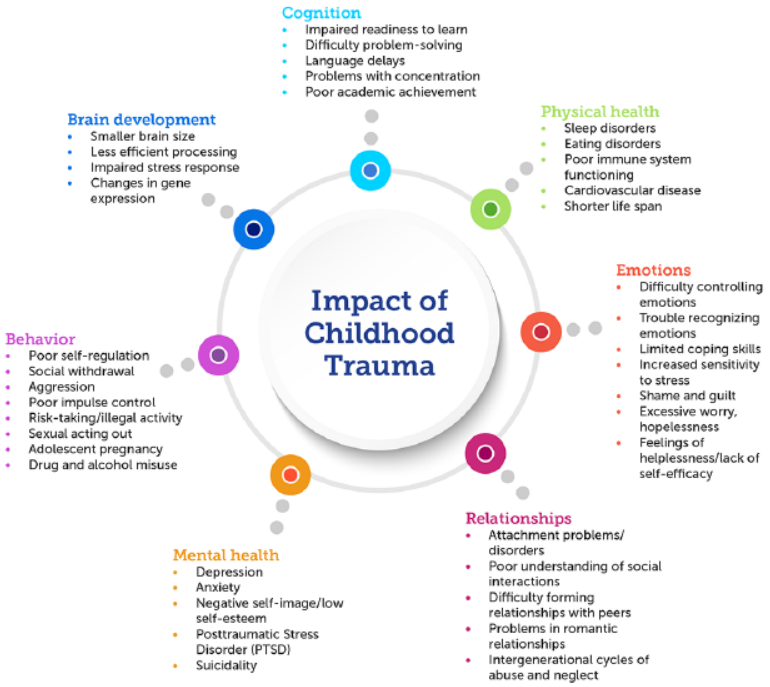
Individuals with chronic issues (lasting more than one month) which impair their daily functioning, may be diagnosed with post-traumatic stress disorder (PTSD). Children's persistent trauma-related symptoms may be viewed through the lens of disordered behaviour and lead to misdiagnoses such as separation anxiety disorder, oppositional defiant disorder, and attention deficit hyperactive disorder (Dye, 2018). Research with Canadian adults suggests that nearly 10% of those with a trauma history experience PTSD (Ameringen et al., 2008).

Although exposure to potentially traumatic experiences may elicit any of the above discussed sequelae, it is important to note that there is no "typical" trauma reaction; rather, effects may vary widely between individuals based on genetic, epigenetic, biological, psychological, social, familial, community, societal, and historical factors (Bartlett & Steber, 2019; Kimburg & Wheeler, 2019). Additionally, both trauma exposure and its sequelae may differ based on sex and gender (Poole et al., 2017). Boys and men may be more likely to experience and witness physical violence and abuse, non-interpersonal traumatic events, and potentially traumatic events in general, whereas girls and women are at higher risk of sexual victimization, psychological, and emotional abuse (Tolin & Foa, 2006). Research also finds that females are more at risk for certain negative effects from trauma exposure such as anxiety and depression, dissociation, and PTSD symptoms (Garza & Jovanovic, 2017; Tolin & Foa, 2006; Wamser-Nanney & Cherry, 2018). While sex and gender differences in trauma responses/symptoms may be partially due to differences in the types of traumas experienced, Carmassi et al. (2020) found a similar pattern when examining post-traumatic stress symptoms in parental couples exposed to the same trauma (parenting their child affected by epilepsy). Carmassi et al. reported that mothers presented with higher scores than fathers for all the criteria of PTSD, and experienced greater affective and somatic symptoms.

The reasons for higher rates of PTSD in females likely include social context and sociocultural biases, but there are also psychobiological factors that may be contributing to the sex difference, including differences in brain development and fear physiology (Garza & Jovanovic, 2017; Kimerling et al., 2018; Wamser-Nanney & Cherry, 2018). Women seem to have a more sensitized hypothalamic-pituitary-adrenal (HPA) axis (an important network between the hypothalamus, pituitary gland, and adrenal glands that modulates responses to stress), whereas men seem to have a sensitized physiological hyperarousal system (Olff, 2007). Early trauma experiences in males may lead to greater down-regulation of cortisol, something commonly seen in individuals with antisocial behaviours (De Bellis & Zisk, 2014).

Exposure to trauma during childhood may also have long-term effects that put individuals at risk for decreased physical and psychological well-being at later stages of life. Research suggests that childhood maltreatment is associated with changes to brain structure and function that affect the systems governing threat detection, emotional regulation, and reward anticipation (Teicher et al., 2016). Childhood trauma is associated with persistent sensitization of the HPA axis (stress-response system) and the autonomic nervous system, so that many individuals with previous trauma have dysregulated HPA-axis reactivity and diminished regulatory responses to stress that may put them at risk for psychological issues (Heim et al., 2008; Kuhlman et al., 2015; Kuhlman et al., 2018). Indeed, a significant body of literature suggests that childhood exposure to interpersonal traumas such as abuse (emotional, physical, and sexual) and neglect is associated with adult depression, anxiety, mania, psychosis, and schizophrenia (Huh et al., 2017; Humphreys et al., 2020; Mandelli et al., 2015; Matheson et al., 2013; Negele et al., 2015; van Nierop et al., 2015; Varese et al., 2012). Van Nierop et al. (2015) found that childhood trauma was strongly associated with symptom *clusters* (i.e., symptoms across multiple types of psychological disorders) suggesting that trauma is a major risk factor for psychopathology in general, via HPA axis-disruption and dysregulated stress responses that adversely affect development (Matheson et al., 2013). Trauma is also associated with some physiological disruptions, with survivors more likely than those without a trauma history to have sleep disorders, metabolic syndrome, obesity, hypertension, and diabetes (Dye, 2018). These effects are mediated by the psychological effects on the stress response system that result in repeated activation of the autonomic nervous system and upregulation of the inflammatory response system (Ho et al., 2021). Barlett and Steber depicted the wide range of potential impacts child trauma may have on individuals (Figure 1).

Figure 1. Impact of Childhood Trauma, from Bartlett & Steber (2019).



Research also suggests that trauma exposure is associated with a greater propensity to engage in risk-taking behaviour; that is, behaviour that may elicit negative consequences or losses as well as perceived positive consequences or gains (Ben-Zur & Ziedner, 2009; Laceulle et al., 2019; Maepa & Ntshalintshali, 2020; Norman et al., 2012). Ben-Zur and Ziedner (2009) described several potential mechanisms to explain this relationship, including: avoidance coping (meaning that people are not engaging with negative information/potential consequences); emotion regulation (risky behaviours may engender positive emotions or help to diminish negative ones); self-esteem enhancement (people may pay more attention to possible gains that restore a positive self-concept, resources, and control); simplified information processing wherein people consider less information are more likely to discount non-trauma-related risks; and suppression of higher cortical processes due to increased emotional processing and activation of the amygdala. The relationship between trauma and risk-taking may, therefore, be explained by factors such as impaired decision making, increased emotion-focused coping, and alterations to neurocognition as described above.

The role of impulsivity as a mediator between trauma exposure and risk-taking has also received some attention. Morris et al. (2020) found that impulsivity mediated the relationship between PTSD and greater cannabis and alcohol use. They also found that trauma-exposed persons who met probable diagnostic criteria for current PTSD showed significantly higher levels of impulsivity than trauma-exposed persons without PTSD. They suggested based on this work that only trauma-exposed people with probable PTSD exhibit a bias towards immediate rewards and decreased willingness to wait for rewards, suggesting that impulsivity and PTSD symptoms are connected.

It is important to note that the relationship between trauma and risk-taking may depend on what the risky behaviour is, and its context. In some circumstances, trauma may lead to reduced risk-taking. For example, measuring risk-taking via an experimental task rather than self-reported risk behaviours, Moya (2018) found that greater exposure to and severity of violence was associated with greater risk aversion. Moreover, it is important to note that associations between trauma and risk behaviour in the literature are primarily focused on various types of substance use/misuse and risky sexual behaviours (e.g., unprotected sex); these outcomes are discussed further in the next section on trauma and its effects related to reproductive health and the perinatal period.

2.2 Trauma's Effects in Relation to Pre-conception, Prenatal, and Postnatal Period

There are a number of ways in which trauma is relevant to reproduction, including pre-conception, during pregnancy and childbirth, and in the postnatal period. For individuals in their reproductive years, trauma may play a role in sexual risk taking and unplanned pregnancies. Researchers have associated multiple forms of interpersonal childhood trauma (abuse and neglect) with sexual risk factors for unplanned pregnancy among adolescents and adults, such as sex without using a condom, low self-efficacy to refuse sex, and having sex under the influence of drugs or alcohol (Hahn et al., 2016; Moore et al., 2017; Mota et al., 2019; Noll et al., 2019;

Thompson et al., 2017). A variety of trauma-related symptoms and effects may account for these associations. Among adult female survivors of intimate partner violence, Cavanaugh & Kapij (2020) found that low condom use self-efficacy was strongly related to experiencing dissociative symptoms (sense of disconnection from self or environment and decreased awareness of the present) during sex. Other researchers reported that emotional numbing but not dissociation was implicated in the relationships between past sexual trauma, low condom use self-efficacy, and intentions to engage in unprotected sex (Stappenback et al., 2016). Emotion dysregulation has also been found to account for much of the relationship between childhood trauma and sexual risk taking, which was partially explained by difficulty identifying and expressing feelings and the tendency to behave impulsively to deal with negative affect, which was associated with greater alcohol use (Hahn et al., 2016; see also Oshri et al., 2015).

Consistent with the greater presence of risk factors, Young-Wolff et al. (2021) found that adults who reported experiencing two or more ACEs were more than twice as likely to report an unplanned pregnancy. Looking at a wide variety of adverse life experiences that included many potentially traumatic events (exposure to or perpetration of violence, various forms of abuse, death of a loved one, military service, incarceration), Hall et al. (2019) found that greater exposure to such experiences increased the risk of unintended pregnancy for both adolescent and adult women. A history of childhood sexual abuse may also predict early (i.e., adolescent) pregnancy (Noll et al., 2009). Although Noll et al. (2019) did not find that experiencing childhood maltreatment predicted *unplanned* adolescent pregnancy, sexual abuse was a strong predictor of adolescent motherhood. Adolescents who have experienced interpersonal trauma during childhood are more likely than those without trauma histories to have positive attitudes toward having a baby in adolescence (i.e., the belief that it would make their life better; Shreffler et al., 2021) and, therefore, may be more likely to keep an unplanned pregnancy.

A history of trauma is also associated with negative outcomes during the pregnancy period. Pregnancy involves not only physical changes but psychological changes as women start forming an attachment to the fetus and prepare for caregiving; a history of trauma may make these transition periods difficult and trigger symptoms of trauma (Hugh-Bocks et al., 2013; Millar et al., 2021; Osofsky et al., 2021). Millar et al. (2021) found that approximately 40% of adolescent mothers with a history of childhood trauma reported pregnancy itself to be a trigger for trauma symptoms; interactions with healthcare providers (cervical exams, abdominal touch, and height and weight measurement), labour, and the birth of the baby may also be triggering (Chamberlain et al., 2019; Kuzma et al., 2020; Millar et al., 2021; Sobel et al., 2018).

Childhood trauma is predictive of post-traumatic stress symptoms during pregnancy, even more than current intimate partner violence (Hugh-Bocks et al., 2013). There is also an association between a history of trauma and symptoms of depression and anxiety during pregnancy and postpartum (Blackmore et al., 2016; Guintivano et al., 2018; Lombardi et al., 2021; Olsen et al., 2018; Osofsky et al., 2021, McDonnell & Valentino, 2016). In their integrative review of associations between a history of ACEs and pregnancy health risks and outcomes, Olsen (2018)

reported past maternal trauma to be associated with greater risks for physical health problems during pregnancy, pain in late pregnancy, poor sleep quality, and higher risk of preterm birth and fetal death.

Relevant to the prevention of FASD and other effects of substance use during pregnancy on fetal development, a large body of literature supports an association between trauma and alcohol/other substance misuse and dependence (Berenz et al., 2016; Dye et al., 2018; Edalati, 2020; Lotzin et al., 2016; Moustafa et al., 2021; Patock-Peckham et al., 2020). Moreover, outcomes of treatment for substance use disorders may be worse for those with trauma histories (Edalati, 2020), although use of substances post-treatment may be related more to experiencing new traumatic experiences, and the severity of trauma-related symptoms, rather than pre-treatment trauma exposure (Gil-Rivas et al., 2009). A number of different mechanisms have been proposed to account for the associations between trauma and substance misuse/dependence, including the psychosocial impacts of trauma (e.g., impaired relationships; heightened personality risk factors such as neuroticism, sensation seeking, and negative affect/hopelessness), impact of trauma on emotion/affect regulation (e.g., impaired stress response systems and use of substances to cope; self-medicate comorbid psychiatric disorders; and regulate emotions/affect), and impacts of trauma on neurocognition (e.g., impaired memory, attention, and behavioural inhibition; and greater impulsivity) (Edalati, 2020). Research during the prenatal period specifically suggests that a history of trauma in childhood and adulthood (although most of the research is on childhood trauma) is associated with the use of alcohol and other substances during pregnancy (Olsen, 2018; Osofsky et al., 2021; Waddell & Thanos, 2019). This is important for the prevention of FASD and other substance-related effects on the fetus, as it suggests that prevention and intervention efforts need to consider how trauma and its effects may be impacting behaviour.

Postnatally, in addition to depressive symptoms, trauma may affect the transition to parenting. In their review of parenting after a history of childhood maltreatment, Chamberlain et al. (2019) reported that trauma was associated with issues such as decreased parenting self-efficacy, parental sleep problems and stress, negative mental representations of the infant, low parental warmth, negative coping behaviours, and poor parenting practices; in turn, these factors were associated with offspring cortisol changes, insecure infant attachment and bonding, infant abuse and/or neglect, and poor infant socio-emotional development. Trauma may also pose challenges for breastfeeding (e.g., a higher likelihood of pain, increased body shame, and difficulty coping with trauma symptoms, physical touch, and triggering memories) and is associated with both decreased likelihood and a shorter duration of breastfeeding, although for some women who have experienced trauma it can be an empowering experience (Channell Doig et al., 2020; Sobel et al., 2018).

Finally, it is important to note that childbirth itself may be a traumatizing event, and lead to sequelae of trauma including PTSD symptoms even for those without a prior history of trauma (Dekel et al., 2017; Grekin & O'Hara, 2014; Horesh et al., 2021; King et al., 2017). Those with a

history of trauma are at increased risk of experiencing childbirth as a traumatic event and experiencing postpartum PTSD (Chan et al., 2020; Dekel et al., 2017). However, a range of other factors are predictive of traumatic childbirth and experiencing post-traumatic stress disorder, including (but not limited to) a negative delivery experience, lack of perceived safety during labour and delivery, low partner support, previous mental health difficulties (including during pregnancy), dysfunctional cognitive and behavioural strategies such as rumination and numbing, negative cognitions about the self in relation to the birth, obstetric complications and instrumental/caesarean delivery, and perceived lack of control during labour and delivery (Chan et al., 2020; Dekel et al., 2017; King et al., 2017).

Given the relevance of trauma exposure and its sequelae to the perinatal period, it is important that the impacts of trauma are considered in service and intervention provision related to the pre-conception, pregnancy, delivery, and postpartum periods. This can be achieved by implementing a trauma-informed approach, also commonly called trauma-informed care when referencing clinical care.

3. A Trauma-Informed Approach

Current work on implementing a trauma-informed approach is strongly influenced by the Substance Abuse and Mental Health Services Administration (SAMHSA, 2014), who developed a white paper on the topic based on research, an environmental scan of trauma definitions and models of trauma-informed care, and knowledge from practitioners with experience in trauma treatment, policy makers in behavioural health fields, and survivors of trauma. As conceptualized in this white paper, "A program, organization, or system that is trauma-informed *realizes* the widespread impact of trauma and understands potential paths for recovery; *recognizes* the signs and symptoms of trauma in clients, families, staff, and others involved with the system; and *responds* by fully integrating knowledge about trauma into policies, procedures, and practices, and seeks to actively *resist re-traumatization*." (SAMHSA, 2014, p. 9). The 4 Rs, described further below, make it clear that a trauma-informed approach does not just mean offering trauma-specific services. Implementing a trauma-informed approach is a process of culture change, as it affects all aspects of an organization and its provision of services (Kimburg & Wheeler, 2019).

Realization entails people at all levels of the organization or system having knowledge about trauma and its potential effects on individuals, families, groups, organizations, and communities. Moreover, people's experiences and behaviours are viewed through a trauma lens; they are understood in the context of coping strategies designed to survive adversity even if the trauma was in the past or resulted from exposure to someone else's trauma (SAMHSA, 2014).

Workforce and professional development training on trauma and its effects is essential for a trauma-informed approach (Bartlett & Steber, 2019; Champine et al., 2019; Hanson & Lang, 2016; SAMHSA, 2014). The format and topical focus of training may differ depending on the role of the organization and the people they are serving (Berger & Quiros, 2016; Jackson & Jewell, 2021).

Professionals need to understand the prevalence of trauma and its effects, be able to apply a trauma lens to programming/services and their work with individuals and families and know how to respond with trauma-informed practices (including referring to trauma-specific services). They also need to understand the role that trauma plays in mental health and substance use disorders, and how it may be a barrier to positive outcomes in many areas (e.g., the justice system, healthcare, education) (SAMHSA, 2014). Training should occur at all levels of an organization; for example, in a healthcare context, not only clinical staff but anyone who has contact with patients and families, such as front desk staff, and security guards, should receive education about trauma (Berger & Quiros, 2016; Menschner & Maul, 2016). This multi-tiered training may entail the provision of training at multiple levels, with brief/basic education on trauma and a trauma-informed approach for all roles within an organization, and more specialized or in-depth training to meet the educational needs of specific roles such as clinicians (Choi & Seng, 2015).

Finally, *realization* includes the understanding that staff/care providers working with individuals who have a history of, or current, trauma can also experience secondary or vicarious trauma, and need to be supported as part of a trauma-informed approach (Hanson & Lang, 2016; Menschner & Maul, 2016; SAMHSA, 2014).

Recognizing entails being able to recognize the signs of trauma in individuals. Again, workforce training/development is necessary to help staff and clinicians working with people who may have experienced trauma recognize the symptoms, which may vary by age, gender, type of trauma, and the setting in which interactions are taking place (Bartlett & Steber, 2013; SAMHSA, 2014). During interpersonal interactions, some signs of emotional dysregulation that could be related to trauma response or triggering include clients/patients showing increasing and visible anxiety, speaking more quickly or loudly, suddenly ceasing to talk, or appearing to be "zoning out" or dissociating from the present moment (Kimburg & Wheeler, 2019). Additionally, it is important to recognize if trauma is influencing an individual's engagement in activities and services, clinical/program interactions, and the degree to which they engage with rules and guidelines (Bartlett & Steber, 2019).

Depending on the type of organization/system and the services being provided, trauma screening and assessment may be an important tool to help recognize trauma among those accessing services or programming (SAMHSA, 2014). Universal screening with a standardized tool or question can be done upfront with all individuals accessing the program/services; Menschner & Maul (2016) suggested that this may be effective in many clinical settings.

Alternatively, screening can be done later or on an as-needed basis. Tools exist for screening different age groups for potentially traumatic events and trauma symptoms (see Eklund et al., 2018, and Lewis-O'Connor et al., 2019 for reviews on existing tools; two examples are provided in Appendices A and B). Although adverse childhood experiences questionnaires (usually the ACEs-10) are increasingly used for screening as well, some scholars have cautioned against their use due to concerns about the items included (and those that are missing), the way questionnaire items are constructed, and lack of psychometric validation (McLennan et al., 2020). Screening should only be

done if providers are able to have appropriate follow-up discussions, offer appropriate care options (e.g., modifications to service provision/care or trauma-specific services), and/or refer to trauma-specific services (Menschner & Maul, 2016).

For some settings/programs, an approach called Universal Education may be helpful instead of screening. In relation to a healthcare setting, this would involve a healthcare provider talking about how trauma might be related to the presenting issue, specifying the specific type of trauma that might be related, then offering resources to the patient for them to use/distribute to others; this approach does not require the person to disclose any personal trauma details (Kimburg & Wheeler, 2019). Universal Education may also be a useful approach for other types of services, for example programming related to alcohol or drug use/misuse.

Finally, employee assistance and supervision are helpful for the recognition of trauma, both in helping staff recognize trauma in individuals they are working with as well as their own secondary trauma (Berger & Quiros, 2016; Menschner & Maul, 2016; SAHMSA, 2014). Berger & Quiros (2016) identified many ways that supervisors work with providers (both within and outside of the medical field) to facilitate the recognition of trauma, including emphasizing training/ongoing professional development related to trauma, actively doing regular check-ins with staff rather than waiting for them to bring up vicarious/secondary trauma, frequent supervisor/staff meetings to discuss particular clients' issues, advocating and modeling self-care, and exploring staff's own trauma reactions with them and modeling strategies for addressing them (which can then be applied with clients).

Responding entails applying principles of a trauma-informed approach to all aspects of the organization/system (SAHMSA, 2014). The six principles of a trauma-informed approach described by SAHMSA (2014; Harris & Fallot, 2001; Elliot et al., 2005) are as follows:

- *Safety:* Both clients/patients and staff feel physically and psychologically safe, both in relation to the physical setting and interpersonal interactions. There is priority placed on what individuals served by the organization need to feel safe, and on understanding how they define safety.
- *Trustworthiness and transparency:* The organization prioritizes transparency in their operations and decisions. They seek to build and maintain trust with clients and family members, among staff, and with others who may interact with the organization.
- *Peer support:* Peer support (support provided between individuals who have experiences of trauma or are family members of individuals who have experienced trauma) has been identified as an important mechanism for establishing safety, building trust, enhancing collaboration, and aiding in recovery and healing.
- *Collaboration and mutuality:* The organization recognizes that everyone is part of a trauma-informed approach, and places importance on partnering and minimizing power differences between staff and clients and among organization staff. Power and decision-making are shared in a way that is meaningful and prioritizes relationships.

- *Empowerment, voice, and choice:* The organization recognizes the experiences and strengths of individuals and seeks to foster empowerment among both clients/patients and staff. Clients are supported in shared decision-making, choice, goal setting, and the cultivation of self-advocacy. Their resilience and agency are valued. Staff are also supported and empowered to do their work as well as possible, via organizational supports and relationships.
- *Cultural, historical, and gender issues*: The organization recognizes and addresses historical trauma and is sensitive to how trauma may intersect with aspects of gender and culture. The organization does not incorporate stereotypes and biases into its practices. It offers access to gender responsive services and incorporates policies, protocols, and practices that are responsive to individuals' ethnic, cultural, and other needs.

These principles are deliberately broad and non-prescriptive to be generalizable across different types of settings or service sectors. While these principles are key to implementing a trauma-informed approach at an organizational, system, or program level, others have described principles of trauma-informed care specific to working with patients or clients and some of the ways they can be applied. For example, Purkey et al. (2018) discussed examples of how to apply five principles of trauma-informed care to the practice of medicine (Table 1), although the examples provided would be applicable to direct interaction with clients/patients in many other contexts as well.

Table 1. Applying Trauma-informed Care Principles with Clients or Patients (Purkey et al., 2008).

Principle	Examples of how principle can be applied
1. Trauma awareness and acknowledgement	Asking about past trauma experiences Listening compassionately Acknowledging the ongoing effect of the trauma Identifying and helping patients understand links between past traumatic experiences and current health and coping strategies
2. Safety and trustworthiness	Recognizing patients' need for physical and emotional safety, and promoting a safe space Being consistent and predictable in interactions and care procedures Being careful not to be rushed, stressed, or patronizing with clients/patients Considering scheduling appointments at times when the waiting area/physical space is more quiet Seeking to understand other factors that may impact a person's sense of safety (e.g., financial instability, involvement with child and family services)

Principle	Examples of how principle can be applied
3. Choice, control, and collaboration	Emphasizing informed choice Presenting both positive and negative choices (including the option to not engage in care) Developing collaborative relationships, which enhance active engagement instead of passivity or dependence Using a collaborative approach, seeking to understand barriers or reluctance to engage/change
4. Strengths-based and skills-building care	Believing in individual's strength and resilience, and seeing them through that lens rather than as a victim with symptoms and pathology Highlighting the individual's strength and helping them see progress Avoiding paternalistic or disempowering interactions Encouraging growth even when progress is slow, or the person encounters setbacks
5. Cultural, historical, and gender issues	Incorporating processes into care interactions that are sensitive to a person's culture, ethnicity, and personal/social identity Being sensitive to group marginalization and recognizing challenges and trauma that many groups face, as well as the intergenerational transmission of trauma

Similarly, Kimburg and Wheeler (2019) detailed the 4 Cs paradigm (Calm, Contain, Care, Cope), which is intended to help providers enact trauma-informed care. This paradigm recommends many of the same practices suggested by Purkey et al.; some additional suggestions for applying trauma-informed principles in practice include:

- Pay attention to your own feelings during interactions and modelling calming strategies when needed.
- Practice calming exercises (deep breathing, grounding) with patients/clients.
- Redesign physical environments, policies, and practices to reduce chaos (e.g., minimizing noise, harsh lighting, cramped or uncomfortable spaces).
- Limit detailed accounts of trauma history to promote safety.
- Provide trauma-specific education, resources, and referrals without requiring disclosure.
- Monitor individual's emotional and physical responses to discussions/education around trauma and help them navigate distress if it occurs.
- Invite suggestions from the patient/client on changes that would make their engagement with care, programming, or interactions with staff/providers more tolerable, positive, and healing.
- Normalize and destigmatize trauma symptoms and harmful coping behaviours.
- Practice cultural humility.
- Practice self-care and self-compassion while caring for others.

- Inquire about practices (including cultural practices) that help the individual feel better and engender hope.
- Document positive coping strategies along with problems.
- Minimize and mitigate power differentials in behaviours, practices, and policies.
- Ask about and emphasize ways to build resilience, including coping skills, positive relationships, and interventions.
- Connect individuals and families with other helpful (and trauma-informed) resources and supports.

Responding, within a trauma-informed approach, requires application of trauma-informed principles both at the organizational and the clinical (or front-line) level (Hanson et al., 2016; Menschner & Maul, 2016). Through training, leadership, and implementation of policies, staff at all levels of the organization consider the impact of trauma among the people served as well as their own workforce, have committed to providing a culture of safety, and use evidence-based trauma practices including processes to avoid replicating trauma (SAMHSA, 2014). In their review of how trauma-informed care is being implemented among child-service professionals (across multiple disciplines), Hanson & Lang (2016) found that components of trauma-informed care fell within three primary domains: workforce development (e.g., training on trauma and its impacts, procedures to reduce/address secondary traumatic stress among staff/providers); trauma-focused services (e.g., use of standardized screening measures, inclusion of trauma history in case/service records, skilled people to provide trauma-specific services); and organizational environment and practices (e.g., positive and safe environment, written policies that include and support trauma-informed care, within- and between-agency collaboration and service coordination). While responding involves applying the principles of a trauma-informed approach, the ways the principles are applied will depend on the system/organization/program and target population being served. Some of the ways that trauma-informed principles can be applied specifically in relation to the perinatal period will be described in the following section.

The last of SAMHSA's 4Rs is resisting ***re-traumatization*** of clients and staff; staff need to be taught (via training, education, mentorship, and supervision) how particular practices, settings, and interactions may trigger painful memories and re-traumatize those with trauma histories (SAMHSA, 2014). Re-traumatization refers to the re-emergence of trauma symptoms when individuals have exposures to events, interactions, relationships, or stimuli that elicit memories and emotions connected to past trauma, whether the new exposure is inherently traumatic or not (Alexander, 2012). Trauma survivors may be particularly vulnerable to re-traumatization in healthcare settings because of things like feelings of being restrained, the use of physical restraints, the need to remove clothing, procedures that are uncomfortable or invasive, intimate contact with healthcare providers, waiting in rooms that have closed doors, seeing blood, the power imbalance between the patient and care provider, and the widespread paternalism within healthcare systems (Chamberlain et al., 2019; Bradbury-Jones & Taylor, 2017; Kimburg & Wheeler, 2019; Kuzma et al., 2020; Purkey et al., 2018). Avoiding re-traumatization may entail organizational and practice changes such as re-shaping

environments to avoid triggers and enhance feelings of safety (e.g., monitoring access to buildings, making sure there is clear access to exits and individuals can leave when desired, avoiding excess noise and chaos); avoiding screening individuals for trauma multiple times; limiting trauma history details or addressing potential trauma in ways that do not require disclosure; ensuring that collaborations and referrals involve other organizations, services, or providers that are trauma-informed; and consistent avoidance of any organizational practices that staff identify as potentially retraumatizing for the people they serve (Bartlett & Steber, 2019; Kimburg & Wheeler, 2019; Menschner & Maul, 2016; SAMHSA, 2014). Again, literature suggests some specific ways to avoid re-traumatization for individuals during the perinatal period; these will be described below.

To help systems, organizations, and programs implement a trauma-informed approach that reflects the 4Rs and applies the 5 principles, SAMHSA (2014) identified ten organizational domains that should be considered: governance and leadership, policy, physical environment, engagement and involvement, cross-sector collaboration, screening, assessment and treatment services, training and workforce development, financing, progress monitoring and quality assurance, and evaluation. Explanations of what is important to consider in relation to these domains, and examples of questions that organizations can ask themselves, can be viewed in Table 2.

Table 2. 10 Organizational Domains to Consider When Implementing a Trauma-informed Approach

Domain	Description	Sample question
Governance and leadership	There is support and investment from leadership/governance for a trauma-informed approach, and an identified person to lead/oversee the work. There is also inclusion of the peer voice. A champion of this approach is often needed to initiate change.	*"How does agency leadership communicate its support and guidance for implementing a trauma-informed approach?"*
Policy	Organizational procedures and cross-agency protocols reflect trauma-informed principles, and written policies and principles establish a trauma-informed approach as central to the work/services (i.e., the approach is not reliant on occasional workshops or any one leader).	*"How do the agency's written policies and procedures recognize the pervasiveness of trauma in the lives of people using services, and express a commitment to reducing re-traumatization and promoting well-being and recovery?"*
Physical environment	The physical environment must promote physical and psychological safety for both people served and staff. The physical setting should also promote the collaborative aspects of a trauma-informed approach through openness, transparency, and shared space.	*"In what ways do staff members recognize and address aspects of the physical environment that may be re-traumatizing, and work with people on developing strategies to deal with this?"*

Domain	Description	Sample question
Engagement and involvement	People with experience of trauma who are receiving services, and family members receiving services, should be involved, have a voice, and be offered meaningful choices at all levels of organizational functioning (e.g., service design, implementation, delivery, access to trauma-informed peer support, workforce development, and evaluation).	*"How do staff members keep people fully informed of rules, procedures, activities, and schedules, while being mindful that people who are frightened or overwhelmed may have a difficulty processing information?"*
Cross sector collaboration	People with significant trauma experience often have complex needs that benefit from multiple services. Collaboration should involve a shared understanding of trauma and trauma-informed principles. Not all service sectors are focused specifically on trauma, but understanding how awareness of trauma is important to service provision is important. Individuals affected by trauma should be referred to trauma-aware individuals or organizations.	*"How does the organization identify community providers and referral agencies that have experience delivering evidence-based trauma services?"*
Screening, assessment, and treatment services	Practitioners use evidence-based methods that are culturally appropriate and reflect principles of a trauma-informed approach. Trauma screening and assessment are part of the work. If trauma-specific interventions are provided, they are acceptable, effective, and accessible for clients/patients and families. If trauma-specific services are not provided but needed for someone, staff can refer them to trusted and effective services.	*"Does the organization have the capacity to provide trauma-specific treatment or refer to appropriate trauma-specific services?"*
Training and workforce development	On-going training on trauma and peer support occurs. The organization incorporates trauma-informed principles in Human Resources operations and has processes in place to support staff who have trauma histories or are experiencing secondary traumatic stress as a result of their work.	*"How does the agency address the emotional stress that can arise when working with individuals who have had traumatic experiences?"*
Progress monitoring and quality assurance	The use of trauma-informed principles and efficacy of evidence-based trauma screening, assessments, and treatments are assessed and monitored on an ongoing basis.	*"Is there a system in place that monitors the agency's progress in being trauma-informed?"*

Domain	Description	Sample question
Financing	Financial support is in place for staff training on trauma, implementing trauma-informed principles, ensuring facilities are appropriate and safe, establishing peer support, provision of evidence-supported screening, assessment, and treatment of trauma if appropriate, and cross-agency collaborations.	*"How does the agency's budget include funding support for ongoing training on trauma and trauma-informed approaches for leadership and staff development?"*
Evaluation	Designs and measures for evaluating program processes and effectiveness are trauma-informed themselves and include a focus on the organization's efforts to be trauma-informed.	*"What processes are in place to solicit feedback from people who use services and ensure anonymity and confidentiality?"*

*Sample questions are taken directly from SAMHSA (2014, p. 14-16)

Although SAMHSA (2014) provided several examples of questions that could be asked to help guide efforts to implement a trauma-informed approach for the organizational domain, they noted that questions should be adapted to fit the needs of the organization, staff, and people they serve. Additionally, while the 4Rs and trauma-informed principles (and additional guidance from other scholars) are relevant for guiding a trauma-informed approach across all populations who may be affected by trauma, there is additional literature that pertains specifically to individuals and families during the pre-conception and perinatal period. This information, discussed in the next section, may help efforts to apply the 4Rs and trauma-informed principles to programming and care for these populations.

3.1 Applying a Trauma-Informed Approach Pre-conception and During the Perinatal Period

3.1.1 FASD Prevention

One of the areas where a trauma-informed approach may be very important is in FASD-prevention efforts. As discussed above, there are strong associations between trauma history and substance misuse and dependence including substance use during pregnancy. A study including 80 mothers whose child was diagnosed with Fetal Alcohol Syndrome found that 95% of them had experienced sexual or physical abuse as a child or adult; and use of alcohol as a coping mechanism for past or current abuse (a current abusive relationship) was reported by almost all of these women (Astley et al., 2000). A trauma-informed approach can be applied to all 4 levels of FASD awareness and prevention described by Poole (2008): 1) Broad FASD-awareness building and health promotion at the community level; 2) Discussion of alcohol use and its risks with all women in their childbearing years, as well as their support networks; 3) Specialized and holistic support of women with identified alcohol, health, and social problems, and 4) Postpartum support, including support for child assessment and development. For example, at the first stage (broad community awareness), a trauma-informed approach may include enhancing awareness among service providers and broader communities of how trauma may affect

women's use of alcohol and other substances, and an emphasis on FASD prevention campaign messaging and images that are not stigmatizing, do not present abstinence as the only goal, and are relational and strengths-based (e.g., emphasize choice, agency, and available supports) (Poole et al., 2016; Schwartz et al., 2017).

Another way that a trauma-informed approach can be applied in FASD prevention efforts is the incorporation of trauma-informed principles, and trauma-related content, into interventions aimed specifically towards populations with identified risk factors (stage 3 of Poole's 2008 framework). For example, Myers et al. (2018) developed a trauma-informed substance use and sexual risk reduction intervention for young women with past trauma and current substance use who were at risk of unintended pregnancy and other negative sexual health outcomes. In line with trauma-informed principles, Myers et al. engaged young women from this target population in the development of the intervention, to ensure it met their needs; after the intervention was developed, they sought further feedback from women to identify any areas for improvement. In line with other research, these young women reported using substances to cope with intrusive memories and negative emotions related to past trauma, as well as current stressors. The final intervention was group-based (so that women could help support each other) and incorporated all the content requested by women. This included content on substance use and its intersection with violence and sexual health risks, violence prevention strategies, nutrition, exercise, budgeting, and parenting. It also included trauma-specific information, such as common coping responses to trauma, and how to manage these in relation to sexual health risks, and cognitive-behavioural-therapy techniques on identifying and managing emotional and other triggers for substance use using emotional regulation and coping strategies.

Across all levels of FASD prevention efforts, a trauma-informed approach emphasizes interacting with women and their families/support persons with an understanding of the ubiquity of trauma and its potential effects on individuals' lives. As described by the British Columbia Centre of Excellence for Women's Health (2014), a trauma-informed approach entails changing the conversation of how we think and talk about alcohol use during pregnancy to one that is non-judgemental, supportive, situates alcohol use during pregnancy in the context of women's broader lives, acknowledges that alcohol use is often a coping mechanism, and emphasizes women's strengths.

3.1.2 Recognizing Trauma via Screening During the Perinatal Period

Another potential element of applying a trauma-informed approach in relation to pre-conception and the perinatal period is screening for trauma among individuals being served by the organization or system. As discussed earlier, screening for trauma can be an important part of recognizing trauma within a trauma-informed approach. Identifying that a patient or client has a trauma history can then spark conversations about how past or current trauma may be affecting their behaviours, emotions, or engagement in

services/programming, as well as discussions about whether modifications in service delivery can be made to enhance their feelings of safety and avoid re-traumatization. Flanagan et al. (2018) emphasized that prenatal screening is also important for connecting patients to resources where appropriate, and ultimately breaking negative cycles of childhood trauma. Universal screening may be effective in many clinical settings (Menschner & Maul, 2016), whereas Universal Education (Kimburg & Wheeler, 2019) or the incorporation of information about trauma and its effects into programming and/or service provision may be effective if there are no clear benefits from individual disclosure of trauma.

Screening can be done with any individuals of childbearing age but can specifically be done as part of prenatal care or the provision of services to pregnant women and their families. There does not appear to be a guideline from the Society of Obstetricians and Gynaecologists of Canada around screening for trauma, although the American College of Obstetricians and Gynecologists recommend universal screening for past and current trauma, as well as the implementation of a trauma-informed approach across all aspects of care (2021).

In a recent survey with Obstetricians and Gynaecologists in Alberta, 69% reported that they never or rarely screened during prenatal visits for a history of childhood abuse, and none did so routinely; approximately a third either never or rarely screened women for current intimate partner violence (Long et al., 2019). Both clinicians and patients see value in screening for trauma during the prenatal period, and it may have benefits for the patient/provider relationship in addition to the quality of care and supports provided (Flanagan et al., 2018). Adolescent mothers in Millar et al.'s (2021) research overwhelmingly emphasized the need for providers to ask about past trauma, as they would not feel comfortable initiating a conversation about it.

There are many options for how to screen individuals for trauma or potentially traumatic events, as noted earlier; screening tools can be used to identify ACEs or potentially traumatic events, or PTSD symptoms. Individuals can also be asked a single question about past or current (e.g., intimate partner violence) trauma, intended to open a conversation during a prenatal visit/interaction with the health or service provider. Women in White et al.'s (2016) research about optimal ways of asking about trauma during prenatal care identified the following as their preferred screening question:

> *We know that some stressful experiences can have an effect on pregnancy, even if they happened a long time ago. I ask everyone questions about past stress because sometimes there are things we can do to help with those effects on you and the baby. Have you had a severe trauma or stress in which you thought you or another person might die or experience serious harm? Examples include: physical attack, mugging,*

> *rape, severe car accidents, natural disasters, being diagnosed with a life-threatening illness, or sexual abuse* (p.425).

Another example of a trauma screening question tailored to the prenatal period is *"Are there any experiences now or in your past that were traumatic that could affect your pregnancy, birthing, or parenting experiences?"* (Mosley & Lanning, 2020, p.5). The American College of Obstetricians and Gynecologists (2021) suggest a question such as the following:

> *Traumatic events are very common and can have direct effects on physical and mental health. For these reasons, I've begun asking all of my patients about any prior difficult experiences they've had and whether or not they feel comfortable sharing them (p.e97)*

Although screening may be highly beneficial to a trauma-informed approach, it needs to be done with care. Research with adults and adolescents suggests some optimal practices for trauma screening during the prenatal period (Flanagan et al., 2018; Millar et al., 2021; Sobel et al., 2018; White et al., 2016), including the following:

- Avoid asking about trauma history until a relationship and trust between the patient/client and professional has been developed.
- Frame the screening by explaining the prevalence of trauma, why it is important to ask about, and make it clear that inquiry is routine, and disclosure is confidential.
- Clarify the concept of trauma/what is being asked about, as individuals may have different conceptions of what trauma is.
- Ensure there is adequate time to discuss.
- Ensure that disclosure of trauma is documented in patient records, so individuals do not have to disclose repeatedly to multiple care providers.
- Be attentive to physical and emotional safety when asking about trauma (e.g., should be in a private space, the woman should be fully clothed, the asker should be attentive and not appear rushed, a comfortable surrounding is ideal).
- Respond with empathy, compassion, and/or emphasize courage in talking about the trauma.
- Accompany screening with a discussion of (and offering of/referral to, where appropriate) available resources and interventions, even if an individual does not disclose a trauma history.

Being able to provide immediate resources (e.g., educational handouts), referrals to other relevant trauma-informed and/or trauma-specific services, and trauma-specific interventions or modifications to reproductive care are very important if doing screening (Bradbury-Jones & Taylor, 2017; Flanagan et al., 2018; Mosley & Lanning, 2020). Some

ways of responding to trauma and avoiding re-traumatization during the perinatal period will be discussed further below.

Some barriers to successful screening have been identified, including lack of institutional or practice-level screening protocols, limited time during interactions with patients/clients, lack of privacy, discomfort with how to ask or potentially negative responses, lack of resources to adequately respond to disclosure, and decreased comfort with the screening process for those who have experienced more potentially traumatic events (Flanagan et al., 2018; Long et al., 2019). Finally, while screening is an important part of recognizing trauma, it is important that providers working with individuals during the perinatal period understand that not everyone with current or past trauma will choose to disclose (Reeves, 2015, as cited in Kuzma et al., 2020; Sobel et al., 2018). It is, therefore, important for providers working with patients or clients during the perinatal period to be aware of nonverbal indicators of distress such as body tension, restlessness, trouble making eye contact, aggressive behaviours, and rapid breathing, and modify the care being provided to avoid re-traumatization. Part of a trauma-informed approach involves the acknowledgment that trauma is ubiquitous, and anyone can be a trauma survivor, so in addition to screening it is important to apply the principles of a trauma-informed approach when working with all clients or patients.

3.1.3 Responding to Trauma and Resisting Re-traumatization in Perinatal Care

Knowledge about the implementation of a trauma-informed approach in general applies to perinatal care, but some additional literature may help to illustrate some ways of responding to trauma and resisting re-traumatization in this context. Firstly, there may be the potential to provide trauma-specific care to affected individuals. This may be referral to trauma-specific specialist treatment (e.g., mental healthcare), but it could also be referral to reproductive care providers who have become experts in trauma-informed care and either lead care of trauma survivors for a practice or take referrals from others (Bradbury-Jones & Taylor, 2017). There are also interventions that have been developed specifically for pregnant trauma survivors. For example, Stevens et al. (2019) developed a cognitive-behavioural therapy-based intervention (To-CARE) specifically to address the needs of pregnant trauma survivors in obstetrical care. Six intervention sessions were provided by psychotherapists to pregnant women with a history of trauma, which consisted of education on trauma and relaxation skills (e.g., breathing and progressive muscle relaxation), assertive communication skills (e.g., making specific requests), self-care skills (e.g., maximizing safety, overcoming barriers to self-care), and identifying and coping with triggers in pregnancy, childbirth, and postpartum. Obstetrical providers working with these women were trained in applied elements of trauma-informed care that supported the skills women learned, including to respond to signs of distress during care visits, assess readiness during invasive exams, reinforce patients' preferred coping skills, use guided relaxation during exams, encourage assertive communication, and maximize patients' sense of control. The intervention was perceived by pregnant women

to be useful, most of whom found the relaxation and/or communication skills the most helpful. The intervention also increased their sense of empowerment and ability to communicate with care providers, and some women's post-traumatic stress and depressive symptoms even improved (Stevens et al., 2019).

Another interesting trauma-specific intervention is the *Survivor Moms Companion (SMC)* program (https://survivormoms.org/), which is the first evidence-based frontline psychoeducational program designed for pregnant women with abuse-related post-traumatic stress disorder symptoms (Rowe et al., 2014; Seng et al., 2011). This program involves ten workbook modules with information, skills practice, and reflective questions that are paired with telephone or in-person "tutoring" sessions to discuss the content with frontline healthcare providers who completed the program training syllabus (Seng et al., 2011). The intervention was designed to target affect dysregulation, interpersonal reactivity, and trauma symptom management in response to triggers, with the goal of improving psychological functioning and obstetric, postpartum, and early parenting experiences. An outcomes analysis of this intervention suggested that it positively impacted women's labour experiences, postpartum mental health, and bonding with their infant during the postnatal period (Rowe et al., 2014). A license to implement the SMC is available for purchase by agencies or organizations, so that health and social care providers working with women during the perinatal period can become "tutors" and be supported by an appointed "supervisor" in the implementation of the program as part of a trauma-informed approach. The supervisor is someone within the organization/agency who will lead training about trauma and the SMC program with staff members, oversee the fidelity of the intervention and certification of tutors, and provide them with clinical supervision (e.g., case consultation, problem-solving, addressing vicarious trauma).

Engagement with a trauma-informed doula, who can offer consistent support from pregnancy into the postpartum period, may be another trauma-specific service. Doula care in general is well-situated to address the needs of trauma survivors, and a trauma-informed doula can provide such supports as identifying and encouraging clients' priorities, preferences, and needs; helping them communicate (e.g., around trauma history and care accommodations) with the clinical team; helping to control the environment during labour (including monitoring who is in the room); helping women implement their coping strategies; ensuring the client's autonomy is respected; and helping clients address triggering of trauma symptoms/re-traumatization and process the birth experience (Mosley & Lanning, 2020).

Additionally, a trauma-informed approach should inform the ways care and service providers (and others who are part of health and social care systems) interact with individuals during the perinatal period, to enhance physical and emotional safety, support resilience and positive coping strategies, and avoid re-traumatization. While the information provided earlier covering responding and resisting re-traumatization

describes ways to implement a trauma-informed approach during provider interactions with patients/clients, researchers have identified recommendations more specifically for the perinatal period (British Columbia Centre of Excellence for Women's Health, 2014; Bradbury-Jones & Taylor, 2017; Millar et al., 2021; Sobel et al.). These recommendations include the following:

- Ensure consistency with providers as much as possible.
- Avoid pressuring individuals to answer questions.
- Fully explain all components of care, how they might feel, and why they might be necessary.
- Encourage women to express discomfort prior to and during procedures, and if they need a break during care procedures or interactions.
- Seek permission before all touch or conducting any physical examinations.
- Allow the client/patient to determine the timing, pace, and termination of examinations.
- Encourage the development of a birth or care plan, identify potential care modifications, and provide a concise overview of this plan in the medical record.
- Allow modifications to procedures where helpful (e.g., a woman inserting the speculum herself for an exam).
- Minimize the number of examinations and the number of people conducting them.
- Consider the potential impact of provider gender as a trauma trigger, and address this in the care plan accordingly (e.g., offering a female care provider or chaperone for persons uncomfortable with a male provider).
- Allow women to wear as much clothing as possible during examinations.
- Encourage doula support.
- Communicate trauma history between all relevant providers (with permission).
- Encourage informed decision making and provide full descriptions of any suggested interventions during labour.
- Validate individual's emotions and experiences.
- Provide coping strategies (e.g., to deal with triggers) where possible, and support clients/patients in the implementation of their preferred coping strategies and healing practices.
- Avoid coercive, threatening, or forceful language, recognizing that language may be a trauma cue.
- Knock, announce oneself, and wait for permission before entering the room.
- Consider elective caesarean section delivery as an appropriate option for some trauma survivors.
- Have a prepared and current list of other trauma-informed and trauma-specific resources and services that individuals can be referred to.
- Highlight the potential for breastfeeding to help establish positive bodily connections but be sensitive and supportive of the decision not to breastfeed.

- Notice and measure positive outcomes, such as post-traumatic growth or individuals' efficacy in keeping their other child/ren safe from abuse.
- If applicable, let patients/clients know that pregnant women can skip the waiting list and get priority placement into many alcohol and drug treatment/harm reduction programs.
- Emphasize harm reduction and information on healthy pregnancy (e.g., nutrition, prenatal care), with the understanding that women may feel a lot of pressure to immediately change drinking patterns and may not feel able to stop drinking entirely.

While the above recommendations may be applicable to interactions with all patients/clients as part of a trauma-informed approach, many of them are especially important to apply for clients/patients who have an identified trauma history. These suggestions may help to foster an environment in which psychological and physical safety is established, provide individuals with as much control and choice as possible, and minimize triggers for re-traumatization, all of which are critical elements of a trauma-informed approach. To guide efforts in using a trauma-informed approach, The British Columbia Centre of Excellence for Women's Health (2014) provided self-assessment questions organizations can ask themselves that specifically consider the intersections between past and current violence and abuse, pregnancy, and substance use (Table 3).

Table 3. Self-assessment and discussion questions from the BC Centre of Excellence for Women's Health.

Violence and trauma-informed care is about seeing every aspect of your service from the perspective of a woman who has experienced or is experiencing violence or abuse and making it as safe as possible for her to access the supports she needs, when she is ready. Ask yourself and your colleagues the following questions, trying to put yourself in the shoes of a woman impacted by abuse who is accessing your service:	
Who is the first person she will encounter when she calls or comes into your program?	
Will her interaction make her want to keep coming back?	Or will she feel that no one here will understand what she's going through and that she is more alone than ever?
What if she's late for her appointment because her partner wouldn't let her leave the house (but she doesn't say this is the reason)?	
Will she be respectfully re-scheduled, for the same day if possible?	Or will she be made to feel that she's done something wrong, just as she is often made to feel in her relationship?
What questions will she be asked during her first visit? Will they be open- or close-ended?	
Will she feel she has choices in how much personal information she has to share? Will that first conversation form the basis of safe, trustworthy, collaborative, and empowering relationships with staff that maximize her choice?	Or will she feel cornered by intrusive questions and that she has to hide the truth?

What will happen if she discloses abuse or violence?	
Will she be listened to with empathy and respect? Will you try to provide the support and information she says she needs, wherever possible? Will you connect her to resources that can provide the supports you are unable to?	Or will she be told what to do? Worse, will she be placed in a potentially unsafe situation by having someone talk to her partner, or make a report to the police without her permission? Will she leave feeling even more isolated, unsafe, and responsible for her situation?
What will happen if she never discloses abuse or violence?	
Will she still be given access to information about anti-violence services and supports? Will symptoms of trauma (e.g., anger, lack of trust, apprehensiveness, etc.) be recognized as such?	Or will it be assumed that her partner is supportive and she is safe? And that her symptoms of trauma are simply "problem behaviours" or "low self esteem". Or that her continued alcohol use means she doesn't care about her baby?
What will discussions about her substance use or mental health be like?	
Will they take into consideration that abuse or violence often underlies the development of concerns in these areas? Will she be supported in making the links between her experiences?	Or will they be treated as entirely separate issues? Will she be judged for not being able to reduce or quit using substances, especially during pregnancy?
How will her coping strategies and adaptations in the face of violence, abuse, and trauma be viewed?	
Will they be seen as strengths?	Or will they be seen as deficits?
If she is physically examined, what will that be like?	
Will she be informed about how she will be touched and why, and asked if this is okay? Will her choices about physical contact be respected?	Or will she feel she has no control over how and where she is touched, an experience that may also have been part of her abuse?
How will her personal information be used?	
Will it be kept confidential, used to provide her appropriate care, and shared only with her permission? Will she be told this before she is asked any questions?	Or will information be shared with other agencies without her consent or knowledge?
What will the physical space be like?	
Will she feel comfortable? Will posters and other resource information reflect her age, culture, ability, and other aspects of who she is?	Or will she feel like she doesn't belong there? That she is intruding in someone else's space?

Will her culture and ethnicity be taken into consideration?	
Will she be asked how she culturally self-identifies? Will her cultural practices and views be respected? Will she be connected to community agencies and linked to cultural services and programming? Will she be asked what cultural healing practices she may want to be connected to?	Or will assumptions be made about her because of her culture and ethnicity? Will she be referred elsewhere because she appears to be of a "different" cultural background? Will it be assumed she is Caucasian because she looks "white"? Will she feel uncomfortable sharing her cultural identity?
How is violence and trauma-informed practice supported in the work environment?	
Do all staff receive training on the dynamics and impacts of abuse and violence? On the effects of intergenerational trauma on First Nations women? On the intersection of violence and abuse with substance use, trauma, and other mental health concerns? Do staff learn how to ensure safety and avoid re-traumatization? Do they receive ongoing support in providing violence and trauma-informed practice? Do prospective staff interviews include questions about violence and trauma knowledge? Do staff performance reviews include violence and trauma-informed skills? Does the agency collaborate with local anti-violence services to provide integrated services for women?	Or is it up to individual service providers to learn the knowledge and skills required to provide violence and trauma-informed care? Do they have to do it on their own time?

(British Columbia Centre of Excellence for Women's Health, 2014, pp. 8-11)

Like the sample questions posed by SAMHSA (2014), these are intended to help organizations assess the extent to which their practices are trauma-informed and should be tailored to the specific organization.

3.1.4 Secondary Trauma and Staff/Provider Re-traumatization

Within a trauma-informed approach, it is also crucial to recognize secondary trauma and the potential for re-traumatization of health and social care providers and other staff who are working with those experiencing current trauma or who have a trauma history (Hanson & Lang, 2016; Menschner & Maul, 2016; SAMHSA, 2014). Trauma-informed organizations build and support provider and staff resilience, and proactively address secondary trauma. This ideally occurs through a multi-pronged approach including supervision and mentoring in which vicarious trauma and coping are discussed; time and support for individual and group reflection; staff training on trauma, resilience, and coping/stress reduction techniques; workplace structures that support self-care (e.g., flexible work schedules, reasonable workloads and hours, small breaks); and accessible

therapeutic support (Kimburg & Wheeler, 2019). Bradbury-Jones and Taylor (2017) suggested that care providers working with individuals and families during the perinatal period may want to increase their own peer support via case conferences or regular consultations with a more experienced colleague. For those who have their own trauma history this is especially crucial, and psychotherapy or other mental health supports may be valuable to help them work with trauma survivors without being reactivated or re-traumatized (Bradbury-Jones & Taylor, 2017). Fairley (2016) identified some of the following activities doulas (and others) can perform to practice self-care within a trauma-informed approach (as cited in Mosley & Lanning, 2020):

- Being cognizant of one's own emotional, physical, and mental limits
- Pursuit of ongoing education, training, and professional development
- Being aware of helpful community resources, and accessing them as needed
- Engaging back-up colleagues and one's own social support network
- Practicing grounding and self-care rituals after a birth/visit
- Processing and debriefing with other perinatal care providers
- Developing and following a self-care plan with behaviours that promote well-being, like physical activity, healthy diet, mindfulness, good sleep hygiene, and social connections with others

Adequate staff/provider training within a trauma-informed approach should address secondary trauma and supports to mitigate it (Jackson & Jewell, 2021). Moreover, training on trauma that is related to the perinatal period specifically (e.g., in response to negative fetal or birth outcomes) may also help to support providers working with families during this period (e.g., Kuhnly et al., 2020).

4. Conclusions

The information reviewed above describes the elements of a trauma-informed approach, its foundational principles, and guidance for how it can be implemented in practice including during the perinatal period. Several limitations of the existing literature should be acknowledged. First, as noted by Bradbury-Jones & Taylor (2017), trauma-specific interventions during the perinatal period are focused on the pregnant woman, and there do not seem to be specific interventions aimed at fathers and partners. Although the implementation of a trauma-informed approach in general is of course applicable to fathers and partners of pregnant women, it would be helpful to specifically assess their trauma-related challenges and needs during the perinatal period.

Second, the literature suggests that training on trauma, its sequelae, and trauma-informed practices helps providers and staff be more trauma-informed in their work (e.g., Choi & Seng, 2015; Jackson & Jewell, 2021). However, there has been very little focus on the potential positive outcomes of a trauma-informed approach for the patients/clients and families being served (Champine et al., 2019; Jackson & Jewell, 2021), much less for the perinatal period. A better base of evidence regarding the

potential short and long-term benefits would strengthen motivations for organizations to invest in implementing a trauma-informed approach.

Finally, as described by Hall et al. (2021), the COVID-19 pandemic has adversely affected the well-being of providers and patients/clients/families, and simultaneously complicated efforts to provide care and services that are in line with trauma-informed care principles. New efforts must be made to align care and services with trauma-informed principles considering the heightened stress, decreased well-being, limited resources, and changes to practice that have resulted due to the pandemic; Hall et al. (2021) provide some examples of how perinatal providers can do this. Despite these limitations, there is a significant amount of guidance in the literature on the implementation of a trauma-informed approach, which should be helpful in working with families pre-conception and during the perinatal period.

References

Alexander, P. C. (2012). Retraumatization and revictimization: An attachment perspective. In M. P. Duckworth & V. M. Follette (Eds.), *Retraumatization: Assessment, treatment, and prevention* (pp. 191-220). Routledge/Taylor & Francis Group.

American College of Obstetricians and Gynecologists (2021). Caring for patients who have experienced trauma. Committee Opinion, Number 825. https://www.acog.org/clinical/clinical-guidance/committee-opinion/articles/2021/04/caring-for-patients-who-have-experienced-trauma

Ameringen, M. V., Mancini, C., Patterson, B., & Boyle, M. H. (2008). Post-traumatic stress disorder in Canada. *CNS Neuroscience & Therapeutics, 14*, 171-181. doi:10.1111/j.1755-5949.2008.00049.x

Astley, S. J., Bailey, D., Talbot, C., & Clarren, S. K. (2000). Fetal alcohol syndrome (FAS) primary prevention through FAS diagnosis: II. A comprehensive profile of 80 birth mothers of children with FAS. *Alcohol and Alcoholism, 35(5)*, 509-519. doi:10.1093/alcalc/35.5.509

Bartlett, J. D., & Steber, K. (2019). How to implement trauma-informed care to build resilience to childhood trauma. https://www.childtrends.org/publications/how-to-implement-trauma-informed-care-to-build-resilience-to-childhood-trauma

Berenz, E. C., Kevorkian, S., Chowdhury, N., Dick, D. M., Kendler, K. S., Amstadter, A. B. (2016). Posttraumatic stress disorder symptoms, anxiety sensitivity, and alcohol-use motives in college students with a history of interpersonal trauma. *Psychology of Addictive Behaviors, 30(7),* 755-763. doi:10.1037/adb0000193

Berger, R., & Quiros, L. (2016). Best practices for training trauma-informed practitioners: Supervisors' voice. *Traumatology, 22(2)*, 145-154. doi:10.1037/trm0000076

Blackmore, E. R., Putnam, F. W., Pressman, E. K., Rubinow, D. R., Putnam, K. T., Matthieu, M. M., Gilchrist, M. A., Jones, I., & O'Connor, T. G. (2016). The effects of trauma history and prenatal affective symptoms on obstetric outcomes. *Journal of Trauma and Stress, 29(3)*, 245-252. doi:10.1002/jts.22095

Bradbury-Jones, C., & Taylor, J. (2017). Integrating trauma-informed care into maternity care practice: Conceptual and practical issues. *Journal of Midwifery and Women's Health, 62(6)*, 661-672. doi:10.1111/jmwh.12674

British Columbia Centre of Excellence for Women's Health (2014). Pregnancy, alcohol, and trauma-informed practice: Information for service providers. Retrieved from https://bccewh.bc.ca/wp-content/uploads/2014/08/FASD-Sheet-5_Alcohol-Pregnancy-Violence-TIP-Dec-6.pdf

Carmassi, C., Corsi, M., Bertelloni, C. A., Pedrinelli, V., Massimetti, G., Peroni, D., Bonuccelli, A., Orsini, A., & Dell'Osso, L. (2020). Post-traumatic stress spectrum symptoms in parents of children affected by epilepsy: Gender differences. *Seizure, 80*, 169-174. doi:10.1016/j.seizure.2020.06.021

Cavanaugh, C., & Kapij, A. (2020). A brief report on the association between dissociation during sex and condom use self-efficacy among women residing in domestic violence shelters. *International Journal of Sexual Health, 32(2)*, 171-176. doi:10.1080/19317611.2020.1749209

Chamberlain, C., Gee, G., Harfield, S., Campbell, S., Brennan, S., Clark, Y., Mensah, F., Arabena, K., Hermann, H., & Brown, S. (2019). Parenting after a history of childhood maltreatment: A scoping review and map of evidence in the perinatal period. *PLoS ONE, 14*(3):e0213460. doi:10.1371/journal.pone.0213460

Champine, R. B., Lang, J. M., Nelson, A. M., Hanson, R. F., & Tebes, J. K. (2019). Systems measures of a trauma-informed approach: A systematic review. *American Journal of Community Psychology*, *64*(3-4), 418-437. doi:10.1002/ajcp.12388

Chan, S. J., Ein-Dor, T., Mayopoulos, P. A., Mesa, M. M., Sunda, R. M., McCarthy, B. F., Kaimal, A. J., & Dekel, S. (2020). Risk factors for developing posttraumatic stress disorder following childbirth. *Psychiatry Research, 290*. doi:10.1016/j.psychres.2020.113090

Channell Doig, A., Jasczynski, M., Fleishman, J. L., & Aparicio, E. M. (2020). Breastfeeding among mothers who have experienced childhood maltreatment: A review. *Journal of Human Lactation, 36*(4), 710-722. doi:10.1177/0890334420950257

Choi, K. R., & Seng, J. S. (2015). Pilot for nurse-led, interprofessional in-service training on trauma-informed perinatal care. *The Journal of Continuing Education in Nursing, 46*(11), 515-521. doi:10.3928/0022124-20151020-04

De Bellis, Michael D., & Zisk, Abigail, A. B. (2014). The Biological Effects of Childhood Trauma. *Child and Adolescent Psychiatric Clinics of North America, 23*(2), 185-222. https://doi.org/10.1016/j.chc.2014.01.002

Dekel, S., Stuebe, C., & Dishy, G. (2017). Childbirth induced posttraumatic stress syndrome: A systematic review of prevalence and risk factors. *Frontiers in Psychology, 8:*560. doi:10.3389/fpsyg.2017.00560

Dong, M., Anda, R. F., Felitti, V. J., Dube, S. R., Williamson, D. F., Thompson, T. T., Loo, C. M., & Giles, W. H. (2004). The interrelatedness of multiple forms of childhood abuse, neglect, and household dysfunction. *Child Abuse & Neglect, 28,* 771-784. doi:10.1016/j.chiabu.2004.01.008

Dye, H. (2018). The impact and long-term effects of childhood trauma. *Journal of Human Behavior in the Social Environment, 28*(3), 381-392. doi:10.1080/10911359.2018.1435328

Edalati, H. (2020). Childhood trauma and substance dependence. In G. Spalletta, D. Janiri, F. Piras, & G. Sani (Eds.), *Childhood trauma in mental disorders* (pp. 257-286). Springer.

Eklund, K., Rossen, E., Koriakin, T., Chafouleas, S. M., & Resnick, C. (2018). A systematic review of trauma screening measures for children and adolescents. *School Psychology Quarterly, 33*(1), 30-43. doi:10.1037/spq0000244

Elliot, D. E., Bjelajac, P., Fallot, R. D., Markoff, L. S., & Reed, B. G. (2005). Trauma-informed or trauma-denied: Principles and implementation of trauma-informed services for women. *Journal of Community Psychology, 33*(4), 461-477. doi:10.1002/jcop.20063

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) study. *American Journal of Preventative Medicine, 14*(4), 245-258. doi:10.1016/S0749-3797(98)00017-8

Flanagan, T., Alabaster, A., McCaw, B., Stoller, N., Watson, C., & Young-Wolff, K. C. (2018). Feasibility and acceptability of screening for adverse childhood experiences in prenatal care. *Journal of Women's Health, 27*(7), 903-911. doi:10.1089/jwh.2017.6649

Garza, K., & Jovanovic, T. (2017). Impact of gender on child and adolescent PTSD. *Current Psychiatry Reports, 19:*87. doi:10.1007/s11920-017-0830-6

Gil-Rivas, V., Prause, J., & Grella, C. E. (2009). Substance use following residential treatment among individuals with co-occurring disorders: The role of anxiety/depressive symptoms and trauma exposure. *Psychology of Addictive Behaviors, 23*(2), 303-314. doi:10.1037/a0015355

Gone, J. P. (2013). Redressing First Nations historical trauma: Theorizing mechanisms for Indigenous culture as mental health treatment. *Transcultural Psychiatry, 50*(5), 683-706. doi:10.1177/1363461513487669 tps.sagepub.com

Grekin, R., & O'Hara, M. W. (2014). Prevalence and risk factors of postpartum posttraumatic stress disorder: A meta-analysis. *Clinical Psychology Review, 34*, 389-401. doi:10.1016/j.cpr.2014.05.003

Guintivano, J., Manuck, T., & Meltzer-Brody, S. (2018). Predictors of postpartum depression: A comprehensive review of the last decade of evidence. *Clinical Obstetrics and Gynecology, 61*(3), 591-603. doi:10.1097/GRF.0000000000000368

Hahn, A. M., Simons, R. M., & Simons, J. S. (2016). Childhood maltreatment and sexual risk taking: The mediating role of alexithymia. *Archives of Sexual Behavior, 45*(1), 53-62. doi:10.1007/s10508-015-0591-4

Hall, K. S., Beauregard, J. L., Rentmeester, S. T., Livingston, M., & Mullan Harris, K. (2019). Adverse life experiences and risk of unintended pregnancy in adolescence and early adulthood: Implications for toxic stress and reproductive health. *SSM Population Health, 7*. doi:10.1016/j.ssmph.2018.100344

Hall, S., White, A., Ballas, J., Saxton, S. N., Dempsey, A., & Saxer, K. (2021). Education in trauma-informed care in maternity settings can promote mental health during the COVID-19 pandemic. *Journal of Obstetric, Gynecologic, & Neonatal Nursing, 50*, 340-351. doi:10.1016/j.jogn.2020.12.005

Hanson, R. F., & Lang, J. (2016). A critical look at trauma-informed care among agencies and systems serving maltreated youth and their families. *Child Maltreatment, 21*(2), 95-100. doi:10.1177/1077559516635274

Harris, M., & Fallot, R. (2001). Using trauma theory to design service systems. *New Directions for Mental Health Services*, 89. Jossey Bass.

Heim, C., Newport, D. J., Tanja, M., Miller, A. H., & Nemeroff, C. B. (2008). The link between childhood trauma and depression: Insights from HPA axis studies in humans. *Psychoneuroendocrinology, 33*, 693-710. doi:10.1016/j.psyneuen.2008.03.008

Ho, G. W. K., Karatzias, T., Vallières, F., Bondjers, K., Shevlin, M., Cloitre, M., Ben-Ezra, M., Bisson, J. I., Roberts, N. P., Astill Wright, L., & Hyland, P. (2021). Complex PTSD symptoms mediate the association between childhood trauma and physical health problems. *Journal of Psychosomatic Research, 142*, 110358-110358. https://doi.org/10.1016/j.jpsychores.2021.110358

Horesh, D., Garthus-Niegel, S., & Horsch, A. (2021). Childbirth-related PTSD: Is it a unique post-traumatic disorder? *Journal of Reproductive and Infant Psychology, 39*(3), 221-224. doi:10.1080/02646838.2021.1930739

Hugh-Bocks, A. C., Krause, K., Ahlfs-Dunn, S., Gallagher, E., & Scott, S. (2013). *Psychodynamic Psychiatry, 41(2)*, 277-302.

Huh, H. J., Kim, K. H., Lee, H. K., & Chae, J. H. (2017). The relationship between childhood trauma and the severity of adulthood depression and anxiety symptoms in a clinical sample: The mediating role of cognitive emotion regulation strategies. Journal of Affective disorders, 213, 44-50. doi:10.1016/j.jad.2017.02.009

Humphreys, K. L., LeMoult, J., Wear, J. G., Piersiak, H. A., Lee, A., & Gotlib, I. H. (2020). Child maltreatment and depression: A meta-analysis of studies using the Childhood Trauma Questionnaire. *Child Abuse & Neglect, 102*:104361. doi:10.1016/j.chiabu.2020.104361

Jackson, M. L., & Jewell, V. D. (2021). Educational practices for providers of trauma-informed care: A scoping review. *Journal of Pediatric Nursing, 60*, 130-138. doi:10.1016/j.pedn.2021.04.029

Kimburg, L., & Wheeler, M. (2019). Trauma and trauma-informed care. In M. R. Gerber (ed.), *Trauma-Informed Healthcare Approaches* (p. 25-56). doi:10.1007/978-3-030-04342-1_2

Kimerling, R., Allen, M. C., & Duncan, L. E. (2018). Chromosomes to Social Contexts: Sex and Gender Differences in PTSD. *Current Psychiatry Reports, 20*(12), 1-9. https://doi.org/10.1007/s11920-018-0981-0

King, L., McKenzie-McHarg, K., & Horsch, A. (2017). Testing a cognitive model to predict posttraumatic stress disorder following childbirth. *BMC Pregnancy and Childbirth, 17:*32. doi:10.1016/j.psychres.2020.113090

Kuhlman, K. R., Geiss, E. G., Vargas, I., & Lopez-Duran, N. (2018). HPA-Axis activation as a key moderator of childhood trauma exposure and adolescent mental health. *Journal of Abnormal Child Psychology, 46*, 149-157. doi:10.1007/s10802-017-0282-9

Kuhlman, K. R., Vargas, I., Geiss, E. G., & Lopez-Duran, N. L. (2015). Age of trauma onset and HPA axis dysregulation among trauma-exposed youth. *Journal of Traumatic Stress, 28(6)*, 572-579. doi:10.1002/jts.22054

Kuhnly, J. E., Bourassa, D., Dileone, C., Dodge, M., Maruca, A., & Beck, C. T. (2020). Evaluation of interprofessional teaching strategy for nursing students on perinatal trauma-informed care. *Nursing Education Perspectives, 41*(3), 174-176. doi:10.1097/01.NEP.0000000000000537

Kuzma, E. K., Pardee, M., & Morgan, A. (2020). Implementing patient-centered trauma-informed care for the perinatal nurse. *Journal of Perinatal & Neonatal Nursing, 34*(4), E23-E31. doi:10.1097/JPN.0000000000000520

Lacuelle, O. M., Rentfrow, J., Lamb, M. E., & Alisic, E. (2019). General risk or individual vulnerability? Individual differences in young adults' health risk behaviour after childhood trauma. *Personality and individual differences, 142*, 288-294. doi:10.1016/j.paid.2018.09.017

Lang, J. M., & Connell, C. M. (2017). Development and validation of a brief trauma screening measure for children: The Child Trauma Screen. *Psychological trauma: theory, research, practice, and policy, 9*(3), 390. doi:10.1037/tra0000235

Lewis-O'Connor, A., Warren, A., Lee, J. V., Levy-Carrick, N., Grossman, S., Chadwick, M., Stoklosa, H., & Rittenberg, E. (2019). The state of the science on trauma inquiry. *Women's Health, 15*, 1-17. doi:10.1177/1745506519861234

Lombardi, B. N., Jensen, T. M., Parisi, A. B., Jenkins, M., & Bledsoe, S. E. (2021). The relationship between a lifetime history of sexual victimization and perinatal depression: A systematic review and meta-analysis. *Trauma, Violence, & Abuse, 1-17*. doi:10.1177/15248380211021611

Long, A. J., Golfar, A., & Olson, D. M. (2019). Screening in the prenatal period for intimate partner violence and history of abuse: A survey of Edmonton Obstetrician/Gynaecologists. *Journal of Obstetrics and Gynaecology Canada, 41*(1), 38-45. doi:10.1016/j.jogc.2018.05.003

Lotzin, A., Haupt, L., von Schönfels, J., Wingenfeld, K., Schäfer, I. (2016). Profiles of childhood trauma in patients with alcohol dependence and their associations with addiction-related problems. *Alcoholism: Clinical and Experimental Research, 40*(3), 543-552. doi:10.1111/acer.12990

Maepa, M. P., & Ntshalintshali, T. (2020). Family structure and history of childhood trauma: Associations with risk-taking behavior among adolescents in Swaziland. *Frontiers in Public Health, 8,* 1-7. doi:10.3389/fpubh.2020.563325

Mandelli, L., Petrelli, C., & Serretti, A. (2015). The role of specific early trauma in adult depression: A meta-analysis of published literature. Childhood trauma and adult depression. *European Psychiatry, 30*, 665-680. doi:10.1016/j.eurpsy.2015.04.007 0924-9338

Matheson, S. L., Shepherd, A. M., Pinchbeck, R. M., Laurens, K. R., & Carr, V. J. (2013). Childhood adversity in schizophrenia: A systematic meta-analysis. *Psychological Medicine, 43,* 225-238. doi:10.1017/S0033291712000785

McLennan, J. D., MacMillan, H. L., & Afifi, T. O. (2020). Questioning the use of adverse childhood experiences (ACEs) questionnaires. *Child Abuse & Neglect*, 101:104331. doi:10.1016/j.chiabu.2019.104331

Menschner, C., & Maul, A. (2016). Key ingredients for successful trauma-informed care implementation: Issue Brief. *Centre for Health Care Strategies*. https://www.chcs.org/resource/key-ingredients-for-successful-trauma-informed-care-implementation/

Millar, H. C., Lorber, S., Vandermorris, A., Thompson, G., Thompson, M., Allen, L., Aggarwal, A., & Spitzer, R. F. (2021). "No, you need to explain what you are doing": Obstetric care experiences and preferences of adolescent mothers with a history of childhood trauma. *Journal of Pediatric and Adolescent Gynecology, 34*(4), 538-545. doi:10.1016/j.jpag.2021.01.006

Moore, A. A., Overstreet, C., Kendler, K. S., Dick, D. M., Adkins, A., & Amstadter, A. B. (2017). Potentially traumatic events, personality and risky sexual behavior in undergraduate college students. *Psychological Trauma, 9*(1), 105-112. doi:10.1037/tra0000168

Morris, V. L., Huffman, L. G., Naish, K. R., Holshausen, K., Oshri, A., McKinnon, M., & Amlung, M. (2020). Impulsivity as a mediating factor in the association between posttraumatic stress disorder symptoms and substance use. *Psychological Trauma: Theory, Research, Practice, & Policy, 12*(6), 659-668. doi:10.1037/tra0000588

Mosley, E. A., Lanning, R. K. (2020). Evidence and guidelines for trauma-informed doula care. *Midwifery, 83*, 1-8. doi:10.1016/j.midw.2020.102643

Mota, N. P., Turner, S., Taillieu, T., Garcés, I., Magid, K., Sethi, J., Struck, D., El-Gabalawy, R., & Afifi, T. O. (2019). Trauma exposure, DSM-5 post-traumatic stress disorder, and sexual risk outcomes. *American Journal of Preventive Medicine, 56*(2), 215-223. doi:10.1016/j.amepre.2018.08.025

Moustafa, A. A., Parkes, D., Fitzgerald, L., Underhill, D., Garami, J., Levy-Gigi, E., Stramecki, F., Valikhani, A., Frydecka, D., & Misiak, B. (2021). The relationship between childhood trauma, early-life stress, and alcohol and drug use, abuse, and addiction: An integrative review. *Current Psychology, 40*(2), 579-584. doi:10.1007/s12144-018-9973-9

Moya, A. (2018). Violence, psychological trauma, and risk attitudes: Evidence from victims of violence in Colombia. *Journal of Development Economics, 131*, 15-27. doi:10.1016/j.jdeveco.2017.11.001

Myers, B., Carney, T., Browne, F. A., & Wechsberg, W. M. (2018). Development of a trauma-informed substance use and sexual risk reduction intervention for young South African women. *Patient Preference and Adherence, 12*, 1997-2006.

Negele, A., Kaufhold, J., Kallenbach, L., & Leuzinger-Bohleber, M. (2015). Childhood trauma and its relation to chronic depression in adulthood. *Depression Research and Treatment, 2015,* 1-11. 10.1155/2015/650804

Noll, J. G., Guastaferro, K., Beal, S. J., Schreier, H. M. C., Barnes, J., Reader, J. M., & Font, S. A. (2019). Is sexual abuse a unique predictor of sexual risk behaviors, pregnancy, and motherhood in adolescence? *Journal of Research on Adolescence, 29*(4), 967-983. doi:10.1111/jora.12436.

Noll, J. G., Shenk, C. E., & Putnam, K. T. (2009). Childhood sexual abuse and adolescent pregnancy: A meta-analytic update. *Journal of Pediatric Psychology, 34*(4), 366-378. doi:10.1093/jpepsy/jsn098

Olff, M. (2017). Sex and gender differences in post-traumatic stress disorder: An update. *European Journal of Psychotraumatology, 8*(4), 1351204. doi:10.1080/20008198.2017.1351204

Olsen, J. M. (2018). Integrative review of pregnancy health risks and outcomes associated with adverse childhood experiences. *Journal of Obstetric, Gynecologic, & Neonatal Nursing, 47*, 783-794. doi:10.1016/j.jogn.2018.09.005

Oshri, A., Sutton, T. E., Clay-Warner, J., & Miller, J. D. (2015). Child maltreatment types and risk behaviors: Associations with attachment style and emotion regulation dimensions. *Personality and Individual Differences, 73*, 127-133. 10.1016/j.paid.2014.09.015

Osofsky, J. D., Osofsky, H. J., Frazer, A. L., Fields-Olivieri, M. A., Many, M., Selby, M., Holman, S., & Conrad, E. (2021). The importance of adverse childhood experiences during the perinatal period. *American Psychologist, 76*(2), 350-363. doi:10.1037/amp0000770

Patock-Peckham, J. A., Belton, D. A., D'Ardenne, K., Tein, J. Y., Bauman, D. C., Infurna, F. J., Sanabria, F., Curtis, J., Morgan-Lopez, A. A., & McClure, S. M. (2020). Dimensions of childhood trauma and their direct and indirect links to PTSD, impaired control over drinking, and alcohol-related problems. *Addictive Behaviors Reports, 12*, doi:10.1016/j.abrep.2020.100304

Poole N. (2008). Fetal Alcohol Spectrum Disorder (FASD) Prevention: Canadian Perspectives. Ottawa, ON: Public Health Agency of Canada.

Poole, N., Schmidt, R. A., Green, C., & Hemsing, N. (2016). Prevention of Fetal Alcohol Spectrum Disorder: Current Canadian efforts and analysis of gaps. *Substance Abuse: Research and Treatment, 10*(1), 1-11. (2016). doi:10.4137/SART.S34545

Poole, N., Talbot, C., & Nathoo, T. (2017). Healing families, helping systems: A trauma-informed practice guide for working with children, youth and families. *British Columbia Ministry of Children and Family Development.* https://www2.gov.bc.ca/assets/gov/health/child-teen-mental-health/trauma-informed_practice_guide.pdf

Purkey, E., Patel, R., & Phillips, S. P. (2018). Trauma-informed care: Better care for everyone. *Canadian Family Physician, 64*, 170-172.

Rowe, H., Sperlich, M., Cameron, H., & Seng, J. (2014). A quasi-experimental outcomes analysis of a psychoeducation intervention for pregnant women with abuse-related posttraumatic stress. *Journal of Obstetric, Gynecologic & Neonatal Nursing, 43*(3), 282-293; 2014. doi:10.1111/1552-6909.12312

Schnurr, P., Vielhauer, M., Weathers, F., & Findler, M. (1999). *Brief Trauma Questionnaire (BTQ)* [Database record]. APA PsycTests. doi: 10.1037/t07488-000

Schwartz, B. P., Laukkanen, T., & Smith, J. (2017). Prevention strategy: Eliminating FASD in Indigenous communities. *Manitoba Law Journal, 40*(2), 123-248.

Seng, J. J., Sperlich, M., Rowe, H., Cameron, H., Harris, A., Rauch, S. A. M., & Bell, S. A. (2011). The Survivor Moms' Companion: Open pilot of a posttraumatic stress specific psychoeducation program for pregnant survivors of childhood maltreatment and sexual trauma. *International Journal of Childbirth, 1*(2), 111-121. doi:10.1891/2156-5287.1.2.111

Shreffler, K. M., Tiemeyer, S., & Cox, R. B. (2021). Trauma exposure and adolescent attitudes toward having a baby: An exploratory survey. *Contraception: X, 3*, doi:10.1016/j.conx.2021.100058

Sobel, L., O-Rourke-Suchoff, D., Holland, E., Remis, K., Resnick, K., Perkins, R., & Shannon, B. (2018). Pregnancy and childbirth after sexual trauma: Patient perspectives and care preferences. *Obstetrics & Gynecology, 132*(6), 1461-1468.

Stappenbeck, C. A., George, W. H., Staples, J., Nguyen, H., Davis, K. C., Kaysen, D., Heiman, J. R., Masters, N. T., Norris, J., Danube, C. L., Gilmore, A. K., & Kajumulo, K. F. (2017). In-the-moment dissociation, emotional numbing, and sexual risk: The influence of sexual trauma history, trauma symptoms, and alcohol intoxication. *Psychology of Violence, 6*(4), 586-595. doi:10.1037/a0039978

Stevens, N. R., Lillis, T. A., Wagner, L., Tirone, V., & Hobfoll, S. E. (2019). A feasibility study of trauma-sensitive obstetric care for low-income, ethno-racial minority pregnant abuse survivors. *Journal of Psychosomatic Obstetrics & Gynecology, 40*(1), 66-74. doi:10.1080/0167482X.2017.1398727

Substance Abuse and Mental Health Services Administration (2014). SAMHSA's concept of trauma and guidance for a trauma-informed approach. HHS Publication No. (SMA) 14-4884. Rockville, MD: Substance Abuse and Mental Health Services Administration.

Teicher, M. H., Samson, J. A., Anderson, C. M., & Ohashi, K. (2016). The effects of childhood maltreatment on brain structure, function and connectivity. *Nature reviews Neuroscience, 17*(10), 652-666. doi:10.1038/nrn.2016.111

Thompson, R., Lewis, T., Neilson, E. C., English, D. J., Litrownik, A. J., Margolis, B., Proctor, L., & Dubowitz, H. (2017). Child maltreatment and risky sexual behavior: Indirect effects through trauma symptoms and substance use. *Child Maltreatment, 22*(1), 69-78. doi:10.1177/1077559516674595

Tolin, D. F., & Foa, E. B. (2006). Sex differences in trauma and posttraumatic stress disorder: A quantitative review of 25 years of research. *Psychological Bulletin, 132*(6), 959-992. doi:10.1037/0033-2909.132.6.959

van Neirop, M., Viechtbauer, W., Gunther, N., van Zelst, C., de Graaf, R., ten Have, M., van Dorsselaer, S., Bak, M., & van Winkel, R. (2015). Childhood trauma is associated with a specific admixture of affective, anxiety, and psychosis symptoms cutting across traditional diagnostic boundaries. *Psychological Medicine, 45*, 1277-1288. doi:10.1017/S0033291714002372

Varese, F., Smeets, F., Drukker, M., Lieverse, R., Lataster, T., Viechtbauer, W., Read, J., van Os, J., & Bentall, R. P. (2012). Childhood adversities increase the risk of psychosis: A meta-analysis of patient-control, prospective- and cross-sectional cohort studies. *Schizophrenia Bulletin, 38*(4), 661-671. doi:10.1093/schbul/sbs050

Waddell, N., & Thanos, K. (2019). The relationship between interpersonal trauma and substance misuse in pregnancy. *British Journal of Midwifery, 27*(9), 578-588.

Wamser-Nanney, R., & Cherry, K. E. (2018). Children's trauma-related symptoms following complex trauma exposure: Evidence of gender differences. Child Abuse & Neglect, 77, 188-197. doi:10.1016/j.chiabu.2018.01.009

White, A., Danis, M., & Gillece, J. (2016). Abuse survivor perspectives on trauma inquiry in obstetrical practice. *Archives of Women's Mental Health, 19*(2), 423-427. doi:10.1007/s00737-015-0547-7

Young-Wolff, K. C., Wei, J., Varnado, N., Rios, N., Staunton, M., & Watson, C. (2021). Adverse childhood experiences and pregnancy intentions among pregnant women seeking prenatal care. *Women's Health Issues, 31*(2), 100-106. doi:10.1016/j.whi.2020.08.012

Appendix A. The Brief Trauma Questionnaire

The Brief Trauma Questionnaire (BTQ; Schnurr et al., 1999) is a self-report questionnaire that screens for exposure to 10 different kinds of potentially traumatic events. For assessing Criterion A of PTSD in the DSM, exposure to a traumatic event is scored as positive if the individual says yes to:

- life threat or serious injury for events 1- 3 and 5- 7;
- life threat for event 4;
- serious injury for event 8, or;
- "Has this ever happened to you?" for events 9 and 10.

Brief Trauma Questionnaire

The following questions ask about events that may be extraordinarily stressful or disturbing for almost everyone. Please circle "Yes" or "No" to report what has happened to you.

If you answer "Yes" for an event, please answer any additional questions that are listed on the right side of the page to report: (1) whether you thought your life was in danger or you might be seriously injured; and 2) whether you were seriously injured.

If you answer "No" for an event, go on to the next event.

Event	Has this ever happened to you?	If the event happened, did you think your life was in danger or you might be seriously injured?	If the event happened, were you seriously injured?
1. Have you ever served in a war zone, or have you ever served in a noncombat job that exposed you to war-related casualties (for example, as a medic or on graves registration duty?)	No Yes	No Yes	No Yes
2. Have you ever been in a serious car accident, or a serious accident at work or somewhere else?	No Yes	No Yes	No Yes
3. Have you ever been in a major natural or technological disaster, such as a fire, tornado, hurricane, flood, earthquake, or chemical spill?	No Yes	No Yes	No Yes
4. Have you ever had a life-threatening illness such as cancer, a heart attack, leukemia, AIDS, multiple sclerosis, etc.?	No Yes	No Yes	*N/A*
5. Before age 18, were you ever physically punished or beaten by a parent, caretaker, or teacher so that: you were very frightened; or you thought you would be injured; or you received bruises, cuts, welts, lumps, or other injuries?	No Yes	No Yes	No Yes

Event	Has this ever happened to you?	If the event happened, did you think your life was in danger or you might be seriously injured?	If the event happened, were you seriously injured?
6. Not including any punishments or beatings you already reported in Question 5, have you ever been attacked, beaten, or mugged by anyone, including friends, family members, or strangers?	No Yes	No Yes	No Yes
7. Has anyone ever made or pressured you into having some type of unwanted sexual contact? Note: By sexual contact we mean any contact between someone else and your private parts or between you and someone else's private parts.	No Yes	No Yes	No Yes
8. Have you ever been in any other situation in which you were seriously injured, or have you ever been in any other situation in which you feared you might be seriously injured or killed?	No Yes	*N/A*	No Yes
9. Has a close family member or friend died violently, for example, in a serious car crash, mugging, or attack?	No Yes	*N/A*	No Yes
10. have you ever witnessed a situation in which someone was seriously injured or killed, or have you ever witnessed a situation in which you feared someone would be seriously injured or killed? Note: Do not answer "yes" for any event you already reported in Questions 1-9	No Yes	*N/A*	*N/A*

Appendix B: The Child Trauma Screen

The Child Trauma Screen (CTS; Lang & Connell, 2017) is a 10-item measure of trauma exposure and symptoms that can be used in any context where children (age 6-17) are part of the population being served. There are both child and caregiver report versions, and it can be done via interview or self-report. The official version for use can be obtained from https://www.chdi.org/our-work/mental-health/trauma-informed-initiatives/ct-trauma-screen-cts/.

Child Trauma Screen (Child Report, age 6-17)

Events: things happen to people. These events can sometimes affect what we think, how we feel, and what we do.

1. Have you ever seen people pushing, hitting, throwing things at each other, or stabbing, shooting, or trying to hurt each other?	Yes No
2. Has someone ever really hurt you? Hit, punched, or kicked you really hard with hands, belts, or other objects, or tried to shoot or stab you?	Yes No
3. Has someone ever touched you on the parts of your body that a bathing suit covers, in a way that made you uncomfortable? Or had you touch them in that way?	Yes No
4. Has anything else very upsetting or scary happened to you (loved one died, separated from loved one, been left alone for a long time, not had enough food to eat, serious accident or illness, dog bit, bullying? *What was it*? _____	Yes No

Reactions: Sometimes scary or upsetting events affect how people think, feel, and act. The next questions ask how you have been feeling and thinking recently.

How often did each of these happen in the last 30 days?	Never/ Rarely	1-2 times per month	1-2 times per week	3+ times per week
5. Strong feelings in your body when you remember something that happened (sweating, heart beats fast, feel sick).	0	1	2	3
6. Try to stay away from people, places, or things that remind you about something that happened.	0	1	2	3
7. Trouble feeling happy.	0	1	2	3
8. Trouble sleeping.	0	1	2	3
9. Hard to concentrate or pay attention.	0	1	2	3
10. Feel alone and not close to people around you.	0	1	2	3