Risks for children caused by

Methamphetamine use by parents

Child Death Review Board
Queensland **Family & Child** Commission

About this report

This report has been prepared under section 29D of the Family and Child Commission Act 2014, which enables the Queensland Child Death Review Board (the Board) to carry out, or engage persons to carry out, research relevant to reviews of the child protection system following the deaths of children connected to it.

This report provides the findings of research undertaken on behalf of the Board by Saira Mathew, Anthony Shakeshaft, and James Ward from the Poche Centre, The University of Queensland.

Accessibility

Contact for enquiries
Secretariat, Queensland Child Death Review Board
Level 8, 63 George Street
PO Box 15217, Brisbane City East QLD 4002
Email: cdrb@qfcc.qld.gov.au
Website: www.cdrb.qld.gov.au

Copyright

Acknowledgement

We acknowledge Aboriginal and Torres Strait Islander peoples as the Traditional Custodians across the lands, seas and skies on which we walk, live and work.

We recognise Aboriginal and Torres Strait Islander peoples as two unique peoples, with their own rich and distinct cultures, strengths and knowledge. We celebrate the diversity of Aboriginal and Torres Strait Islander cultures across Queensland and pay our respects to their Elders past, present and emerging.

We recognise the rich and resilient cultures that continue to sustain and strengthen Aboriginal and Torres Strait Islander peoples. We respect the right to self-determination and the critical importance of continuing connection to kin, Country and culture in the lives of Aboriginal and Torres Strait Islander peoples.

The Board acknowledges the difficult and important work of the government agencies that are required to review the services they provided to these children. We are all committed to working together to learn from these reviews and to make the changes needed to promote the safety and wellbeing of children and help prevent future deaths.

The Board relies on the collective knowledge and contributions of government agencies and non-government organisations to inform its systemic reviews. It thanks these agencies and organisations and acknowledges their efforts in protecting Queensland children and assisting their families to care for them. The Board also acknowledges the work of its staff in analysing child death reports, gathering research, collating data, preparing reports, and coordinating meetings.

Warning

This report contains information about the deaths of children in Queensland. This report may cause distress for some people. If you need help or support, please contact any of these services:

Lifeline: 13 11 14
Beyond Blue: 1300 22 4636
Kids Helpline: 1800 55 1800 (for 5 to 25-year-olds)

Aboriginal and Torres Strait Islander peoples should be aware that this report contains information about deceased children and systemic issues facing Aboriginal and Torres Strait Islander peoples.

Message from the Chair

All Queensland children should be loved, respected and have their rights upheld. Each year, too many children known to the child protection system die or suffer serious physical injuries. The loss of any child has long-lasting impacts on family, friends, communities, and the professionals who provided support to the child and their family. The Queensland Child Death Review Board (the Board) seeks to honour the lives of children and young people by ensuring that we conduct respectful reviews aimed at preventing future loss of life.

Too many Queensland children are exposed to risks due to their parents' substance use, be it to legal or illicit substances. The impact on a child when their parent prioritises illicit drug use (due to addiction) can be profound and permanent. In 2022, the Board reflected on the high number of deceased children and young people whose parents experienced addiction to methamphetamines. Of the 170 cases reviewed by the Board from 1 July 2020 until 30 June 2023, methamphetamine use was present in 32.9 per cent of cases. The Board also observed a high prevalence of polysubstance use by parents.

The Child Death Review Board is interested in understanding the impact of parental methamphetamine use on the health and wellbeing of children, with a particular focus on children under three years of age. We want to know how child safety officers, police officers and health staff can identify and respond to child safety risks, and how the ever-present risks of substance use can be mitigated. This is a complex task, and this research has shown the challenges associated with risk assessment, parental deception, individualistic treatment and intervention, and social stigma.

Ultimately this report does not contain a clear or easy answer. The findings highlight significant gaps in our research knowledge and social responses to adequately respond to the daily consequences that children are experiencing. What this report has done is outline the risks that children experience when their parents use methamphetamine. The risks are clear, serious, and ever present.

This research serves as a critical piece of awareness raising and its use to frontline workers who too often are left in ambiguous and uncertain situations, should not be underestimated.

I thank the research team, Saira Mathew, Anthony Shakeshaft, and James Ward, and the Poche Centre, The University of Queensland, for conducting this research on behalf of the Child Death Review Board. I also thank the frontline workers who respond to the needs of children who have experienced the impact of this damaging substance.

Luke Twyford

Contents

Executive Summary

Given the concerning rate at which parental methamphetamine use was being identified in reviews of deaths of children known to the Queensland child protection system, the Child Death Review Board sought to better understand the impact of parental methamphetamine use on the health and wellbeing of children. This report contains a particular focus on very young children, under three years of age and identifies potential opportunities for system improvements to respond to and reduce the risk of harm to this vulnerable cohort. The findings of this review are informed by two key data sources:

1. a systematic review of academic and non-academic (grey) literature; and
2. an analysis of 32 de-identified cases of families known to the Queensland child protection system where there was evidence of parental methamphetamine use in the 12 months prior to a child's death.

Children are impacted by a parent or caregiver's problematic alcohol and drug use in profound ways. Direct exposure can significantly harm a child's physical, emotional, and mental health. Moreover, indirect and environmental exposure can pose significant secondary risks to children. Review of cases showed children who were exposed to problematic alcohol and drug use often became known to the child protection system, repeatedly for a combination of concerns that the Board commonly observed across cases. Housing instability and domestic and family violence were often among such common experiences.

People who have a high level of dependence on methamphetamines are typically engaged in a 'binge-crash' cycle of use. This cycle includes phases of intense behaviours while using, followed by a 'crash' or 'come down' phase after use and engaging in high-risk activities to gain access to drugs. Although this cycle is indicative of most high dependence drug use, a key difference is the extreme intensity and addictiveness of methamphetamine use as compared with other drugs.

The consequences of parental methamphetamine use can include impaired decision making that results in children's exposure to unsafe environments. This may include exposure to unsafe parental driving while under the influence or being left in unsafe places with poor ventilation or in situations with extreme temperatures (e.g., in cars) for extended periods, unsafe sleeping practices, access to drugs or drug paraphernalia, as well as basic care needs not being met (i.e. nutrition, hydration, hygiene, clothing, medical care), and lack of adequate supervision. Parents who regularly use methamphetamines can show extreme and unpredictable mood fluctuations, violent behaviours, and lack of impulse control. This pattern of behaviour has been shown to impede parent-child attachment and reduces parents' emotional availability and nurturing responses. While practitioners often articulated awareness of parental polysubstance use and concerns about their capacity to parent safely, this did not always trigger effective responses towards mitigating risk to children.

Parents using methamphetamines experience high levels of parental and psychological distress, which can persist even during abstinence. They also display depressive symptoms and dysfunctional parenting practices, including indifferent and overreactive tendencies. The bidirectional relationship between mental health and substance use issues should be noted.

Although parents can experience strong feelings of guilt and self-doubt about how they are parenting their children, they also tend to perceive their children as highly demanding. Consistent with the typical binge and crash cycle of methamphetamine use, parents cycle through periods of euphoric-wakefulness, irritability, volatility, lethargy and depression. Additional vulnerabilities associated with methamphetamine use may include financial strain, unemployment, and periods of incarceration. The effects of exposure extend beyond methamphetamine users themselves, with research showing that children of substance abusing parents are at high-risk to continue intergenerational patterns of substance abuse, which are often characterised by parental neglect and abuse, domestic violence and other criminal activity.

This report has synthesised and outlined the risks of parental methamphetamine use across key cohort groups. In summary these are:

a) Maternal and parental harms: Parental risks include poor physical health (e.g. malnutrition, increased susceptibility to infection, hypertension, cardiovascular disease and extreme tiredness, fatigue or lethargy), poor mental health (e.g. depression, anxiety, psychotic episodes, suicide ideation), limited access to health services (e.g. under-utilisation of prenatal care), and pregnancy risks (e.g. unplanned pregnancy, pre-eclampsia, premature labour and delivery, placental abruption).

b) Harms to fetal health: Maternal methamphetamine use during pregnancy is associated with miscarriage and premature birth. Babies that are born too early can have problems with many of the systems of their body because they have not finished developing. They are at risk for life-long breathing, hearing, vision, and learning problems. Newborns exposed to methamphetamines during pregnancy often have signs of withdrawal, such as jitteriness, trouble sleeping and feeding, as well as later problems with tremors and muscle tone. Other consequences associated with methamphetamine use include low birthweight, kidney or liver injury perinatal brain malformation and other neurological symptoms shortly after birth.

c) Harms to infants and children under three years: Harms to infants include both physical health risks (e.g. accidents and injuries, respiratory illness, organ damage, malnutrition, dehydration, neglect, and physical, emotional or sexual abuse) and mental health risks (e.g. indifferent and over-reactive parenting, poor parental attachment, lack of supervision and engagement with children) with consequences including parental neglect, and physical, emotional or sexual abuse. There is also some evidence to suggest methamphetamine can increase the risk of sudden death in infancy.

d) Harms to children aged at least three years: Key harms include emotional problems (e.g. social withdrawal, anxiety, sadness). Disruptive behavioural disorders have been shown to be significantly associated with methamphetamine exposure, in older children, difficulty socialising with other children, impaired cognitive and language development, and poor motor skills.

1. Introduction

1.1 Overview

The impact of parental use of alcohol and other drugs on their children has long been an issue of concern in Australia and internationally. Historically, there has been a substantial focus on the deleterious impacts of parental use of alcohol and tobacco on children. Extensive bodies of research have been established, for example, on the harms to unborn babies, infants and children that are associated with maternal alcohol consumption during pregnancy Fetal alcohol syndrome (Lange et al., 2017) and pre- and post-natal tobacco smoke exposure (Abbasi-Kangevari et al., 2020). This research evidence, along with shifting social norms, has enabled governments and policy makers to introduce strategies aimed at reducing alcohol- and tobacco-related harm to children (Radó et al., 2021).

The widespread use of methamphetamines globally and in Australia (Delphi Behavioural Health Group, 2019) has sparked national interest in understanding more about the impacts on, and trajectories of, infants and young children exposed to methamphetamines in utero and/or in the early years of childhood (Sankaran et al., 2022). These harms relate to both the physiological impacts of prenatal exposure, and the safety of children living with parents and caregivers who use methamphetamine. In the Queensland child protection system, for example, an estimated 42 per cent of children in care in March 2021 had at least one parent who had a record of methamphetamine use (The Queensland Cabinet and Ministerial Directory, 2021).

1.2 The CDRB and its concerns about parental methamphetamine use

Since commencing operation on 1 July 2020 in Queensland, the Child Death Review Board (the Board) has reviewed 32 child deaths where concerns about parental methamphetamine use had been raised in the 12 months prior to a child's death. This represents 39 per cent of all child deaths that have been reviewed by the board.

The CDRB was established in Queensland under Part 3A of the Family and Child Commission Act 2014 (Child Death Review Board, 2020). The primary purpose of the Board is to undertake systemic reviews of the deaths of children who have been in contact with the child protection system in the 12 months prior to their death. The aim of these systemic reviews is to identify opportunities for the continual improvement of the child protection system in Queensland and to prevent future child deaths that may be avoidable. To perform this function, the Board is informed by a number of sources, including data from the child protection system, information from agencies involved in the child protection system and research findings. To date, the Board has commissioned reports on a number of topics that have been associated with the deaths of children known to the child protection system in Queensland in the 12 months prior to their deaths, including violence within families, suicide prevention and sudden unexpected death in infancy (Child Death Review Board, 2021).

The Board is interested in understanding the impact of parental methamphetamine use on children. The impetus for this report was the concerning rate with which parental methamphetamine use was being identified in the child protection system.

This research aimed to:

1. Synthesise current research evidence on:
    a. the negative impact of parental methamphetamine use on children across the developmental trajectory from fetal development to young children; and
    b. best-practice strategies for responding to families where parental methamphetamine use has been identified.
2. Review child deaths in Queensland where parental methamphetamine use was identified as a concern in the 12 months prior to a child's death, to:
    a. identify the characteristics of those deaths; and
    b. consider whether there are strategies that might be implemented in the Queensland child protection system to minimise the risks to children associated with parental methamphetamine use.

1.3 Terminology

The extent of alcohol and other drug use exists on a spectrum from abstinence to being highly dependent (Queensland Mental Health Commission, 2022). Of the people who had used methamphetamines in the previous 12 months in Australia in 2019, for example:

- 7.5 per cent were at high-risk of harm and could be dependent or experiencing severe problems, meaning that they would likely benefit from formal assessment and treatment;
- 56 per cent were at moderate-risk of developing problems related to their use of methamphetamines, meaning they would likely benefit from brief intervention by a health professional; and
- 36 per cent were at low-risk of developing problems related to their current level of methamphetamine use, meaning they would be unlikely to benefit from formal assessment, treatment or brief intervention by health professionals (Australian Institute of Health and Welfare, 2020).

It is important to note that harm can occur at all levels of risk across this spectrum. Even people who do not use alcohol or other drugs themselves, for example, can be harmed by other people while they are using alcohol or other drugs, such as being subjected to verbal or physical assault (e.g. Laslett et al., 2023). Nevertheless, the likelihood of harm to the individual and those in close proximity such as children increases with higher levels of dependence. Given it is not possible to reliably determine the level of risk associated with parental methamphetamine use based on the case reports reviewed for this report (it is only possible to determine that parental methamphetamine use was identified as a concern in the 12 months prior to a child's death), the phrase "methamphetamine use" is used throughout this report to refer to all levels of parental methamphetamine use and risk of harm.

1.4 What are methamphetamines?

Methamphetamines are one type of a class of drugs called stimulants, which reflects that they have a stimulatory effect on the central nervous system. Physiologically, their consumption is associated with an increase in heart rate, blood pressure and body temperature. Psychologically, their consumption is associated with feelings of euphoria, increased energy and concentration. Amphetamines of relatively low potency are used as prescription medications to help treat the symptoms of some conditions, including attention deficit hyperactivity disorder (ADHD), narcolepsy (a debilitating urge to sleep) and Parkinson's disease. Methamphetamines, however, are not used as prescription drugs in Australia because they are specifically designed to optimise the immediacy and intensity of their euphoric effects by entering the central nervous system more quickly.

Figure 1: Classification of methamphetamines relative to other drug types

This drug wheel is taken from the Alcohol and Drug Foundation (Alcohol and Drug Foundation, 2021). It is based on The Drugs Wheel by Mark Adley (The Drugs Wheel, 2019) and is licensed under a Creative Commons Attribution-Non-commercial-Share Alike 4.0 International License. This Drug Wheel organises a variety of different drug types (the outer circle) into the seven broad categories that comprise the inner circle: stimulants, depressants, cannabinoids, psychedelics, opioids, dissociative and empathogens. It summarises the key physiological and perceptual effects of amphetamines/methamphetamines and distinguishes them from other drug categories (middle circle), (Adley et al., 2023).

1.5 Prevalence of methamphetamine use

An estimated 0.5 per cent of the world's adult population use a methamphetamine-type substance annually (United Nations Office on Drugs and Crime, 2020). According to the Delphi Behavioral Health Group (2019), there are approximately 24.7 million people with substantial levels of dependence on methamphetamine-type substances worldwide. The heaviest concentrations of people with methamphetamine dependence appear to occur in parts of Asia, Europe, Australia and the United States.

The prevalence of methamphetamine use in Australia is relatively higher than the global prevalence, with an estimated 1.3 per cent (300,000) of people aged at least 14 years of age reporting having used methamphetamines in the previous 12 months for non-medical purposes in 2018-2019 (Australian Institute of Health and Welfare, 2020). Nevertheless, it is important to note that this estimate of methamphetamine use in the previous 12 months represents a small minority of the Australian population.

The age group most likely to use methamphetamines in Australia is in the 20-29 year age range (an estimated 2.4 per cent of this age group) which compares, for example, to 2 per cent for those in the 30-39 year age range and 1.9 per cent for those in the 40-49 year age range, while the median age of people who used methamphetamines in 2019 was 32 years (Australian Institute of Health and Welfare, 2020). This is aligned closely with the age range of parenthood.

In addition to recent use (defined as annually or in the previous 12 months), lifetime use of methamphetamines is estimated to be approximately 5.8 per cent of Australians aged at least 14 years of age (Australian Institute of Health and Welfare, 2020).

While these data on methamphetamine use in Australia are self-reported by respondents who participated in the National Drug Strategy Household survey, the Australian Criminal Intelligence Commission also collects data on methamphetamine use through its National Wastewater Drug Monitoring Program (NWDMP). The December 2022 collection for the NWDMP report covered an estimated 55 per cent of Australia's population. Nationally, the average excretion of methamphetamine in capital cities was 41 doses per 1,000 people per day between August and December 2022. This rate of methamphetamine use ranked Australia as the third highest consumer of methamphetamines globally, compared to the same samples collected in 161 cities from 28 countries in Europe, Asia, North America and Oceania (Australian Criminal Intelligence Commission, 2023).

The prevalence of methamphetamine use in Queensland is comparable to the rest of Australia and has been falling over time. The proportion of people in Queensland aged at least 14 years of age who reported having used methamphetamines in the previous 12 months fell from 2.9 per cent in 2001 to 1.5 per cent in 2016 to less than the national average of 1.3 per cent in 2019 (Australian Institute of Health and Welfare, 2020). The Australian Criminal Intelligence Commission's NWDMP report noted that although national data showed that the average excretion of methamphetamine in wastewater was higher in cities, relative to regional areas, this pattern was reversed in Queensland (Australian Criminal Intelligence Commission, 2023). Nevertheless, the level of detection of methamphetamine in regional wastewater remained steady in regional Queensland from the second half of 2020 to the end of 2022, compared to a consistent increase in metropolitan areas of Queensland. The increase in metropolitan Queensland has been linked to increased activity in the community following the relaxation of COVID-19 restrictions.

Precise estimates of methamphetamine use among First Nations people have been very difficult to determine because, even if nationally representative samples are obtained, they typically comprise a relatively small proportion of survey respondents. The most national data derive from Australia's National Drug Strategy Household survey. These data suggest that, as is the case for Australia's non-First Nations population, the proportion of First Nations people who reported having used methamphetamines in the previous 12 months for non-medical purposes in 2019 is a relatively small proportion of the population (estimated at 2.9 per cent) and has been falling over time from the 2010 estimate of 3.6 per cent (Australian Institute of Health and Welfare, 2020). It should be noted that this is considerably higher than current estimates for all Australians (2.9 per cent compared to 1.5 per cent).

1.6 Harms associated with methamphetamine use

In Australia in 2021, methamphetamines accounted for 8.2 per cent of all drug-related hospitalisations (12,400 hospitalisations) and were the principal drug of concern in 24 per cent of treatment episodes (Australian Institute of Health and Welfare, 2023b). A total of 451 drug-induced deaths were attributed to methamphetamines, representing a death rate of 1.8 deaths per 100,000 people (Chrzanowska et al., 2023). The most common manner of methamphetamine-related death was accidental drug toxicity, noting that when combined suicide and accidents comprised more than half of all methamphetamine-related deaths (Darke et al., 2017).

In Queensland in 2020-2021, there were 14,770 hospitalisations with a drug related principal diagnosis in Queensland, which equates to 0.5 per cent of all hospitalisations in Queensland (Chrzanowska et al., 2022). The highest rate of hospitalisations occurred when the principal diagnosis indicated amphetamine-type stimulants, reaching 61 hospitalisations per 100,000 people, while the rate of hospitalisations due to amphetamine-type stimulants was higher among females than males, and highest for the 20 to 29-year-old age group (573 per 100,000) (Chrzanowska et al., 2022).

Methamphetamine is known for its highly addictive properties and the intense euphoria it produces. The drug's effects can result in extreme mood fluctuations, violent behaviour, depression, poor impulse control, and bizarre behaviours (Cusick, 2017; Gonzales, 2023). This means it can have a severe impact on parenting behaviours compared to other substances, including parents' ability to ensure that their children are in a safe environment. These risks are even greater for people who use

methamphetamine in the form of "ice" given the known increase in harms associated with ice, including a greater likelihood of violence and injury to themselves or others (McKetin et al., 2005). Compounding the physiological effects of methamphetamine is that parents who use methamphetamine are likely to experience greater levels of social stigma and be associated with more social marginalisation and social disadvantage, compared to parents who use other drugs, such as alcohol, tobacco and cannabis (Semple et al., 2011; Ward et al., 2021).

The typical pattern of methamphetamine use involving a 'binge and crash' cycle is also usually more extreme than is the case for other substance use (both the length of the binge phase and the crash phase). The binge phase tends to be longer for methamphetamines, compared to other stimulants, because it has a longer half-life, which means its effects can last for an extended period (Rutgers, 2023). The crash phase of this cycle is a particularly critical and risky period for parents who have very young children who are dependent on them to meet their needs. In addition to being in a deep sleep and difficult to rouse, this crash period is usually characterised by extreme withdrawal symptoms, including feelings of depression, paranoia, irritability, aggression, delusions or hallucinations (Dyba, Moesgen, et al., 2019a; Semple et al., 2011). These symptoms can lead to prolonged periods of withdrawal and disengagement from parenting responsibilities, meaning that children whose parents/caregivers use methamphetamine are more exposed to experiencing a range of harms, including neglect, isolation, emotional abuse, physical abuse and sexual abuse. They are also more likely to be left alone for prolonged periods of time.

There are a number of indicators of the greater risks associated with methamphetamine use, compared to the use of other substances. The 2017 Global Drug Survey, for example, found that on average, 4.8 per cent of people using methamphetamines required emergency medical attention after use, which was more than for any other substances, and that this proportion was even higher in the United States and Canada at 6.1 per cent and 8.3 per cent respectively (Maryville University, 2023). In addition, people who use methamphetamine are also more likely to use other substances at the same time and to have higher rates of co-occurring mental health harms (National Centre on Substance Abuse and Child Welfare, 2021). In the context of parenting, a clear consequence of the additional risks associated with methamphetamine use is that parents who use ice as their primary or secondary substance of use are more likely than parents who are using other substances to have a child in out of home care (Alcohol and Drug Foundation, 2017).

A relatively unique feature of methamphetamine use is that the trajectory from low to high dependence can be rapid because its fast absorption and intense euphoria make it highly addictive, particularly when taken in the form of 'ice.' Indeed, parental use of 'ice' has been identified as a major contributing factor in an estimated 39 per cent of children entering statutory child protection care in Queensland (The Queensland Cabinet and Ministerial Directory, 2021).

Although methamphetamine-related harms occur across the population in Australia and globally, these harms are disproportionately high for people and communities from lower socio-economic backgrounds (United Nations Office on Drugs and Crime, 2020).

In the Australian context, First Nations people in Australia are disproportionately negatively impacted by socio-economic factors: an estimated one-third of the health gap between First Nations people and non-First Nations people is attributable to lower levels of schooling, employment status, hours of employment, housing adequacy and income (Australian Institute of Health and Welfare, 2022b). Exacerbating their vulnerability to socio-economic factors is that almost half the health gap

between First Nations and non-First Nations people in Australia is attributable to First Nations people having relatively less access to health services and the ongoing, intergenerational impacts of historical factors on their health and culture (Australian Institute of Health and Welfare, 2018), primarily as a consequence of colonisation, dispossession and institutionalised racism (Sherwood, 2013). For First Nations Australians, these structural risk factors for poorer health are further aggravated by the individual-level risk factors that apply to all individuals regardless of their cultural identity, such as adverse childhood experiences, trauma, grief and loss (Lee et al., 2021).

The same combination of these risk factors has been shown to apply specifically to methamphetamine use and harms (Gendera et al., 2022), as well as to related harms such as hepatitis C (Treloar et al., 2016), and "appear to compound the disadvantage, sense of isolation and helplessness of families and communities where methamphetamine use is widespread" (MacLean et al., 2017). The interplay of identity management, self-stigma, and fear of discrimination in individuals makes help-seeking challenging for First Nations people, especially when non-First Nations healthcare institutions are not perceived as safe environments (Clifford et al., 2023). Consequently, there is an opportunity to work towards achieving more effective engagement with First Nations communities and families.

2. Harms associated with parental methamphetamine use

The age group most likely to use methamphetamines in Australia is in the 20-29 year age range (an estimated 2.4 per cent of this age group), which compares to 2 per cent for those in the 30-39 year age range and 1.9 per cent for those in the 40-49 year age range, while the median age of people who used methamphetamines in 2019 was 32 years (Australian Institute of Health and Welfare, 2020). This concentration of methamphetamine use around 32 years of age overlaps almost precisely with the median age of mothers and fathers in Australia, which were 31.7 and 33.7 years in 2021, while the average age of first-time mothers was 29.7 in 2021 (Australian Institute of Health and Welfare, 2023a). This overlap highlights the particular vulnerability that children have to experiencing methamphetamine-related harms as a consequence of parental methamphetamine use. This section summarises what is known about the harms associated with parental methamphetamine use, as distilled from the international literature and the case reports from the child protection system in Queensland. It identifies harms for maternal health, children under three years, children over three years and for parents.

Parents who use methamphetamines typically engage in a range of high-risk behaviours, such as staying awake for extended periods of time, having unprotected sex with multiple sex partners, perpetrating or being the victim of erratic and violent actions, being out late at night while seeking or dealing drugs, and engaging in criminal activities to support their drug use. Engaging in these activities means that they are disproportionately more exposed to a range of harms, such as significant physical injury and sexually transmitted infections. In addition, women are vulnerable to unintended and unwanted pregnancies. One study, for example, found that parents using methamphetamines experience high levels of parental and psychological distress, which can persist even during abstinence (Dyba, Moesgen, et al., 2019b). It found that they tend to perceive their children as highly demanding, that they experience strong feelings of guilt and self-doubt towards their children, and that their parenting practices can be dysfunctional (e.g. indifferent or over-reactive tendencies). Consistent with the typical 'binge and crash' cycle of methamphetamine use, parents' cycle through periods of euphoric-wakefulness, irritability and volatility, and lethargy and depression, which can create or exacerbate a range of pressures, such as financial strain, unemployment and periods of incarceration. There is also an inter-generational component given children learn dysfunctional behaviours (Dyba, Moesgen, et al., 2019b).

2.1 Impact of methamphetamine use on maternal health

Methamphetamine use during pregnancy can have significant impacts on maternal health. These impacts include:

- Increased health risks: methamphetamine use during pregnancy is associated with an increased risk of a range of health problems for the mother, including cardiovascular issues, high blood pressure, malnutrition, and increased susceptibility to infections (Wright et al., 2015).
- Increased birth risks: deliveries were associated with higher incidence of pre-eclampsia, preterm delivery and severe maternal morbidity and mortality (Perez et al., 2022).

- Mental health concerns: methamphetamine use can exacerbate or contribute to mental health disorders such as depression, anxiety, and psychosis in pregnant women (O'Connor et al., 2020; O'Connor et al., 2021).
- Reduced access to and utilisation of antenatal care: women who use methamphetamine during pregnancy are more likely to have inadequate antenatal care, which can further impact their health and the well-being of the fetus (Wu et al., 2013).

Maternal harms identified in the published literature and Queensland case reports are summarised in Table 1. Given the published literature derives from studies undertaken world-wide, it is not surprising that there are more types of maternal health harms identified there than in the Queensland case reports. This is also because some of these harms, for example early pregnancy, will be outside the time frame of the case reports. It does, however, highlight that the harms identified in Queensland to date are a relatively small proportion of all the maternal health harms that are associated with methamphetamine dependence. This under-representation of methamphetamine-related harms in Queensland case reports may be because frontline staff are unaware of, or are not looking for, these harms, or because they perceive that they are not serious enough to warrant recording, or because these harms have not yet occurred but could potentially occur. These findings form the basis of opportunities to:

(i) increasing workers' awareness and understanding of the signs that indicate harm and/or unacceptable risk of harm to children); and

(ii) increasing the availability of more actionable information in assessment outcomes), as summarised in Table 5.

Although options for operationalising these opportunities are also summarised in Table 5, the way in which they might best be adapted to, and implemented in, the Queensland child protection system is beyond the scope of this report. Assessments, for example, could be done jointly with alcohol and other drug professionals or, if that is unfeasible, a simplified assessment process could be developed, and child protection workers trained by alcohol and other drug practitioners in its use.

Table 1: Types of maternal harm associated with methamphetamine dependence, as recorded in the academic literature and Queensland case reports

Population	Type of harm	Recorded in the academic literature	Observations from the case reports
Maternal health	**Physical health risks**	• Cardiovascular disease • Hypertension • Malnutrition • Increased susceptibility to infections • Extreme tiredness, fatigue or lethargy	
	Mental health risks	• Depression • Anxiety • Psychosis/psychotic episodes	• Depression • Bipolar disorder • Suicide ideation

	Reduced access to health services	• Under-utilisation of prenatal care	• Under-utilisation of prenatal care
	Pregnancy-specific health risks	• Pre-eclampsia • Post-partum haemorrhage • Placental abruption • Intra-amniotic infection • Gestational diabetes	• Premature labour and delivery • Placental abruption

2.2 Impact of methamphetamine use on children under three years

The impact of methamphetamine use on children under 3 years is described separately for fetal health and infants (birth to three years).

2.2.1 Impact of maternal methamphetamine use on fetal health

Methamphetamine use during pregnancy can have significant impacts on fetal health, both directly in terms of methamphetamines crossing the placenta and as a consequence of poor maternal nutrition and greater exposure to stressors, such as an increased likelihood of violence, difficulties gaining secure employment and housing instability. Specifically, these impacts include:

- Premature birth: babies born pre-term generally are at higher-risk of experiencing a range of developmental complications that typically require specialised medical care (Harst et al., 2021; Hickert et al., 2021; Warton et al., 2018).
- Low birth weight: babies born to mothers who use methamphetamine during pregnancy are more likely to be low birth weight, which can be associated with various short-term and long-term health issues (Harst et al., 2021; Perez et al., 2022; Warton et al., 2018).
- Babies born prematurely and/or having low birth weight increases the risk of Sudden Infant Death Syndrome (SIDS) (Athanasakis et al., 2011; Hunt, 2007).
- Neurodevelopmental challenges: methamphetamine use during pregnancy can have adverse effects on the developing brain, potentially leading to long-term cognition and behavioural problems during childhood (Harst et al., 2021).
- Neonatal Abstinence Syndrome (NAS): babies of mothers who are dependent on methamphetamines and/or other illicit drugs experience varying degrees of withdrawal symptoms after birth as the methamphetamines leave their own blood system. Symptoms include irritability, tremors, feeding difficulties and respiratory issues. NAS is not specific to methamphetamines and also occurs in babies born to mothers who are dependent on other substances (Dinger et al., 2017; Perez et al., 2022) however unlike children exposed to opioids, children exposed to methamphetamine can be overlooked at birth because they do not necessarily show jitters or irritability. These children often sleep excessively and, as they grow older, their symptoms can be easily dismissed or misdiagnosed (Hickert et al., 2021).

The impact of maternal methamphetamine use on fetal health identified in the published literature and Queensland case reports are summarised in Table 2.

Table 2: The impacts of maternal methamphetamine use on fetal health, as recorded in the academic literature and Queensland case reports

Population	Type of harm	Recorded in the academic literature	Observations from the case reports
Fetal health	**Physical health risks**	• Premature birth • Low birthweight • Neurodevelopmental disorders • NAS • Death • Excessive crying or restlessness • Inability to settle in a reasonable time • Excessive tiredness, sleeping or drowsiness	• Hypotension • Hypoglycemia • Acute kidney injury • Broncho pulmonary dysplasia • Liver injury • Death

2.2.2 Potential harms of parental methamphetamine use to infants and young children under three years

Parental methamphetamine use can cause a range of negative health, neurological, environmental and emotional/psychological harms to infants, and a greater likelihood of death. Children of people who use methamphetamine regularly may experience a relatively chaotic home life, with inadequate supervision, neglect, parental aggression, violence, and abuse (Dyba, Moesgen, et al., 2019b; Jess et al., 2023; Semple et al., 2011). Furthermore, they often have a higher risk of poor developmental outcomes and of being placed in out-of-home care (Dyba, Moesgen, et al., 2019b; Jess et al., 2023; Ward et al., 2021). In general terms, these risks are associated with three situations:

(i) accumulating over time;
(ii) being heightened during episodes of methamphetamine use; and
(iii) being acute during the specific 'crash' period following methamphetamine use.

The range of harms to infants that have been identified in the international literature and the Queensland case reports are summarised here in three categories: i) physical health risks; ii) child abuse; and iii) risks to surviving siblings after a child's death:

- Increased physical health risks
    - Respiratory issues: methamphetamine production usually releases toxic chemicals into the environment, including volatile organic compounds, solvents, and hazardous gases. These can persist in furnishings, curtains and other household items even after production has ceased. Inhalation or ingestion of these substances can lead to or exacerbate respiratory problems in infants (Keltner et al., 2004; Messina & Jeter, 2012; Messina et al., 2014).
    - Sleep-related harms and SUDI: during a 'crash' period, parents can sleep close to their infants and be very difficult to rouse, which makes it less likely that they will respond appropriately to their baby's needs (The Royal Women's Hospital, 2021). The international literature, for example, has identified case studies of parents

inadvertently rolling onto their children during a 'crash' phase and suffocating them (D'Souza et al., 2023). Alternatively, inadequate sleeping arrangements can result from families that are reliant on social housing or are forced into homelessness (Valentine et al., 2020).

- Skin reactions and allergies: contact with methamphetamine-contaminated surfaces can cause skin irritation and allergic reactions in children (Messina et al., 2014; Wright et al., 2020).
- Neurological harm: exposure to methamphetamine residues in the environment significantly increases the risk of neurological developmental harms in infants, particularly in relation to their developing central nervous system. These harms typically manifest as cognitive impairments and delays, along with persistent behavioural issues (Castaneto et al., 2013; Messina & Jeter, 2012; Messina et al., 2014; Wright et al., 2020).
- Unintentional injuries: infants are at increased risk from accidents and injuries in at least two ways. First, they may be hurt because their parents are more prone to accidents, falls, or other incidents that can cause injury while they are in the typical 'binge and crash' cycle that is usually intensified for methamphetamine use (this cycle is described in Section 1.7). Second, infants are at increased risk of injury related to drug use paraphernalia that is left unattended and within their reach. In particular, any piercing of the skin can leave infants vulnerable to blood borne viruses and infections (Keltner et al., 2004; Messina et al., 2014).
- Physical harm from ingestion: infants are exposed to an increased risk of ingestion (inhalation or swallowing) of methamphetamines that are left unattended and within their reach, as well as inhalation of second-hand smoke. Ingestion of even small amounts of methamphetamine can have severe health consequences in infants, including hypotension, hypoglycemia, and kidney, liver, and lung damage. In homes where methamphetamines are being produced, infants are also exposed to the risk of ingesting unsecured chemicals used in the manufacture of methamphetamines (Messina et al., 2014; Wright et al., 2020).

- Increased risk of child maltreatment:
  - Neglect: parental methamphetamine use can result in parents failing to ensure the fundamental needs of their infants and children are met. These needs include the provision of safe environments, stable housing and living conditions (which requires attending to maintenance of rental/mortgage payments), adequate supervision, emotional support and stability, and proper nutrition. The risk of neglect (and exposure of infants to other forms of child abuse) are critically intensified during the 'crash' or 'come down' phase of methamphetamine use. In this phase, parents can be comatose, so deeply asleep that they are unable to be roused or too drowsy to provide proper care. The risks particular to infants and children during this phase are that they are left in life-threatening situations, such as rooms or cars with inadequate ventilation, or with unsupervised access to drugs and drug using paraphernalia (Cunningham & Finlay, 2013; Hayward et al., 2010; Messina & Jeter, 2012).
  - Physical abuse: the increased risk of physical abuse to infants can result in unintentional or intentional physical abuse perpetrated by parents while they are

affected by methamphetamine use, or by other people who are with the parents at the time the parents are affected by methamphetamine use (and who may or may not be using methamphetamine themselves). This is a particular risk when methamphetamine is being used in its 'ice' form, given well-documented evidence that 'ice' use is more strongly associated with violence than other forms of methamphetamine (Brown & Hohman, 2006; Hayward et al., 2010; Messina & Jeter, 2012).

- Emotional abuse. Infants and children are at increased risk of being emotionally abused by their parents and other adults during all stages of methamphetamine use, including being exposed to parents or adults during all stages of the typically intense binge/crash cycle associated with methamphetamine use. This includes their exposure to violence and other forms of abuse, even if they are not themselves the direct target of the abuse. There is good evidence that witnessing violence, or living with a parent who is experiencing violence (including intimate partner violence), damages the emotional development of infants and children (Brown & Hohman, 2006; McGuinness & Pollack, 2008). Growing up in an environment where methamphetamine is present is associated with poor attachment, emotional instability and psychological distress in young children, resulting in delays in achieving cognitive, social, and emotional milestones. Witnessing a parent's unpredictable behaviour while they are using methamphetamines, and/or the subsequent 'crash' phase, can result in feelings of fear, confusion, and insecurity (Brown & Hohman, 2006; McGuinness & Pollack, 2008).
- Sexual abuse. Similarly to neglect, physical and emotional abuse, infants and children are at greater risk of experiencing sexual abuse from their parents or other adults while their parents are in the cycle of methamphetamine use. In extreme cases, children can be victims of prostitution, exposed to pornography and sexually abused by adults in their homes or in out-of-home care (Brown & Hohman, 2006; Haight et al., 2005; Haight et al., 2007; McGuinness & Pollack, 2008). Sexual perpetrators often target and exploit a child's perceived vulnerabilities including neglect, parental inattention and emotional neediness (Kovalcik, 2012).

The potential harms of parental methamphetamine use to infants that have been identified in the published literature and Queensland case reports are summarised in Table 3.

Table 3: The potential harms of parental methamphetamine use on infants and young children, as recorded in the academic literature and Queensland case reports

Population	Type of harm	Recorded in the academic literature	Observations from the case reports
Infants (under 3 years of age)	**Physical health risks**	• Respiratory illness • Sleep-related deaths • Skin reactions and allergies • Neurological harm • Accidents & injuries • Organ damage • Neglect	• Unintentional injuries • External causes of death • Sleep related infant deaths • Organ damage • Neglect

	• Physical or sexual abuse	
Mental health risks	• Exposure to indifferent and overreactive parenting style • Insecure parental attachment • Neglect • Physical, emotional or sexual abuse • Removal from parents and placement in state care	• Emotional abuse

2.2.3 Causes of harms to infants as a consequence of parental methamphetamine use

Section 2.2.2 highlights the harms associated with parental methamphetamine use. This section collates the key contributors to those harms. It is important to note that the causes of these harms can be short-term (e.g. resulting from dehydration where a parent 'crashes' for an extended period of time) and longer-term (e.g. development of significant physical harms as a consequence of malnutrition). The review of the case reports (Section 3.2.1) identified that natural causes are the most common cause of death (Figure 3), and that the age of death ranges from six days to two years and seven months. The specific causes of potential harms identified were:

- Unsafe environments: During periods of methamphetamine use, parents may take children with them into unsafe environments including being out late at night. During the 'crash' period, parents are particularly at-risk of leaving their infants in life-threatening situations, such as in spaces with inadequate ventilation or temperature control, or with unsupervised access to drugs and drug using paraphernalia (Messina & Jeter, 2012; Messina et al., 2014; Semple et al., 2011).
- Unsafe sleep practices: Parents who use methamphetamine or other substances may make impaired decisions about their child's sleeping environment. This can lead to unsafe sleep practices, such as sharing a sleep surface with a heavily sedated parent or caregiver or placing the child in an unsafe sleep position or on an unsafe surface (Blair et al., 2009).
- Poor nutrition: Failure to meet the nutritional needs of infants and children can result from short-term harms, such as fatal dehydration, and long-term harms, such as malnourishment and/or failure to thrive (Alcohol and Drug Foundation, 2017; Blair et al., 2009; Messina et al., 2014).
- Inconsistent parenting: Parents using methamphetamines are more likely to exhibit extreme and unpredictable mood fluctuations, violent behaviour and poor impulse control. These behaviours are due to the neuro-physiological effects of methamphetamine including sustained hyperactivity and lack of sleep (Brown & Hohman, 2006; Dyba, Moesgen, et al., 2019b; Semple et al., 2011; Sharon et al., 2008). This extreme inconsistency reduces parent's emotional availability and impedes the development of parent-child attachment.
- Unsafe driving and incorrect use of car restraints: Parents who use methamphetamine may be more likely to engage in risky behaviors, such as driving under the influence of drugs (Bosanquet et al., 2013; Sheridan et al., 2006). They may also fail to prioritise their children's safety by not using car restraints, or not using them effectively.

2.3 Impact of methamphetamine use on children aged over three years

Although the longer-term effects of parental methamphetamine use on children are yet to be adequately explored in the research literature, the risks to neonates and infants extend into childhood. Compared to their peers, children exposed to methamphetamine in utero may be at increased risk of developmental delays, attention deficits, behavioural problems, difficulties in forming friendships at school, lower academic achievement, periods of neglect and exposure to violence. The range of harms to children that have been identified in the international literature are summarised as follows:

- Developmental effects: Methamphetamine use during pregnancy can lead to developmental issues and delays in children, including cognitive and behavioural problems (Bosanquet et al., 2013; Dyba, Moesgen, et al., 2019a, 2019b; Dyba, Moesgen, Klein, Pels, et al., 2019; Sheridan et al., 2006). They may exhibit symptoms of anxiety, depression, aggression, and impulsivity. These difficulties can impact their academic performance and social relationships (McGuinness & Pollack, 2008). Methamphetamine and other drug use can interfere with the parent's ability to provide a nurturing and stimulating environment, which is crucial for a child's cognitive, emotional, and social development (Haight et al., 2005).
- Child abuse: Children of parents using substances may experience neglect, including inadequate or no housing, little or no food, and emotional neglect. They are also more likely to experience other forms of child abuse, including emotional, physical and sexual abuse, and exposure to violence in the home (Higgins et al., 2023; Mathews, 2023). Children who have been sexually abused may develop inappropriate or risky sexual behaviour (Thompson et al., 2017).
- Excessive responsibilities: The chaotic and unpredictable nature of drug use can result in children having responsibilities imposed on them that their parents are unable or unwilling to assume, and for which they lack sufficient experience. Due to inadequate parental supervision, for example, children may encounter a lack of basic necessities and an unsafe home environment, which requires them to source food and prepare meals, undertake excessive cleaning and care for younger siblings (Messina & Jeter, 2012).
- Parental role strain: Methamphetamine use by parents can lead to high levels of parenting stress and parental role strain, which is associated with depressive symptoms, and can negatively impact on, or make it difficult for them to fulfill, their parental responsibilities (Semple et al., 2011).
- Exposure to methamphetamine-related toxicity. Children who are exposed to methamphetamine use and manufacture may be exposed to methamphetamine-related toxicity, including inhalation of dangerous chemical fumes or gases and accidental ingestion of toxic chemicals or illicit drugs. This exposure can cause a wide-range of health issues, including respiratory problems and skin irritations as well as death (Keltner et al., 2004).

Table 4: The potential harms of parental methamphetamine use on children, as recorded in academic literature

Population	Type of harm recorded in the academic literature
Children (over 3 years of age)	• Developmental problems with both internalising and externalising symptoms. Internalising symptoms (emotional problems) include anxiety, sadness, social withdrawal and fearfulness. Externalising symptoms (behavioural problems or conduct disorders) include overactivity, poor impulse control, noncompliance, and aggression. • Decrease in school performance. • Difficulty socialising with other children. • Impaired cognitive and language development. • Physical problems, including delayed motor development and poor neurocognitive and executive functioning. • Exposure to trauma, such as intra-familial violence and child abuse. • Early initiation to alcohol and other drug use. • Removal from parents and placement in out-of-home care.

3. Responding to methamphetamine use and harms

3.1 Understanding policy contexts

Modifying the trajectory of parental methamphetamine use is difficult, especially for parents using 'ice.' One natural history study found that only an estimated 5 per cent of people who had been using 'ice' had maintained abstinence for three years without access to treatment or rehabilitation (Campillo, 2022), while another study found an estimated 39 per cent of people using methamphetamines were able to maintain abstinence for 12 months after treatment (Brecht & Herbeck, 2014). The treatments with at least some evidence for their effectiveness are contingency management and cognitive-behavioural therapy (Smith, 2022). A number of factors that inhibit treatment effectiveness have been identified, including the severity of dependence, the length of time using methamphetamines and the extent to which co-occurring risk factors are present, such as mental health disorders and concurrent substance use (Defining Wellness, 2022).

In summary, the escalation of methamphetamine dependence can be rapid. Emerging evidence suggests that success in achieving abstinence increases with access to treatment, although relapse to methamphetamine use is uncommon. Consequently, maintaining contact with families for as long as possible, even after they have engaged in treatment, allows time to assess the likelihood of parents relapsing to methamphetamine use.

3.1.1 The Australian Alcohol, Tobacco and Other Drug policy framework

In responding to drug use and harm, the Australian Government has developed the National Drug Strategy with three pillars: i) supply reduction; ii) demand reduction; and iii) harm reduction. In applying this strategy to the context of parental methamphetamine use, supply reduction strategies

include law enforcement and border control, demand reduction strategies include prevention initiatives, and harm reduction strategies comprise treatment programs. Treatment can engage with individuals using methamphetamines (clinical treatment), families of individuals using methamphetamines (family therapies), and working more broadly with other family members or relatives to develop coping strategies. To optimise the efficiency with which supply, demand and harm reduction strategies are implemented, a whole of population lens can be applied to titrate the intensity of response to the severity of harm. In essence, this translates to a stepped approach: prevention across the whole community (e.g. mass media campaigns to warn of harms and pill testing), early intervention before the onset of dependence or harms (e.g. screening/assessments and brief interventions) and treatment for those already highly dependent (e.g. clinical treatment for individuals, family therapies, support for extended family/friends).

3.1.2 The Queensland Alcohol and Other Drugs Policy Framework

Specifically in relation to parental methamphetamine use and harms there are two key alcohol and other drug initiatives in Queensland: i) the Action on Ice plan (Queensland Government, 2018); and ii) the Queensland Alcohol and Other Drugs Plan 2022-2027 (Queensland Mental Health Commission, 2022).

Action on ice plan

The Queensland Government's 2018 Action on Ice plan has invested more than $100 million over five years to address the impact of ice on Queensland communities (Queensland Government, 2018). The overall intent is to reduce the burden imposed by ice use on emergency services, community services, law enforcement and the health system, and the staff that work within them. It applies to the public, private and non-government sectors. The key features of this plan are:

- To increase community awareness about the consequences of ice use, along with a dependable and reputable information hub for guidance on seeking assistance and support.
- To improve the availability of, and augment funding for, efficient, adaptable, and culturally fitting services for treatment, recovery and support for both individuals and families. This included $1.7 million over three years to the NGO 'Lives Lived Well' for residential recovery units, improved coordinated outreach and intensive care management support for families engaged in the child protection system in Logan and its surrounds.
- To support a criminal justice system that is attuned to the requirements of those impacted by ice, encompassing stringent penalties for those involved in supplying alcohol and other drug substances.
- Given the five-year timeframe means that the Action on Ice plan has reached the end of its first iteration, there is an opportunity to review the outcomes from these initiatives with a view to advocating for their continuation, including the potential to expand services for families from Logan and its surrounds to other high-risk communities in Queensland.

Achieving balance: the Queensland Alcohol and Other Drugs Plan 2022-2027

The Queensland Alcohol and Other Drugs Plan 2022-2027 translates the Queensland Government's focus on preventing and decreasing problematic alcohol and other drug use into concrete steps (Queensland Mental Health Commission, 2022). It recognises that the consumption of alcohol and other drugs is integrated into the lives of many individuals, spanning a spectrum from occasional use to high levels of dependence. It also accepts that alcohol and other drug-related harms can occur at all levels of use and dependence, and that the repercussions of harmful use extend to individuals, families, communities, and the economy.

Although alcohol and other drug harms are pervasive, the Queensland plan acknowledges that they can be reduced and, in some cases, averted. Successfully minimising alcohol and other drug-related harms in Queensland, however, requires the allocation of effort and resources across the three pillars of supply reduction, demand reduction and harm reduction. To that end, the Queensland plan specifies five priorities and three focus areas for investment. The five priority areas are: i) prevention and early intervention; ii) enhanced treatment and support systems; iii) expanded diversion programs; iv) reducing stigma and discrimination; and v) reducing harm. The three focus areas aim to address: i) vulnerabilities at the individual and family level; ii) harm and safety at the community level; and iii) increased impact at the systems level.

"Achieving balance calls for improved coordination across and within systems and sectors and establishes priorities and a strategic direction across the health, social, education, child safety, employment, housing, economic and justice sectors."

Achieving balance: the Queensland Alcohol and Other Drugs Plan 2022-2027, page 14

The stated focus of the Queensland Alcohol and Other Drugs Plan on vulnerable families and improving system-level impacts means that there is a clear opportunity to specifically explore how the child protection system might more effectively engage with a range of other systems in Queensland, including the health care system and the criminal justice system.

3.3 Potential system responses that may further reduce the risk of harm to children associated with parental methamphetamine use

Table 5 (presented at the end of this section) summarises some potential system responses that may further reduce the risk of harm to children associated with parental methamphetamine use.

The case reports showed that although the risks to children from parental use of methamphetamine and other substances were recognised (because they were recorded) there is little evidence about how this information was enacted. This may reflect that service providers, who are not trained in alcohol and other drug use, harms or counselling, are unsure about how to respond appropriately. Consequently, there are a number of responses that could be considered that may help to further reduce the risk of harm to children associated with parental methamphetamine use. These potential responses are organised into two key areas: improving responses to different levels of risk; and improving responses to, and engagement with, First Nations families.

Improving responses to different levels of risk

We have identified six potential responses to different levels of risk. We explain each of them in more detail below but, in summary, these responses are:

(i) increasing the awareness and knowledge of key staff about the risks to children from parental methamphetamine use

(ii) increasing the availability of more actionable information about parental methamphetamine and other alcohol and other drug use in case reports

(iii) increasing the availability of more actionable information on parental alcohol and other drug use;

(iv) increasing options for responding to families with multiple risk factors

(v) improving information sharing between agencies in relation to families with children at high-risk of harm associated with parental methamphetamine (or other drug) use, and

(vi) addressing conscious or unconscious stigma among key staff and agencies.

Increasing the awareness and knowledge of key staff about the risks to children from parental methamphetamine use.

It may be that staff under-appreciate the relatively higher risk to children of parental methamphetamine use, compared to other alcohol and other drug use and, therefore, treat methamphetamine use in the same way as other alcohol and other drug use. This could be because frontline child protection staff see so many families with parental methamphetamine use that they perceive the risks to be lower than they are, or that they are unaware of the extent of risk associated with parental methamphetamine use in general, for parents and their children and the specific risks of methamphetamine use relative to other alcohol and other drug use.

One way to address this issue would be to provide the information in this report to frontline staff and key agencies, along with a brief infographic or summary (to make the information more quickly accessible). The infographics could provide Queensland-specific information such as: rates of suspected parental methamphetamine use among families known to the Queensland child protection system; different levels of risk to children associated with different frequency or intensity of parental methamphetamine use; the availability of support services for families impacted by parental methamphetamine use and harms; tips on informing risk assessments and safety plans; and strategies that workers in the Queensland child protection system could use to improve outcomes for families and children.

Increasing the availability of more actionable information about parental methamphetamine and other alcohol and other drug use in case reports.

Establishing levels of risk is critical to ensuring the scarce resources available to relevant agencies are used as efficiently as possible, however there is no existing methodology, tool or existing threshold definition that would assist workers to understand how methamphetamine use and dosages impacts parenting. Although it is clear in the case reports that parental use of methamphetamines and alcohol and other drug more generally is a risk, there is little evidence of the routine use of standardised screening tools, nor that levels of risk are allocated based on the results of those screening tools.

One option for facilitating the availability of more actionable information on parental methamphetamine and other alcohol and other drug use would be to identify a best-evidence screening tool with allocated actions for different levels of risk. Given these tools are typically used by healthcare workers, some investigation would be needed to determine if staff working in the child protection system could be trained to use them as part of their routine service delivery or if a relationship with a healthcare provider would need to be established. It would be important that this screening tool has the capacity to measure alcohol and other drug use generally, rather than only methamphetamine use, given our review of the case reports identified that poly-drug use was common among families where methamphetamine use had been identified as a concern. This would start the process of generating and using high quality data that are specific to Queensland. Of the tools currently available, the ones most likely to be suitable are:

- *Alcohol, Smoking and Substance Involvement Screening Test (ASSIST).* The original version of this tool asks about lifetime use, and frequency of use in the previous three months, of a range of substances. It is well-known in the alcohol and other drug treatment field in Australia and the outcomes from this tool have been shown to be adequately accurate and reliable (Humeniuk et al., 2008). Respondents are allocated a risk rating (low, moderate or high) for each substance type. A shortened version of this tool, called the ASSIST-Lite, has also been developed (Ali et al., 2013).
- *The Australian Treatment Outcomes Profile (ATOP).* This is a brief tool used to measure recent substance use, risk profile and general health in clients of alcohol and other drug treatment services. It is well-known in the alcohol and other drug treatment field in Australia and the outcomes from this tool have been shown to be adequately accurate and reliable (Deacon et al., 2021). In addition to assessing alcohol and other drug use, the ATOP assesses general health and wellbeing.

- *The Tobacco, Alcohol, Prescription medication and other Substance use (TAPS) Tool*. This tool focuses on the frequency with which a range of substances have been used in the previous three months (Deacon et al., 2021). It comprises a screening component (TAPS-1) combined with a brief assessment for those who screen positive (TAPS-2). This tool generates a level of risk for each respondent that can guide the appropriate response. The current level of evidence for the accuracy and reliability of TAPS in assessing methamphetamine use is not strong, however, and this tool is not commonly used in Australia (Schwartz et al., 2017).

Increasing the availability of more actionable information on parental alcohol and other drug use

To the extent that it is possible to increase the availability of more actionable information about parental methamphetamine and other alcohol and other drug use in case reports, it may be possible to increase the options that staff have for responding to the risks associated with parental use of methamphetamine and other substances. It would be impractical to suggest that already over-stretched workers in the Queensland child protection system might be able to do substantially more, but there may be an opportunity to explore the feasibility of implementing initiatives that are able to be incorporated into existing practice.

For parents who screen as being relatively low-risk of alcohol and other drug harms, there are two relatively low-resource options that may be feasible to implement:

- *Structured feedback and brief responses based on the principles of motivational interviewing (DiClemente et al., 2017).* Motivational interviewing is important because people with relatively low-risk levels of alcohol and other drug use often lack motivation to reduce their alcohol and other drug use (Bischof et al., 2021; DiClemente et al., 2017). Frontline staff could be trained in delivering motivational interviewing, and adopting this approach may even provide benefits beyond alcohol and other drug use because the principles of motivational interviewing could be applied to improving family functioning more generally. Structured feedback could comprise pre-printed materials, or tailored feedback that is immediately generated from electronic screening and provided both verbally and electronically. Indeed, Queensland Health, in collaboration with Metro North Mental Health/Alcohol and Drug Service, have already developed brief information and other resources that could potentially be adapted and applied by staff working in the child protection system (Insight, 2023a), as well as workshops on motivational interviewing in the alcohol and other drug sector that could be adapted to the child protection system (Insight, 2023a). Although feedback, brief responses and motivational interviewing may seem to be of limited value, they are appropriate and best-evidence strategies for encouraging people with problematic alcohol and other drug use to consider their options. The logic is that repeated exposure to feedback and brief responses will increase the likelihood that parents will choose to reduce their alcohol and other drug use.
- *Referral to mutual support groups.* SMART Recovery (Self-Management and Recovery Training) groups are essentially a non-religious version of Alcoholic Anonymous that provide mutual support for people with addictive behaviours (Horvath & Yeterian, 2012). They are growing in popularity in Australia and, in addition to face-to-face groups, online groups convened during the COVID-19 pandemic were shown to be accessible, acceptable and sustainable (Beck, Larance, Baker, et al., 2023). Recent evidence has also shown that methamphetamine use is the second most common reason for people attending a SMART Recovery group in Australia, following alcohol, and that those attending in relation to their methamphetamine use find SMART Recovery groups to be acceptable to them (Beck et al., 2021; Beck, Larance, Manning, et al., 2023). Given online groups are acceptable and accessible to people using methamphetamines,

there may be an opportunity to refer parents using methamphetamine to an online SMART Recovery group or trial the establishment of one specifically for parents using alcohol and other drugs who are engaged in the Queensland child protection system. This trial could be done in collaboration with SMART Recovery Australia (SMART Recovery, 2023).[1]

For parents who screen as being relatively high-risk of alcohol and other drug harms, the only pragmatically viable option is to refer parents to an alcohol and other drug service for more comprehensive assessment and treatment. Since there will likely be a number of barriers to the efficient implementation of this process (e.g. waiting lists, costs, transport), engaging with clinical alcohol and other drug experts in Queensland to explore options would be necessary, especially given this is likely to be a relatively small number of parents. At a minimum, a list of relevant alcohol and other drug treatment services in Queensland could be generated and made available to families through child protection system workers.

In the context of the child protection system, specifically identifying alcohol and other drug services that have the capacity to engage with women (or parents) and their children would be useful, given emerging evidence that residential alcohol and other drug treatment programs that allow parents to reside with their children within the treatment environment have higher rates of treatment completion and extended treatment stays, compared to those who do not have their children with them (Grella et al., 2009).

An example is the Bridgehaven centre, which is a residential alcohol and other drug rehabilitation service for women and women with children based in Melbourne. These services have childcare workers to look after babies and children while their mothers go through detoxification and attend treatment sessions, which typically involve extended periods of sleep. The most common components of treatment are a period of detoxification from methamphetamine use, followed by counselling in either outpatient clinical settings or inpatient settings (counselling can be either in a group counselling session or on an individual basis). Cognitive-Behaviour Therapy (CBT) and Contingency Management are structured interventions that can help individuals reduce their substance use, manage cravings, develop healthier coping strategies, and modify their intentions and attitudes towards their methamphetamine use (National Centre on Substance Abuse and Child Welfare, 2022). Despite treatment having evidence for its effectiveness, it is important to recognise that substance use disorders are chronic, relapsing conditions, and that treatment outcomes are optimised when clients complete treatment and have access to follow-up support.

Irrespective to the level of risk of harm to parents and families, consideration could be given to providing professional development training in methamphetamine or alcohol and other drug issues to staff working in the Queensland child protection system to enhance their confidence and knowledge. This training could be provided using existing resources, such as the 'ice' training package offered from the National Research Centre on Alcohol and Other Drugs Workforce Development (National Research Centre on Alcohol and Other Drugs Workforce Development, 2022). This training has seven independent, but complementary modules on methamphetamine management, prevention, and interventional strategies. It provides information and resources for

[1] Note that the co-author of this report, Professor Anthony Shakeshaft, is a Research Advisor for SMART Recovery Australia and co-authored some of these references.

frontline workers to enhance their existing skills and knowledge on the identification and care of people who are intoxicated with, and/or withdrawing from, crystal methamphetamine.

Increasing options for responding to families with multiple risk factors

Identifying opportunities to further support families beyond alcohol and other drug services is likely to be important for two reasons. First, alcohol and other drug clinical services only address alcohol and other drug issues and may even be unwilling to do that in the presence of other co-occurring risk factors. Second, for many families in contact with the child protection system, addressing alcohol and other drug issues in isolation is unlikely to be sufficient.

Families where children are at high-risk of harm often have multiple challenges in addition to parental substance abuse, including mental health issues, domestic and interpersonal violence, poverty, homelessness, social isolation and economic hardship. Although options for family support are already integrated into the existing Queensland child protection system, the lack of information about their utilisation in case reports suggests that the extent to which they are utilised for families where children are at risk of harm from parental methamphetamine use could be further examined. There are three groups of interventions that could benefit families with children at high-risk of harm that are exposed to multiple risk factors:

1. programs that provide support to women;
2. parenting programs and family therapies; and
3. programs that provide support to relatives of high-risk families.

Programs that provide support specifically to women are important because, compared to men, women are much more likely to be the primary caregiver and are more vulnerable to being victims of physical and sexual assault during each of the use, 'crash' and drug seeking phases of the methamphetamine 'binge-crash' cycle. This means that they are disproportionately more exposed to a range of harms, such as the risk of injury and sexually transmitted infections, as well as being exposed to unintended and unwanted pregnancies. Consequently, they are more likely to require services and support that can accommodate their specific needs. The systematic review (Attachment A) identified a number of potentially appropriate programs that are currently available in Australia and their application to Queensland could be explored:

- *The right@home program*. This is a relationship-based Australian model of sustained nurse home visiting delivered by highly trained professionals and embedded in the universal health service. It is specifically targeted at improving outcomes for children and their families by building parents' capacity to provide safe, responsive care and a home environment that supports children's learning (Goldfeld et al., 2017).
- *The Cornelia Program*. This program, which was established in 2021 in Victoria, provides pregnant women who are experiencing homelessness or insecure housing (e.g. couch-surfing, or staying in unsafe boarding houses) with a supportive pathway. It aims to break the cycle of homelessness and support pregnant women and new mothers through accommodation, health care and social support. It is intended for pregnant women or women who have recently given birth (up to six weeks previously) (The Royal Women's Hospital, 2023).
- *Mercy Community New Families program*. This is a service for new mothers and eligibility is limited to mothers (or expectant mothers) subject to statutory Child Safety involvement. Mercy

Community's New Families Program is a live-in model of care that aims to partner with new mothers to improve their parenting skills, provide education on behaviours that put their babies at risk (such as substance use) and connect with community services to build a robust safety and support network (Mercy community, 2023).

Parenting programs and family therapies aim to provide comprehensive treatment to address the complex needs of families with children at high-risk of harm and improve overall family well-being. Internationally, governments are increasingly trialling the effectiveness and costs of delivering parenting and family therapy programs to high-risk families as an alternative to out-of-home care. These programs are adapted to, and delivered within, the existing child protection frameworks of different countries and jurisdictions. Although these types of programs do currently exist in Queensland, our review of the case reports identified a lack of information about the extent to which they are utilised for families where children are at risk of harm from parental methamphetamine use. Although beyond the scope of this review, there is an opportunity to explore why this might be the case. It might be anticipated that possible reasons would include difficulties with maintaining effective referral pathways, programs being over-subscribed (meaning substantial waiting times), challenges in gaining access to programs (due to issues such as the cost and inconvenience of travelling to clinics and inflexible hours of operation), a reluctance from families to participate, and a lack of clarity about the appropriateness of different intervention programs for different families.

Nevertheless, family therapies are likely to be highly appropriate for high-risk families in the child protection system because they can engage with the whole family and it avoids families being referred between different agencies. It is usual, for example, for alcohol and other drug-specific services to be reluctant to engage in the child protection system, and for families exposed to co-occurring alcohol and other drug and mental health challenges to be referred between alcohol and other drug and mental health services.

The systematic review (Attachment A), identified a number of parenting and family therapy programs that are available in Australia and their application to the Queensland child protection system could be explored:

- *Parenting programs identified in the systematic review (Attachment A).* We identified studies that evaluated three different programs: i) the Shift Parent Training Program (Bosanquet et al., 2013); ii) the Parent-Child Assistance Program (PCAP) (Hildebrandt et al., 2020); and iii) the parents who use methamphetamines program (Saldana et al., 2021).
- *Parenting programs available in Queensland*. There are at least two well-established parenting programs available in Queensland: the Positive Parenting Program (Triple P) and Parents Under Pressure (PUP). Triple P is a structured parenting skills program that is already made available by the Queensland Government (Queensland Health, 2021). Although it has an established evidence-base, it is unlikely to be particularly relevant to high-risk families engaged in the child protection system who are struggling with complex needs. PUP is an alternative program for parents developed at Griffith University in Queensland, which also has an established evidence base (Parents Under Pressure, 2023). It is much more likely to be relevant to families already engaged in the child protection system because it specifically targets families with complex and multiple problems. It can also address some of the limitations of accessing family therapies and parenting programs because it has been designed to be delivered in a range of settings, including in family homes. Its application for First Nations families has been considered (Secretariat of

National Aboriginal and Islander Child Care, 2017), and members of Family Wellbeing Service Teams in at least some Aboriginal Community Controlled Health Organisations (ACCHOs) in Queensland have been accredited under the PUP framework (Institute for Urban Indigenous Health, 2023). Given the capacity for delivering PUP exists, an evaluation of its current uptake could be undertaken, with a view to determining how the PUP program might best be utilised in future, especially for children at high-risk of harm from parental use of methamphetamine.

- *Family therapy delivered in the NSW child protection system*. The NSW Government has recently trialled the state-wide uptake of two different family therapies: Multisystemic Therapy for Child Abuse and Neglect (MST-CAN®) and Functional Family Therapy-Child Welfare (FFT-CW®). These programs engage with the whole family and seek to address the impacts of trauma and harm on families. Their primary aims are to increase the level of safety for children living with their families to reduce the need for out-of-home care and increase the likelihood that children can be returned to their families. Of these two family therapies, MST-CAN® is more intensive and is able to be delivered to families at any time. Although an evaluation of the uptake of these programs in NSW was too early to assess outcomes, it showed that program completion rates were reasonable and that both families and service providers were enthusiastic about the programs (Shakeshaft et al., 2018).[2] These programs are expensive to deliver but it would be worth exploring current outcomes with the NSW Government and, if they are positive, consideration could be given to a trial of a Queensland-adapted version of family therapy delivered within the Queensland child protection system framework.
- *Other family therapy approaches.* The Matrix Model is another intervention that represents a successful treatment method for addressing methamphetamine use disorder. It involves a 16-week comprehensive behavioural treatment program that integrates behavioural therapy, family education, individual counselling, support from the 12-step framework, periodic drug testing, and motivation to engage in non-drug-related activities (AshaRani et al., 2020; Rawson et al., 2004). In all these interventions, parents need to be actively involved in the planning, decision-making, and delivery of services related to their family's case plan. For children placed in out-of-home care, prioritise quality family time (visitation) with parents. Frequent and consistent family interactions provide parents opportunities to practise essential child-rearing skills and promote ongoing attachment and bonding among family members.

Programs that provide support to relatives of high-risk families can be important given the deleterious impacts of parental methamphetamine use typically spill-over into extended families, causing stress, anxiety, frustration and a sense of helplessness, and there is some emerging evidence for their effectiveness (Rushton et al., 2023). The systematic review (Attachment A), in combination with the authors' own knowledge, identified two options that could be explored:

- *The SMART Recovery Family and Friends program.* This new program is a mutual support group that is convened by video-conference. The initial evaluation was of a program specifically for family and friends of affected by a relative's methamphetamine use (Ruston et al., 2023). The results showed that these groups are feasible to deliver the program (an average of six out of eight modules were completed), and were rated highly by participants in terms of their level of satisfaction, reduced psychological distress and symptoms, and reduced family burden. There may be an opportunity to trial the establishment of a SMART program for the families and friends

[2] Note that the co-author of this report, Professor Anthony Shakeshaft, was the lead researcher for the evaluation of MST-CAN® and FFT-CW® in NSW, which was funded by the NSW Government.

of parents who are using methamphetamine and are engaged in the Queensland child protection system.

- *Community reinforcement approach and family training (CRA and CRAFT).* These programs, which have emerged from the US, aim to address the unique needs of each family member, enhancing family functioning, strengthening relationships within the family unit, and expanding social support networks (Archer et al., 2020; Meyers et al., 1998). Although there is some emerging evidence for their effectiveness in reducing alcohol and other drug-related harms among First Nations and non-First Nations families in Australia (Calabria et al., 2020), establishing these programs in Australia is relatively resource intensive and requires specialist training, meaning it is currently unlikely to be of pragmatic value for use in the Queensland child protection system.

Addressing conscious or unconscious stigma among key staff and agencies

Even in cases where frontline workers appreciate the risks and have sufficient information, inadequate responses may be a consequence of stigma. This stigma, or unconscious bias, could be manifested in different ways, including a nonchalance about the risks, a perception that parents have an uninhibited capacity to protect their children and a willingness to accept 'disguised compliance' too easily, where parents or caregivers portray cooperation with agencies to prevent arousing suspicion and quelling concerns (NSPCC Learning, 2020). An indication of the importance of stigma is that the second recommendation of the NSW Government's 2020 Special Commission of Inquiry into Crystal Methamphetamine and Other Amphetamine-Type Stimulants was: "That NSW Health develop and implement a project to reduce stigma, …" (Howard D, 2020).

The issue of stigma in relation to alcohol and other drug dependence is not limited to the staff of key agencies engaged in child safety, but is a complex societal issue that can have far-reaching impacts on individuals, families, and communities. Stigma can negatively impact on children because parents who are using methamphetamines may be discouraged from seeking help for their substance use disorders if they experience negativity from child welfare agencies, healthcare providers and educational institutions. Regardless of the extent to which parents' experience is real or perceived, stigma and bias inhibit their willingness to access a range of services that are designed to support them and their children, such as prenatal care, maternal care and child support services. Mothers who do not access adequate prenatal care, for example, may be putting their fetuses at increased risk of poor development, which can lead to birth complications. The perception of stigma or bias activates feelings of shame and judgment about their ability to provide a safe and stable environment for their children, and may increase their concerns that their children will be removed into out-of-home care. Parents who use methamphetamines are also likely to have experienced stigma in their interactions with the legal system, which can negatively impact the outcomes of cases relating to child custody, visitation rights and criminal charges associated with their acquisition and use of alcohol and other drugs. Parents need to be supported to access treatment programs to improve safety and permanency outcomes for their children.

Although comprehensively responding to the stigma of parental methamphetamine use is complex (Deen et al., 2021; Semple et al., 2005), there are at least three ways this could be addressed: i) examine the possibility of establishing a process to routinely review family files and reports to ensure they use objective and non-judgmental language in relation to parental alcohol and other drug use, and provide feedback to the authors of those reports; ii) explore the feasibility of providing stigma training by leveraging existing training programs already being used by other Queensland

agencies (Queensland Mental Health Commission, 2018); and iii) investigate the development and implementation of trauma-informed care into the delivery of services in the Queensland child protection system, as a longer-term initiative. The objective of each of these three options is to promote greater understanding of the socio-economic and inter-generational determinants of alcohol and other drug dependence and child welfare issues which, in turn, would improve the engagement of high-risk families in a range of support services and more effectively ensure the wellbeing of children at increased risk of harm. It is important to note, however, that these strategies should not be used to reduce or avoid the articulation of the specific and actual risks of harm to children in different situations. Rather, the goal is to do both: clearly articulate specific and actual risks to children using language and other techniques that minimise the risk of stigma.

Routinely reviewing family files and reports to ensure they clearly report risks to children using objective and non-judgmental language could be done in practice by using artificial intelligence that has been specifically trained in non-stigmatising language. This would be an efficient and low-cost mechanism to systematically review family files and reports in relation to families in contact with the child protection system, including the specific issue of parental alcohol and other drug use. Providing feedback on the results of this process to the authors of case notes and reports would aim to improve the quality of reporting over time, and bring into focus for staff the importance of being continually aware of the risk of stigma.

The primary intent of stigma training would be to increase awareness of unconscious bias and stigma, with the aim of incrementally improving the attitudes and responses of staff who are working in the Queensland child protection system and achieving positive organisational change. Resources have already been developed in the Queensland setting that are potentially highly relevant to the child protection system, including:

- The Queensland Mental Health Commission produced a report titled: “Changing attitudes, changing lives. Options to reduce stigma and discrimination for people experiencing problematic alcohol and other drug use” (Queensland Mental Health Commission, 2018). The purpose of the report was to identify options for reducing stigma and discrimination experienced by people with problematic alcohol and other drug use. It found that welfare and support services were one of five settings in Queensland in which stigma and discrimination were pervasive and proposed 18 options for reform. One of the reform options was to examine the opportunity to “…identify and promote effective anti-stigma training activities and resources, including examination of the ‘Putting Together the Puzzle’ anti-stigma program that has been delivered in Queensland” (p16) (Queensland Mental Health Commission, 2018). The suitability of this training package for the Queensland child protection system could be examined.

“Challenging stigma” is an e-learning module that is available on the INSIGHT website, which is an initiative of Queensland Health that was delivered by Metro North’s Mental Health/Alcohol and Drug Service (Dovetail, 2023; Insight, 2023b). This module could be made available to staff working in the Queensland child protection system, or the development of a child protection system-specific version of this module could be explored.

Improved responses to, and engagement with, First Nations families

In determining how best to respond to First Nations families with parents using methamphetamines, our systematic review (see Attachment A) only identified three studies published between 2018 and 2023 that included First Nations people. A summary of each of these studies is as follows.

- One study explored the extent to which First Nations identified risk and protective factors for methamphetamine use aligned with an established prevention strategy called the 'Communities that Care' model (Reilly et al., 2020). This model is a youth-focused and community-led alcohol and other drug harm prevention process that focuses on four domains: i) community; ii) family; iii) school; and iv) peer/individual. For this study, 147 people (80 per cent of whom were First Nations) participated in a focus group in First Nations communities across Australia. Although the four domains of the 'Communities that Care' model were regarded as relevant, it was clear that these four domains did not adequately respond to the issues of central importance to First Nations communities and people, which the authors articulated as the need for an additional domain titled 'Culture and Identity.' Consequently, the authors argued that there is a need to develop First Nations community-informed models of alcohol and other drug prevention and harm minimisation that reflect the uniqueness of First Nations communities.
- The second was a qualitative descriptive study (O'Connor et al., 2021) which aimed to explore and understand the experience of using methamphetamine in pregnancy and how methamphetamine use impacts on women and their families. Interviews with 20 women (nine of whom identified as First Nations), identified five themes: i) patterns of drug use and pregnancy; ii) mental health; iii) family and domestic violence; iv) child protection and family support; and v) support services and assistance. The majority of women reported multiple layers of trauma in early childhood that impacted on their lives and their ability to parent their children, which increased the likelihood of risk-taking behaviour and self-medicating on illicit substances as a coping mechanism. The First Nations women in this study reported experiencing family and domestic violence, incarceration, infant removal and fear of the child protection system. The removal of children may compound the experience of inter-generational trauma for First Nations women, given some raised concerns about the child protection system essentially representing another stolen generation. They acknowledged that the removal of their children for longer periods of time creates diminished opportunities for passing on their family, parenting and community knowledge and values.
- The third was a prospective cohort study of 112 women who were using methamphetamine and attending an alcohol and other drug service for pregnancy care (O'Connor et al., 2020). There were 59 First Nations women in this cohort, which represents 53 per cent of the cohort. First Nations women were more likely to be involved in the child protection system than Caucasian women (89 per cent and 22 per cent, respectively), and to have had a child removed from their custody (73 per cent and 27 per cent, respectively). Women whose children had been removed had experienced multiple risk-factors in their lives, including homelessness, being in prison, unemployment, methamphetamine use and mental health challenges. The authors concluded that this study demonstrates the need for a First Nations-specific response that is transformational in genuinely engaging with First Nations communities and women, and building on the strengths and resilience they have developed in coping with the risk factors they have experienced. The goal should be to develop trusting relationships between women using methamphetamines or other substances, and to provide services that focus on protecting and enhancing the safety and wellbeing of children, to minimise the need for child removal.

This limited research evidence on methamphetamine use by First Nations parents identified in our systematic review is highly problematic given the over-representation of First Nations families in the child protection system, and other human services systems, in Australia. The need for First Nations-specific responses in child protection systems in Australia is made more acute by Australia's history of stolen generations and the ongoing inter-generational trauma of colonisation.

The essence of what a First Nations specific response would entail, was clearly articulated in the conclusion of the paper by Reilly et al. (Reilly et al., 2020) in relation to alcohol and other drug services:

> *"To have credibility in Aboriginal communities and to be effective, prevention frameworks must address those factors that are most salient to the experience of Aboriginal people and communities. Efforts to prevent harmful alcohol and other drug use are best placed within a health system that is equipped to identify and treat complex grief and trauma. Conversely, fostering positive cultural identity and pride and having access to cultural resources are fundamental to the wellbeing of many Aboriginal people. Planning, implementation and evaluation of prevention programs need to account for these factors…"*

Table 1: Summary of potential opportunities for improving system responses

Strategy	Opportunities	Options for operationalising opportunities
Improving responses to different levels of risk	i) increasing workers' awareness and understanding of the signs that indicate harm and/or unacceptable risk of harm to children.	• Provision of this report to staff • Periodically updated infographics, with topics such as: - rates of suspected parental methamphetamine use in families known to Queensland child protection system; - different levels of risk to children known to the Queensland child protection system associated with different frequency or intensity of parental methamphetamine use; - existing knowledge about the harms to children associated with parental methamphetamine use; - the nature of methamphetamine-specific risks, including to children in 'crash periods'; - strategies that workers in the Queensland child protection system could use; - tips on informing risk assessments and safety plans; - the availability of support services in Queensland; and - treatment options and their effectiveness.
	ii) increasing the availability of more actionable information about parental methamphetamine and other alcohol and other drug use in case reports.	• Explore greater utilisation of standardised and brief tools to assess methamphetamine and other alcohol and other drug use, such as: - Alcohol, Smoking and Substance Involvement Screening Test (ASSIST or ASSIST-Lite); - Australian Treatment Outcomes Profile (ATOP); - Tobacco, Alcohol, Prescription medication and other Substance use (TAPS).
	iii) increasing the availability of more actionable information on parental alcohol and other drug use.	• For parents whose methamphetamine/alcohol and other drug use is screened as low-risk: - provide structured feedback and/or brief intervention adapted from existing resources; - train child protection system staff in motivational interviewing; or - refer to mutual support groups, such as SMART Recovery. • For parents whose methamphetamine/alcohol and other drug use is screened as high-risk:

	- explore referral options for comprehensive assessment and treatment with alcohol and other drug experts in Queensland; - generate and make available to child protection system workers a list of relevant alcohol and other drug treatment services in Queensland that will accept referrals; or - identify alcohol and other drug services that engage with women (or parents) and their children. • Irrespective of the level of risk of parental methamphetamine/ alcohol and other drug use, utilise existing training packages to build child protection system staff knowledge and confidence in methamphetamine and alcohol and other drugs.
iv) increasing options for responding to families with multiple risk factors	• Explore the application to Queensland of programs that provide support to women that are currently available in Australia, such as the right@home program, the Cornelia Program, and the Mercy Community New Families program. • Explore the viability of increasing the availability of parenting programs and family therapies in the Queensland child protection system, especially the Parents Under Pressure (PUP) program and the family therapies being trialled in the NSW child protection system. • Refer to programs that provide support to relatives of high-risk parents, such as SMART Recovery Australia's Family and Friends program.
v) addressing conscious or unconscious stigma among key staff and agencies	• Ensure objective and non-judgmental language is used in family files and reports, and provide feedback to the authors. • Provide stigma training by leveraging existing training programs already being used by other Queensland agencies. • Integrate trauma-informed care into the delivery of services in the Queensland child protection system (a longer-term initiative).

4. References

Abbasi-Kangevari, M., Abd-Allah, F., Adekanmbi, V., Adetokunboh, O. O., Al-Mekhlafi, H. M., …Yahyazadeh Jabbari, S. H. (2020). Global burden of 87 risk factors in 204 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019. Lancet, 396(10258), 1223-1249. https://doi.org/10.1016/S0140-6736(20)30752-2

Adley, M., Jones, G., & Measham, F. (2023). Jump-starting the conversation about harm reduction: making sense of drug effects. Drugs: education, prevention & policy, 30(4), 347-360. https://doi.org/10.1080/09687637.2021.2013774

Alcohol and Drug Foundation. (2017). Withdrawal from methamphetamine (ice). https://www.murrayphn.org.au/wpcontent/uploads/2017/12/ADF_FactSheet_IceWithdrawal_PHN-4pp.pdf

Alcohol and Drug Foundation. (2021). Drug wheel. https://adf.org.au/insights/drug-wheel/

Ali, R., Meena, S., Eastwood, B., Richards, I., & Marsden, J. (2013). Ultra-rapid screening for substance-use disorders: The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST-Lite). Drug Alcohol Depend, 132(1), 352-361. https://doi.org/10.1016/j.drugalcdep.2013.03.001

Allegheny County. (2016). The Allegheny Family Screening Tool. https://www.alleghenycounty.us/Human-Services/News-Events/Accomplishments/Allegheny-Family-Screening-Tool.aspx#:~:text=The%20AFST%20is%20a%20predictive,synthesized%20visualization%20of%20the%20information.

Archer, M., Harwood, H., Stevelink, S., Rafferty, L., & Greenberg, N. (2020). Community reinforcement and family training and rates of treatment entry: A systematic review. Addiction, 115(6), 1024-1037.

AshaRani, P., Hombali, A., Seow, E., Ong, W. J., Tan, J. H., & Subramaniam, M. (2020). Non-pharmacological interventions for methamphetamine use disorder: a systematic review. Drug and Alcohol Dependence, 212, 108060.

Athanasakis, E., Karavasiliadou, S., & Styliadis, I. (2011). The factors contributing to the risk of sudden infant death syndrome. Hippokratia, 15(2), 127-131.

Atkinson, J. (2013). Trauma-informed services and trauma-specific care for Indigenous Australian children.

Austin, A. E., Gest, C., Atkeson, A., Berkoff, M. C., Puls, H. T., & Shanahan, M. E. (2022). Prenatal Substance Exposure and Child Maltreatment: A Systematic Review. Child Maltreat, 27(2), 290-315. https://doi.org/10.1177/1077559521990116

Australian Criminal Intelligence Commission. (2023). National Wastewater Drug Monitoring Program, Report 19. https://www.acic.gov.au/sites/default/files/2023-07/National%20Wastewater%20Drug%20Monitoring%20Program%20-%20Report%2019_0.pdf

Australian Institute of Health and Welfare. (2018). Australia's health 2018. https://www.aihw.gov.au/reports/australias-health/australias-health-2018/contents/about

Australian Institute of Health and Welfare. (2020). National Drug Strategy Household Survey. https://www.aihw.gov.au/reports/illicit-use-of-drugs/national-drug-strategy-household-survey-2019/contents/summary

Australian Institute of Health and Welfare. (2022a). Child protection Australia 2020–21. https://www.aihw.gov.au/reports/child-protection/child-protection-australia-2020-21/contents/children-receiving-child-protection-services/aboriginal-and-torres-strait-islander-children-in-the-child-protection-system

Australian Institute of Health and Welfare. (2022b). Determinants of health for Indigenous Australians. https://www.aihw.gov.au/reports/australias-health/social-determinants-and-indigenous-health

Australian Institute of Health and Welfare. (2023a). The Australia's mothers and babies report: Australia's mothers and babies. https://www.aihw.gov.au/reports/mothers-babies/australias-mothers-babies/contents/overview-and-demographics/maternal-age

Australian Institute of Health and Welfare. (2023b). Illicit drug use. https://www.aihw.gov.au/reports/illicit-use-of-drugs/illicit-drug-use

Beaton, B., & Copes, H. (2023). Parenting Narratives Among Methamphetamine Using Mothers and Fathers. Crime and delinquency, 69(6-7), 1236-1255. https://doi.org/10.1177/00111287211073675

Beck, A. K., Larance, B., Baker, A. L., Deane, F. P., Manning, V., Hides, L., & Kelly, P. J. (2023). Supporting people affected by problematic alcohol, substance use and other behaviours under pandemic conditions: A pragmatic evaluation of how SMART recovery Australia responded to COVID-19. Addict Behav, 139, 107577-107577. https://doi.org/10.1016/j.addbeh.2022.107577

Beck, A. K., Larance, B., Deane, F. P., Baker, A. L., Manning, V., Hides, L., Shakeshaft, A., Argent, A., & Kelly, P. J. (2021). The use of Australian SMART Recovery groups by people who use methamphetamine: Analysis of routinely-collected nationwide data. Drug and Alcohol Dependence, 225, 108814-108814. https://doi.org/10.1016/j.drugalcdep.2021.108814

Beck, A. K., Larance, B., Manning, V., Hides, L., Baker, A. L., Deane, F. P., Shakeshaft, A., Raftery, D., & Kelly, P. J. (2023). Online SMART Recovery mutual support groups: Characteristics and experience of adults seeking treatment for methamphetamine compared to those seeking treatment for other addictive behaviours. Drug Alcohol Rev, 42(1), 20-26. https://doi.org/10.1111/dar.13544

Bischof, G., Bischof, A., & Rumpf, H.-J. (2021). Motivational interviewing: an evidence-based approach for use in medical practice. Deutsches Ärzteblatt International, 118(7), 109.

Blair, P. S., Sidebotham, P., Evason-Coombe, C., Edmonds, M., Heckstall-Smith, E. M. A., & Fleming, P. (2009). Hazardous co-sleeping environments and risk factors amenable to change: case-control study of SIDS in south west England. BMJ, 339(7726), 911-911. https://doi.org/10.1136/bmj.b3666

Boone, S. V. (2019). Factors Associated with the Reunification of Foster Care Children and Their Mothers ProQuest Dissertations Publishing].

Bosanquet, D., MacDougall, H. G., Rogers, S. J., Starmer, G. A., McKetin, R., Blaszczynski, A., & McGregor, I. S. (2013). Driving on ice: impaired driving skills in current methamphetamine users. Psychopharmacology (Berl), 225(1), 161-172. https://doi.org/10.1007/s00213-012-2805-y

Brecht, M.-L., & Herbeck, D. (2014). Time to relapse following treatment for methamphetamine use: A long-term perspective on patterns and predictors. Drug Alcohol Depend, 139, 18-25. https://doi.org/10.1016/j.drugalcdep.2014.02.702

Brown, J. A., & Hohman, M. (2006). The Impact of Methamphetamine Use on Parenting. Journal of social work practice in the addictions, 6(1-2), 63-88. https://doi.org/10.1300/J160v06n01_04

Calabria, B., Shakeshaft, A. P., Clifford, A., Stone, C., Clare, P. J., Allan, J., & Bliss, D. (2020). Reducing drug and alcohol use and improving well-being for Indigenous and non-Indigenous Australians using the Community Reinforcement Approach: A feasibility and acceptability study. Int J Psychol, 55(S1), 88-95. https://doi.org/10.1002/ijop.12603

Campillo, R. (2022). My Experience and Recovery from Meth Addiction. Mo Med, 119(6), 500-500.

Cartwright, K., Taylor, S., & Gray, D. (2018). Development of resources to prevent methamphetamine ('ice') related harms in the Aboriginal and Torres Strait Islander population: Focus Groups Report https://ndri.curtin.edu.au/ndri/media/documents/publications/T268.pdf

Castaneto, M. S., Barnes, A. J., Scheidweiler, K. B., Schaffer, M., Rogers, K. K., Stewart, D., & Huestis, M. A. (2013). Identifying Methamphetamine Exposure in Children. Ther Drug Monit, 35(6), 823-830. https://doi.org/10.1097/FTD.0b013e31829685b2

Child Death Review Board. (2020). Our purpose https://www.cdrb.qld.gov.au/

Child Death Review Board. (2021). Reports and publications. https://www.cdrb.qld.gov.au/

Chrzanowska, A., Man, N., Akhurst, J., Sutherland, R., Degenhardt, L., & A., P. (2022). Trends in drug-related hospitalisations in Australia, 1999-2021. . N. D. a. A. R. Centre.

Chrzanowska, A., Man, N., Akhurst, J., Sutherland, R., Degenhardt, L., & A., P. (2023). Trends in overdose and other drug-induced deaths in Australia, 2002-2021. .

Chu, E. K., Smith, L. M., Derauf, C., Newman, E., Neal, C. R., Arria, A. M., Huestis, M. A., DellaGrotta, S. A., Roberts, M. B., Dansereau, L. M., & Lester, B. M. (2020). Behavior Problems During Early Childhood in Children With Prenatal Methamphetamine Exposure. Pediatrics, 146(6), 1. https://doi.org/10.1542/peds.2019-0270

Clifford, B., Van Gordon, K., Magee, F., Malone, V., Siefried, K. J., Graham, D., & Ezard, N. (2023). "There's a big tag on my head": exploring barriers to treatment seeking with women who use methamphetamine in Sydney, Australia. BMC Health Serv Res, 23(1), 162-162. https://doi.org/10.1186/s12913-023-09125-z

Corlis, M., Damashek, A., Meister, K., Richardson, H., & Bonner, B. (2020). Sibling Child Protective Services Involvement Following a Child Maltreatment Fatality. Child Maltreat, 25(1), 43-50. https://doi.org/10.1177/1077559519856435

Cunningham, S., & Finlay, K. (2013). PARENTAL SUBSTANCE USE AND FOSTER CARE: EVIDENCE FROM TWO METHAMPHETAMINE SUPPLY SHOCKS. Economic inquiry, 51(1), 764-782. https://doi.org/10.1111/j.1465-7295.2012.00481.x

Cusick, M. (2017). Mens Rea and Methamphetamine: High Time for a Modern Doctrine Acknowledging the Neuroscience of Addiction. Fordham Law Rev, 85(5), 2417-2449.

D'Souza, L., Morris, Z. A., Borgkvist, A., & Blunden, S. (2023). Understanding motivations and satisfaction with sleep location among co-sleeping (including bed-sharing) parents. Family Relations.

Damashek, A., & Bonner, B. L. (2010). Factors related to sibling removal after a child maltreatment fatality. Child Abuse Negl, 34(8), 563-569. https://doi.org/10.1016/j.chiabu.2009.12.006

Darke, S., Kaye, S., & Duflou, J. (2017). Rates, characteristics and circumstances of methamphetamine-related death in Australia: a national 7-year study. Addiction, 112(12), 2191-2201. https://doi.org/10.1111/add.13897

Deacon, R. M., Mammen, K., Bruno, R., Mills, L., Dunlop, A., Holmes, J., Jefferies, M., Hall, M., Shakeshaft, A., Farrell, M., Graham, R., & Lintzeris, N. (2021). Assessing the concurrent validity, inter-rater reliability and test- re-test reliability of the Australian Treatment Outcomes Profile (ATOP) in alcohol and opioid treatment populations. Addiction, 116(5), 1245-1255. https://doi.org/10.1111/add.15331

Deen, H., Kershaw, S., Newton, N., Stapinski, L., Birrell, L., Debenham, J., Champion, K. E., Kay-Lambkin, F., Teesson, M., & Chapman, C. (2021). Stigma, discrimination and crystal methamphetamine ('ice'): Current attitudes in Australia. Int J Drug Policy, 87, 102982-102982. https://doi.org/10.1016/j.drugpo.2020.102982

Defining Wellness. (2022). How many meth addicts recover? https://definingwellness.com/resources/how-many-meth-addicts-recover/

Delphi Behavioural Health Group. (2019). Meth Use Statistics Around the World (2019). https://delphihealthgroup.com/stimulants/methamphetamine/global-use-statistics/

DiClemente, C. C., Corno, C. M., Graydon, M. M., Wiprovnick, A. E., & Knoblach, D. J. (2017). Motivational interviewing, enhancement, and brief interventions over the last decade: A review of reviews of efficacy and effectiveness. Psychology of Addictive Behaviors, 31(8), 862.

Dinger, J., Hinner, P., Reichert, J., & Rüdiger, M. (2017). Methamphetamine Consumption during Pregnancy – Effects on Child Health. Pharmacopsychiatry, 50(3), 107-113. https://doi.org/10.1055/s-0042-122711

Dovetail. (2023). Working with families and significant others. https://www.dovetail.org.au/media/1190/dovetail_gpg_5_working-with-families-and-significant-others.pdf

Dyba, J., Moesgen, D., Klein, M., & Leyendecker, B. (2019a). Methamphetamine Use in German Families: Parental Substance Use, Parent-Child Interaction and Risks for Children Involved. Subst Use Misuse, 54(4), 583-591. https://doi.org/10.1080/10826084.2018.1528459

Dyba, J., Moesgen, D., Klein, M., & Leyendecker, B. (2019b). Mothers and fathers in treatment for methamphetamine addiction—Parenting, parental stress, and children at risk. Child & family social work, 24(1), 106-114. https://doi.org/10.1111/cfs.12587

Dyba, J., Moesgen, D., Klein, M., Pels, F., & Leyendecker, B. (2019). Evaluation of a family-oriented parenting intervention for methamphetamine-involved mothers and fathers – The SHIFT Parent Training. Addict Behav Rep, 9, 100173-100173. https://doi.org/10.1016/j.abrep.2019.100173

Family and Friends Support Program (FFSP). (2023). WHAT ARE THE FAMILY AND FRIENDS SUPPORT PROGRAMS? https://ffsp.com.au/

Gendera, S., Treloar, C., Reilly, R., Conigrave, K. M., Butt, J., Roe, Y., & Ward, J. (2022). 'Even though you hate everything that's going on, you know they are safer at home': The role of Aboriginal and

Torres Strait Islander families in methamphetamine use harm reduction and their own support needs. Drug Alcohol Rev, 41(6), 1428-1439. https://doi.org/10.1111/dar.13481

Goldfeld, S., Price, A., Bryson, H., Bruce, T., Mensah, F., Orsini, F., Gold, L., Hiscock, H., Smith, C., Bishop, L., Jackson, D., & Kemp, L. (2017). 'right@home': a randomised controlled trial of sustained nurse home visiting from pregnancy to child age 2 years, versus usual care, to improve parent care, parent responsivity and the home learning environment at 2 years. BMJ Open, 7(3), e013307-e013307. https://doi.org/10.1136/bmjopen-2016-013307

Gonzales, M. (2023). Meth comedown. https://www.drugrehab.com/addiction/drugs/crystal-meth/comedown/

Government of Western Australia. (2023). Women and Newborn Drug and Alcohol Service (WANDAS). Retrieved 15 Oct from https://www.kemh.health.wa.gov.au/~/media/HSPs/NMHS/Hospitals/WNHS/Documents/Clinical-guidelines/Obs-Gyn-Guidelines/Women-and-Newborn-Drug-and-Alcohol-Service---WANDAS.pdf?thn=0#:~:text=The%20Women%20and%20Newborn%20Drug%20and%20Alcohol%20Service,well-being%20and%20the%20medical%20needs%20of%20their%20infants.

Grella, C. E. P. D., Needell, B. P. D., Shi, Y. M. S., & Hser, Y.-I. P. D. (2009). Do drug treatment services predict reunification outcomes of mothers and their children in child welfare? J Subst Abuse Treat, 36(3), 278-293. https://doi.org/10.1016/j.jsat.2008.06.010

Haight, W., Jacobsen, T., Black, J., Kingery, L., Sheridan, K., & Mulder, C. (2005). "In these bleak days": Parent methamphetamine abuse and child welfare in the rural Midwest. Children and youth services review, 27(8), 949-971. https://doi.org/10.1016/j.childyouth.2004.12.025

Haight, W., Ostler, T., Black, J., Sheridan, K., & Kingery, L. (2007). A child's-eye view of parent methamphetamine abuse: Implications for helping foster families to succeed. Children and youth services review, 29(1), 1-15. https://doi.org/10.1016/j.childyouth.2006.03.007

Hall, M. T., Hardy, G. C., Golder, S., Huebner, R. A., McNeil, A. J., & Walton, M. T. (2023). Substance use and other factors associated with child welfare case duration: Looking beyond out of home care. Child & family social work, 28(1), 136-146. https://doi.org/10.1111/cfs.12948

Harst, L., Deckert, S., Haarig, F., Reichert, J., Dinger, J., Hellmund, P., Schmitt, J., & Ruediger, M. (2021). Prenatal Methamphetamine Exposure: Effects on Child Development A Systematic Review. Dtsch Arztebl Int, 118(18), 313-319. https://doi.org/10.3238/arztebl.m2021.0128

Hayward, R. A., DePanfilis, D., & Woodruff, K. (2010). Parental Methamphetamine Use and Implications for Child Welfare Intervention: A Review of the Literature. Journal of public child welfare, 4(1), 25-60. https://doi.org/10.1080/15548730903563095

Hickert, A., Rowley, B., & Doyle, M. (2021). Perinatal Methamphetamine Use: A Review of the Literature. Psychiatric annals, 51(4), 189-197. https://doi.org/10.3928/00485713-20210303-01

Higgins, D. J., Mathews, B., Pacella, R., Scott, J. G., Finkelhor, D., Meinck, F., Erskine, H. E., Thomas, H. J., Lawrence, D. M., Haslam, D. M., Malacova, E., & Dunne, M. P. (2023). The prevalence and nature of multi-type child maltreatment in Australia. Med J Aust, 218(S6), S19-S25. https://doi.org/10.5694/mja2.51868

Hildebrandt, U. C., Graham, J. C., & Grant, T. M. (2020). Predictors and moderators of improved social-emotional functioning in mothers with substance use disorders and their young children

enrolled in a relationship-based case management program. Infant Ment Health J, 41(5), 677-696. https://doi.org/10.1002/imhj.21872

Hoffmann, L., Buchenauer, L., Schumann, N., Schröder, S. L., Martin, O., & Richter, M. (2019). Improving Rehabilitative Care of Methamphetamine Users in Germany: The Expert's Perspective. Qual Health Res, 29(2), 248-259. https://doi.org/10.1177/1049732318792504

Horvath, A., & Yeterian, J. (2012). SMART Recovery: Self-Empowering, Science-Based Addiction Recovery Support. Journal of Groups in Addiction & Recovery, 7, 102-117. https://doi.org/10.1080/1556035X.2012.705651

Howard D. (2020). Special commission of inquiry into crystal methamphetamine and other amphetamine-type stimulants Retrieved 15 Oct from https://www.nsw.gov.au/sites/default/files/noindex/2023-07/Special-inquiry-ice-report-volume-1a.pdf

Humeniuk, R., Ali, R., Babor, T. F., Farrell, M., Formigoni, M. L., Jittiwutikarn, J., de Lacerda, R. B., Ling, W., Marsden, J., Monteiro, M., Nhiwatiwa, S., Pal, H., Poznyak, V., & Simon, S. (2008). Validation of the alcohol, smoking and substance involvement screening test (ASSIST). Addiction, 103(6), 1039-1047. https://doi.org/10.1111/j.1360-0443.2007.02114.x

Hunt, C. E. (2007). Small for gestational age infants and sudden infant death syndrome: a confluence of complex conditions. Arch Dis Child Fetal Neonatal Ed, 92(6), F428-F430. https://doi.org/10.1136/adc.2006.112243

Insight. (2023a). Toolkits. Retrieved 10 Oct from https://insight.qld.edu.au/

Insight. (2023b). Workshops. Retrieved 12 Sept from https://insight.qld.edu.au/training

Institute for Urban Indigenous Health. (2023). Family Wellbeing Services. https://www.iuih.org.au/our-services/health-and-wellbeing-services/child-and-family-services/family-wellbeing-service/

Jess, K., Lyrberg, A., Isaksson, J., & Nehlin, C. (2023). Me & my family: a programme for children and parents in families with parental substance use problems - an outcome study. Nordic social work research, ahead-of-print(ahead-of-print), 1-12. https://doi.org/10.1080/2156857X.2023.2192223

Keltner, L., Chervenak, C., & Tsongas, T. (2004). CLANDESTINE METHAMPHETAMINE LABS: RISKS TO CHILDREN. Epidemiology (Cambridge, Mass.), 15(4), S88. https://doi.org/10.1097/00001648-200407000-00217

Kovalcik, M. L. (2012). Sexual predators who prey on children: no second chances.

Kunkler, C., Lewis, A. J., & Almeida, R. (2022). Methamphetamine exposure during pregnancy: A meta-analysis of child developmental outcomes. Neurosci Biobehav Rev, 138, 104714-104714. https://doi.org/10.1016/j.neubiorev.2022.104714

Lange, S., Probst, C., Gmel, G., Rehm, J., Burd, L., & Popova, S. (2017). Global Prevalence of Fetal Alcohol Spectrum Disorder Among Children and Youth: A Systematic Review and Meta-analysis. JAMA Pediatr, 171(10), 948-956. https://doi.org/10.1001/jamapediatrics.2017.1919

Laslett, A. M., Room, R., Kuntsche, S., Anderson‐Luxford, D., Willoughby, B., Doran, C., Jenkinson, R., Smit, K., Egerton‐Warburton, D., & Jiang, H. (2023). Alcohol's harm to others in 2021: Who bears the burden? Addiction, 118(9), 1726-1738. https://doi.org/10.1111/add.16205

Lee, W.-C., Fang, S.-C., Chen, Y.-Y., Liu, H.-C., Huang, M.-C., & McKetin, R. (2021). Exploring the mediating role of methamphetamine use in the relationship between adverse childhood experiences and attempted suicide. Addictive behaviors, 123, 107060-107060. https://doi.org/10.1016/j.addbeh.2021.107060

MacLean, S., Hengsen, R., & Stephens, R. (2017). Critical considerations in responding to crystal methamphetamine use in Australian Aboriginal communities. Drug Alcohol Rev, 36(4), 502-508. https://doi.org/10.1111/dar.12468

Maclean, S., Hengsen, R., Stephens, R., & Arabena, K. (2015). Supporting the Mildura Aboriginal Community's Response to Ice Use. https://www.mdas.org.au/getattachment/ABOUT-MDAS/Resources/Onemda_Ice_Report-WEB_(00000002).pdf.aspx

Mallee district Aboriginal services. (2023). Bumps to babes and beyond. http://www.qec.org.au/news-and-events/news/bumps-babes-and-beyond

Manaboriboon, B., In-iw, S., Sutcharipongsa, S., Sanpawitayakul, G., Kumpa, S., Somchit, C., & Chomchai, C. (2020). Methamphetamine abuse during pregnancy and the risk of foster care placement in Thailand. Children and youth services review, 113, 104941. https://doi.org/10.1016/j.childyouth.2020.104941

Maryville University. (2023). Global Drug Survey Reveals Methamphetamine to be the Most Dangerous Drug. https://online.maryville.edu/blog/global-drug-survey-reveals-methamphetamine-to-be-the-most-dangerous-drug/

Mathews, B. (2023). The Australian Child Maltreatment Study: National prevalence and associated health outcomes of child abuse and neglect. https://www.mja.com.au/system/files/2023-03/MJA2_v218_is6_Iss2Press_Text.pdf

Matilda Centre for Research in Mental Health and Substance Use. (2019). Supporting children with parents who use ice: a guide for health professionals https://cracksintheice.org.au/document/library/supporting-children-with-parents-who-use-ice-a-guide-for-health-professional.pdf

McGuinness, T. M. P. A. B. C., & Pollack, D. M. S. W. J. D. (2008). Parental Methamphetamine Abuse and Children. J Pediatr Health Care, 22(3), 152-158. https://doi.org/10.1016/j.pedhc.2007.04.009

McKetin, R., McLaren, J., Kelly, E., & McKetin, R. (2005). The Sydney methamphetamine market: Patterns of supply, use, personal harms and social consquences. National Drug Law Enforcement Research Fund Australia.

Meays, B. M., Simpson, J. L., Ramos, A. K., Bevins, R. A., Carlo, G., & Grant, K. M. (2019). Children exposed to methamphetamine in settings where the drug is being used. Children and youth services review, 104, 104393. https://doi.org/10.1016/j.childyouth.2019.104393

Mercy community. (2023). New Families Program. https://mercycommunity.org.au/families-and-young-people/our-programs/individual-family-support/new-families-program/

Messina, N., & Jeter, K. (2012). Parental Methamphetamine Use and Manufacture: Child and Familial Outcomes. J Public Child Welf, 6(3), 296-312. https://doi.org/10.1080/15548732.2012.683364

Messina, N., Jeter, K., Marinelli-Casey, P., West, K., & Rawson, R. (2014). Children exposed to methamphetamine use and manufacture. Child Abuse Negl, 38(11), 1872-1883. https://doi.org/10.1016/j.chiabu.2006.06.009

Meyers, R. J., Miller, W. R., Hill, D. E., & Tonigan, J. S. (1998). Community reinforcement and family training (CRAFT): Engaging unmotivated drug users in treatment. Journal of Substance Abuse, 10(3), 291-308.

National Centre on Substance Abuse and Child Welfare. (2021). Supporting children affected by parental methamphetamine. https://ncsacw.acf.hhs.gov/files/meth-tip-sheet-children.pdf

National Centre on Substance Abuse and Child Welfare. (2022). Strategies to support parents with methamphetamine use disorder and their families. https://ncsacw.acf.hhs.gov/files/meth-tip-sheet-parent.pdf

National Research Centre on Alcohol and Other Drugs Workforce Development. (2022). Ice training package. https://nceta.flinders.edu.au/nceta/research_and_projects/methamphetamine-research-and-projects/ice-training-package

Northern Queensland Primary Health Network. (2023). NQ First 1,000 Days Framework. https://www.nqphn.com.au/index.php/about-us/reports-and-plans/nq-first-1000-days-framework

NSPCC Learning. (2020). Disguised compliance: learning from case reviews. https://learning.nspcc.org.uk/media/1334/learning-from-case-reviews_disguised-compliance.pdf

NSW Government. (2023). Working at the Glen for women. Retrieved 16 Oct from https://www.theglencentre.org.au/women/

NSW Health Violence, A. a. N. R. P. (2019). Integrated prevention and response to violence, abuse and neglect. Retrieved 10 Oct from https://www.health.nsw.gov.au/parvan/Publications/iparvan-framework.pdf

O'Connor, A., Harris, E., Seeber, C., Hamilton, D., Fisher, C., & Sachmann, M. (2020). Methamphetamine use in pregnancy, child protection, and removal of infants: Tertiary centre experience from Western Australia. Midwifery, 83, 102641-102641. https://doi.org/10.1016/j.midw.2020.102641

O'Connor, A., Harris, E., Hamilton, D., Fisher, C., & Sachmann, M. (2021). The experiences of pregnant women attending a specialist service and using methamphetamine. Women Birth, 34(2), 170-179. https://doi.org/10.1016/j.wombi.2020.01.011

Parents Under Pressure. (2023). Program overview. Retrieved 10 Oct from https://pupprogram.net.au/about-pup/program-overview/

Perez, F. A., Blythe, S., Wouldes, T., McNamara, K., Black, K. I., & Oei, J. L. (2022). Prenatal methamphetamine—impact on the mother and child—a review. Addiction, 117(1), 250-260. https://doi.org/10.1111/add.15509

Queensland Family and Child Commission. (2021). Seeking safety. https://www.qfcc.qld.gov.au/sites/default/files/2023-03/Seeking-safety-report-summary_1.pdf

Queensland Family and Child Commission. (2023). Australian child death statistics 2020. https://www.qfcc.qld.gov.au/sites/default/files/2023-03/QFCC%20Australian%20Child%20Death%20Statistics%202020.pdf

Queensland Government. (2018). Action on ice- The Queensland Government's plan to address use and harms caused by crystal methamphetamine. https://www.health.qld.gov.au/__data/assets/pdf_file/0009/1008000/action-on-ice.pdf

Queensland Health. (2021). Triple P – Positive Parenting Program. Retrieved 12 Oct from https://www.qld.gov.au/community/caring-child/positive-parenting

Queensland Mental Health Commission. (2018). Changing attitudes, changing lives: Options to reduce stigma and discrimination for people experiencing problematic alcohol and other drug use. https://www.qmhc.qld.gov.au/sites/default/files/downloads/changing_attitudes_changing_lives_options_to_reduce_stigma_and_discrimination_for_people_experiencing_problematic_alcohol_and_other_drug_use.pdf

Queensland Mental Health Commission. (2022). The Queensland Alcohol and Other Drugs Plan 2022-2027. https://6232990.fs1.hubspotusercontent-na1.net/hubfs/6232990/Achieving%20balance%20The%20Queensland%20Drug%20and%20Alcohol%20Plan%202022-2027.pdf

Radó, M. K., Mölenberg, F. J. M., Westenberg, L. E. H., Sheikh, A., Millett, C., Burdorf, A., van Lenthe, F. J., & Been, J. V. (2021). Effect of smoke-free policies in outdoor areas and private places on children's tobacco smoke exposure and respiratory health: a systematic review and meta-analysis. The Lancet. Public health, 6(8), e566-e578. https://doi.org/10.1016/S2468-2667(21)00097-9

Rawson, R. A., Marinelli - Casey, P., Anglin, M. D., Dickow, A., Frazier, Y., Gallagher, C., Galloway, G. P., Herrell, J., Huber, A., & McCann, M. J. (2004). A multi-site comparison of psychosocial approaches for the treatment of methamphetamine dependence. Addiction, 99(6), 708-717.

Reilly, R., Gendera, S., Treloar, C., Roe, Y., Conigrave, K., Azzopardi, P., & Ward, J. (2020). Identifying risk and protective factors, including culture and identity, for methamphetamine use in Aboriginal and Torres Strait Islander communities: Relevance of the 'communities that care' model. Soc Sci Med, 266, 113451. https://doi.org/10.1016/j.socscimed.2020.113451

Robinson, L. D., Kelly, P. J., Deane, F. P., & Townsend, M. L. (2019). The residential status of children whose parents are in treatment for methamphetamine use. Drug Alcohol Rev, 38(4), 359-365. https://doi.org/10.1111/dar.12931

Rushton, C., Kelly, P. J., Raftery, D., Beck, A., & Larance, B. (2023). The effectiveness of psychosocial interventions for family members impacted by another's substance use: A systematic review and meta-analysis. Drug Alcohol Rev, 42(4), 960-977. https://doi.org/10.1111/dar.13607

Ruston, C., Kelly, P., Thomas, T., Beck, A., Weeks, C., Baker, A., Manning, V., Argent, A., Deane, F., Hides, L., Shakeshaft, A., Hitsman, B., Velleman, R., Velleman, G., & Larance, B. (2023). SMART Family and Friends: Feasibility and preliminary efficacy of an online intervention for Australian families impacted by another's methamphetamine use. Journal of Substance Use and Addiction Treatment.

Rutgers, School of Public Health. (2023). CHIBPS Substance Use: Methamphetamine. https://sph.rutgers.edu/chibps/methamphetamine

Saldana, L., Chapman, J. E., Campbell, M., Alley, Z., Schaper, H., & Padgett, C. (2021). Meeting the Needs of Families Involved in the Child Welfare System for Parental Substance Abuse: Outcomes From an Effectiveness Trial of the Families Actively Improving Relationships Program. Frontiers in psychology, 12, 689483-689483. https://doi.org/10.3389/fpsyg.2021.689483

Sankaran, D., Lakshminrusimha, S., & Manja, V. (2022). Methamphetamine: burden, mechanism and impact on pregnancy, the fetus, and newborn. J Perinatol, 42(3), 293-299. https://doi.org/10.1038/s41372-021-01271-8

Schwartz, R. P., McNeely, J., Wu, L. T., Sharma, G., Wahle, A., Cushing, C., Nordeck, C. D., Sharma, A., O'Grady, K. E., Gryczynski, J., Mitchell, S. G., Ali, R. L., Marsden, J., & Subramaniam, G. A. (2017). Identifying substance misuse in primary care: TAPS Tool compared to the WHO ASSIST. J Subst Abuse Treat, 76, 69-76. https://doi.org/10.1016/j.jsat.2017.01.013

Scott, J. G., Malacova, E., Mathews, B., Haslam, D. M., Pacella, R., Higgins, D. J., Meinck, F., Dunne, M. P., Finkelhor, D., Erskine, H. E., Lawrence, D. M., & Thomas, H. J. (2023). The association between child maltreatment and mental disorders in the Australian Child Maltreatment Study. Med J Aust, 218(S6), S26-S33. https://doi.org/10.5694/mja2.51870

Secretariat of National Aboriginal and Islander Child Care. (2017). Stronger Safer Together Retrieved 14 Oct from https://pupprogram.net.au/media/4pynpjfe/snaicc-stronger-safer-together-resources.pdf

Semple, S. J., Grant, I., & Patterson, T. L. (2005). Utilization of Drug Treatment Programs by Methamphetamine Users: The Role of Social Stigma. Am J Addict, 14(4), 367-380. https://doi.org/10.1080/10550490591006924

Semple, S. J., Strathdee, S. A., Zians, J., & Patterson, T. L. (2011). Methamphetamine-Using Parents: The Relationship Between Parental Role Strain and Depressive Symptoms. J Stud Alcohol Drugs, 72(6), 954-964. https://doi.org/10.15288/jsad.2011.72.954

Shakeshaft, A., Eades, A.-M., Economidis, G., Jops, P., Liu, H., Kinchin, I., Doran, C., & Gabriel, Z. (2018). The application of Functional Family Therapy-Child Welfare (FFT-CW®) and Multisystemic Therapy for Child Abuse and Neglect (MST-CAN®) to NSW: a process evaluation of their adaptation and implementation.

Sharon, D., Paul, H., & Sally, F. (2008). Improving outcomes for children living in families with parental substance misuse: What do we know and what should we do.

Sheridan, J., Bennett, S., Coggan, C., Wheeler, A., & McMillan, K. (2006). Injury associated with methamphetamine use: a review of the literature. Harm Reduct J, 3(1), 14-14. https://doi.org/10.1186/1477-7517-3-14

Sherwood, J. (2013). Colonisation - It's bad for your health: The context of Aboriginal health. Contemp Nurse, 46(1), 28-40. https://doi.org/10.5172/conu.2013.46.1.28

SMART Recovery. (2023). Find your life beyond addiction. Retrieved 15 Oct from https://smartrecoveryaustralia.com.au/

Smith, D. (2022). Finally, an Effective Treatment for Methamphetamine Addiction. California Health Care foundation. https://www.chcf.org/blog/finally-effective-treatment-methamphetamine-addiction/

Snijder, M., & Kershaw, S. (2019). Review of methamphetamine use among Aboriginal and Torres Strait Islander people. https://aodknowledgecentre.ecu.edu.au/healthinfonet/getContent.php?linkid=624747&title=Review+of+methamphetamine+use+among+Aboriginal+and+Torres+Strait+Islander+people&contentid=37676_1

South Australian Health and Medical Research Institute. (2023). Wada Wanti: leave the ice alone! https://www.wadawanti.org.au/#content-start

Symons, M., Finlay-Jones, A., Meehan, J., Raymond, N., & Watkins, R. (2022). Nurturing families: One year pilot outcomes for a modified Parent Child Assistance Program in Australia. PLOS Global Public Health, 2(8), e0000580.

The Drugs Wheel. (2019). A new model for substance awareness. http://www.thedrugswheel.com/

The Queensland Cabinet and Ministerial Directory. (2021). Demand increases for family support and child protection. https://statements.qld.gov.au/statements/92939

The Royal Women's Hospital. (2021). Using amphetamines during pregnancy and breastfeeding. https://thewomens.r.worldssl.net/images/uploads/fact-sheets/Amphetamines-2021.pdf

The Royal Women's Hospital. (2023). The Cornelia Program. https://www.thewomens.org.au/health-professionals/maternity/the-cornelia-program

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.

Treloar, C., Jackson, L. C., Gray, R., Newland, J., Wilson, H., Saunders, V., Johnson, P., & Brener, L. (2016). Multiple stigmas, shame and historical trauma compound the experience of Aboriginal Australians living with hepatitis C. Health sociology review, 25(1), 18-32. https://doi.org/10.1080/14461242.2015.1126187

United Nations Office on Drugs and Crime. (2020). Drug use and consequences. https://wdr.unodc.org/wdr2020/field/WDR20_Booklet_2.pdf

Vaithianathan, R., Putnam-Hornstein, E., Chouldechova, A., Benavides-Prado, D., & Berger, R. (2020). Hospital Injury Encounters of Children Identified by a Predictive Risk Model for Screening Child Maltreatment Referrals: Evidence From the Allegheny Family Screening Tool. JAMA Pediatr, 174(11), e202770-e202770. https://doi.org/10.1001/jamapediatrics.2020.2770

Valentine, K., Blunden, H., Zufferey, C., Spinney, A., & Zirakbash, F. (2020). Supporting families effectively through the homelessness services system. https://www.ahuri.edu.au/sites/default/files/migration/documents/AHURI-Final-Report-330-Supporting-families-effectively-through-the-homelessness-services-system.pdf

Wall, L., Higgins, D., & Hunter, C. (2016). Trauma-informed care in child/family welfare services (CFCA Paper No. 37).

Ward, B., Kippen, R., Reupert, A., Maybery, D., Agius, P. A., Quinn, B., Jenkinson, R., Hickman, M., Sutton, K., Goldsmith, R., & Dietze, P. M. (2021). Parent and child co-resident status among an Australian community-based sample of methamphetamine smokers. Drug Alcohol Rev, 40(7), 1275-1280. https://doi.org/10.1111/dar.13155

Warton, F. L., Meintjes, E. M., Warton, C. M. R., Molteno, C. D., Lindinger, N. M., Carter, R. C., Zöllei, L., Wintermark, P., Jacobson, J. L., van der Kouwe, A., & Jacobson, S. W. (2018). Prenatal methamphetamine exposure is associated with reduced subcortical volumes in neonates. Neurotoxicol Teratol, 65, 51-59. https://doi.org/10.1016/j.ntt.2017.10.005

Weber, A., Miskle, B., Lynch, A., Arndt, S., & Acion, L. (2021). Substance Use in Pregnancy: Identifying Stigma and Improving Care. Subst Abuse Rehabil, 12, 105-121. https://doi.org/10.2147/sar.S319180

Wright, J., Kenneally, M., Ross, K., & Walker, S. (2020). Environmental Methamphetamine Exposures and Health Effects in 25 Case Studies. Toxics (Basel), 8(3), 61. https://doi.org/10.3390/toxics8030061

Wright, T. E., Schuetter, R., Tellei, J., & Sauvage, L. (2015). Methamphetamines and Pregnancy Outcomes. J Addict Med, 9(2), 111-117. https://doi.org/10.1097/ADM.0000000000000101

Wu, M., LaGasse, L. L., Wouldes, T. A., Arria, A. M., Wilcox, T., Derauf, C., Newman, E., Shah, R., Smith, L. M., Neal, C. R., Huestis, M. A., DellaGrotta, S., & Lester, B. M. (2013). Predictors of Inadequate Prenatal Care in Methamphetamine-Using Mothers in New Zealand and the United States. Matern Child Health J, 17(3), 566-575. https://doi.org/10.1007/s10995-012-1033-8

Attachment A - Systematic review

Aims

This review has four aims that are divided into three parts: a) identifying and classifying relevant papers and reports; b) identifying methamphetamine use and harms; and c) understanding best evidence in engagement and intervention.

Part A: Identifying and classifying relevant papers published in the peer-review literature

1. To identify papers/reports published in the peer-review and grey literature related to:
    a) The use and/or harms of parental methamphetamine use;
    b) Prevention/early intervention/treatment responses to parental methamphetamine use/dependence; and
    c) Methamphetamine use in families who have been in contact with the child protection system.
2. To classify papers/reports from each of the three literature searches into categories:
    a) Literature reviews or summaries;
    b) Descriptive papers that identify the extent and nature of parental use of methamphetamines and/or harms to parents, children or families; and
    c) Intervention studies that aim to evaluate the effectiveness of interventions to reduce parental methamphetamine use or harms to parents or children.

Part B: Identifying methamphetamine use and harms

3. To summarise what is known about the use and/or harms of methamphetamine use, and how those might impact on parenting, families and infants/young children, including for families that have been in contact with the child protection system, such as:
    a) Descriptions of the potential consequences or harms of methamphetamine use in terms of short- and long-term: i) physical health (e.g. development of the central nervous system, physical brain architecture and intellect, other physical development, morbidity and mortality, fetal development); ii) mental health (e.g. emotional states and responses, short and long-term mental health, suicide risk); and iii) social, environmental and familial outcomes (e.g. impacts on interpersonal relationships, children aged 3 years or less, older children, and trajectories of children).
    b) Descriptions of the likely trajectories of parents using methamphetamines.

Part C: Understanding best evidence in engagement and responses to methamphetamine-related harms

4. To summarise the key features of papers and reports that describe or evaluate programs for working with families to prevent, or minimise, the adverse impacts of parental methamphetamine use on young children and families, including the:

    a) Characteristics of studies, such as author, year or publication, country and jurisdiction, treatment setting, and whether there was any focus on engaging and working with families with specific vulnerabilities, including First Nations families.

    b) Nature of the response (e.g. prevention program or treatment), including its theoretical principles (e.g. behaviourism, CBT, family therapy) and a brief description of the setting in which it is delivered.

    c) Evaluation design and methodological quality, such as the type of evaluation that was used and sample sizes.

    d) Key technical features of the evaluation, such as the diagnostic and screening tools used.

    e) Key findings and outcomes, such as the rate with which people reduce their use and/or levels of dependence, improve their physical and/or mental health, and reduce the social and familial impacts.

Methods

Study design
A Systematic literature review was conducted, which followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Protocol (PRISMA) statement.
Types of studies to be identified in the literature search
All types of publications were included with the exclusion of books and book chapters, info sheets, news and media articles, lectures, and conference papers.

Search strategy
A search strategy was undertaken to find both academic and non-academic (grey) published literature. Databases for published literature included PubMed (Includes Medline), CINAHL, PsycINFO + Scopus. Grey literature from government reports (AIHW). The literature was searched using medical subject headings (MeSH) and combinations of key terms in four online databases. The search was limited to studies published in English from 2018 to 2023.
The search syntax applied to the databases is summarised in Table 6.

Table 2: Search Syntax

Category	Search syntax
Methamphetamine use	"Methamphetamine" OR "Recreational Drug Use" OR "Illicit Drugs" OR "Drug Users" OR "methamphetamine" OR "ice" OR "crystal meth" OR "meth" OR "drug use" OR "illicit drugs" OR "drug users" OR "drug addiction" OR "substance use"
Family	"family" OR "caregivers" OR "siblings" OR "parent*"
Harm	"harm" OR "abuse" OR "dependence*"
Treatment	"intervention"
Child protection system	"removal" OR" neglect" OR "maltreatment" OR "abuse"

Exclusion criteria
Studies that did not provide information on parental methamphetamine use or were limited to case studies were excluded. Studies that explored parental substance abuse in general were excluded if they did not specifically include methamphetamine.

Procedures
The literature search was performed by one member of the research team (SM), and the results were imported into reference management software where duplicate references were deleted. The selection process comprised three stages i) screening titles of papers/reports against the inclusion criteria; ii) screening abstracts where the purpose of the paper/report is unclear from the titles; and iii) examining the full-test papers/reports to finalise the list of articles for inclusion in the review.

Data extraction
Key information and data were extracted from the included papers/reports and summarised in Table 7.

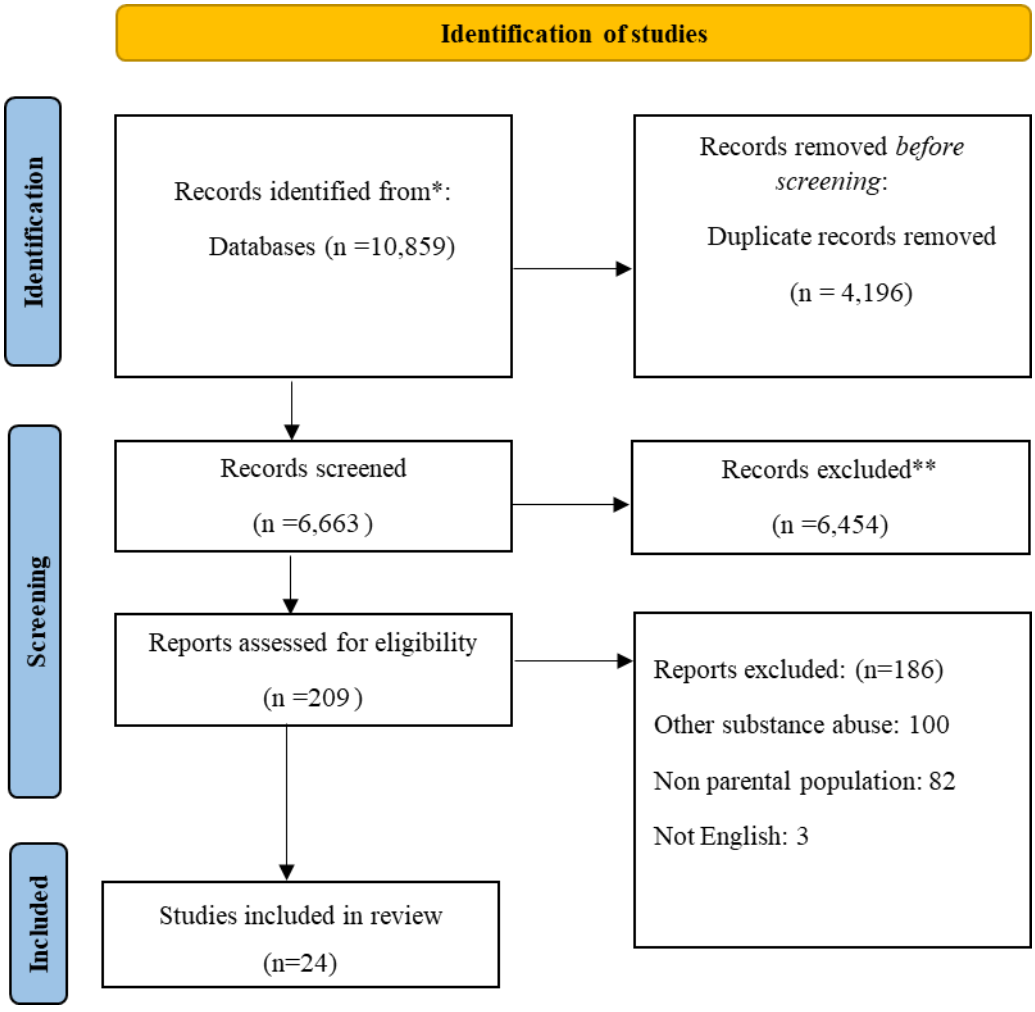
Results

Part A: Identifying and classifying relevant papers and reports

Identifying papers

As delineated in Figure 4, 10,859 studies were retrieved from the initial search of the databases. After duplicates were removed, the titles and abstracts of 6,663 were screened. We screened the full text of 209 articles and 24 studies were identified for data extraction.

Figure 1: PRISMA Chart



A full summary of the 24 studies identified for inclusion in this review is provided in Table 7. Study designs were qualitative (n=5), reviews of the literature (n=6), cohort studies (n=8), evaluation studies (n=3) and cross-sectional studies (n=2). Eight studies were conducted in the United States, eight from Australia, five from Germany and the rest of the studies were from Thailand and South Africa (Table 7). The age of the included studies ranged from 15-36 years and the sample size ranged from 20 to 6

Table 3: Summary of the key characteristics of the 24 studies identified

(NB: the studies in bold text included First Nations participants)

Author (year)	Country	Setting	Outcome and measures	Study design	Population	Sample size	Study type
1. Austin (2022)	USA	International literature	• Exposure to child maltreatment	Systematic literature review	Children exposed to prenatal alcohol and other drug use	30 studies	Review (child harms)
2. Beaton & Copes 2023)	USA	Residents of one town	• Photo ethnography (over 18 months)	Qualitative study	Parents who use methampheta mines	22 parents	Descriptive (qualitative, parent harm)
3. Boone (2020)	USA	National Data Archive on Child Abuse and Neglect	• Reunification of parents with their children (its association with a range of factors)	Retrospectiv e cohort study (thesis)	Parents who have had children removed	6,495 children and 4,623 women	Descriptive (quantitative, outcomes, reunification)
4. Chu et al (2020)	USA	Clinical centres (n=4)	• Child behaviour checklist • Brief Symptom Inventory	Prospective longitudinal cohort study	Children exposed to prenatal methampheta mine use	339 children	Descriptive (quantitative, child harms)
5. Dyba et al (2019a)	Germany	alcohol and other drug counselling facilities in Saxony (n=5)	• Semi structured Interviews • Strengths and Difficulties Questionnaire (SDQ)	Qualitative study	Parents in outpatient treatment for ice use but currently abstinent.	24 parents (16 mothers + 8 fathers)	Descriptive (qualitative, parent harm)
6. Dyba et al (2019b)	Germany	alcohol and other drug treatment facilities (n=7) and child welfare institutions (n=5) in Saxony and Thuringia	• Parenting scale • Parenting Stress Index (PSI) • Drug Use Disorders Identification Test (DUDIT) • Brief Symptom Checklist • Strengths and Difficulties Questionnaire (SDQ)	Cross sectional study	Methampheta mine-dependent parents in recovery	87 parents	Descriptive (quantitative, parent harm)
7. Dyba et al (2019)	Germany	alcohol and other drug treatment facilities and child welfare services in Saxony and Thuringia (n=7)	• Family Functioning (GFQ) • Parenting Stress Index (PSI) • Drug Use Disorders Identification Test (DUDIT) • Brief Symptom Checklist • Strengths and Difficulties Questionnaire (SDQ)	Quasi-experimental pilot evaluation	Methampheta mine-using parents	40 in the intervention group and 28 in the control group	Intervention (pilot, outcome, family & parents)

8.	Hall et al (2023)	USA	One Mid-Western state	• Child protection case duration (association with parental alcohol and other drug use and other factors)	Retrospective cohort study	Families with co-occurring child maltreatment and substance use	874 families	Descriptive (quantitative, outcomes, case duration)
9.	Harst et al (2021)	Germany	International literature	• Impact on child development	Systematic literature review	Children exposed to prenatal methamphetamine use	31 studies	Review (child harms)
10.	Hickert et al (2021)	USA	International literature	• Impact on pregnancy, neonates and childhood development	Literature review	Parental methamphetamine use in the perinatal period		Review (child & maternal harms)
11.	Hildebrant et al (2020)	USA	Washington state funded Parent-Child Assistance Program (PCAP)	Social-emotional functioning in mothers with alcohol and other drug use disorders measured 12 months after PCAP using: • Addiction Severity Index (ASI) • Functional Emotional Assessment Scale (FEAS)	Exploratory evaluation over 12 months	Mothers with substance abuse disorder and their children enrolled in a relationship-based case management program (PCAP)	57 mother-infant dyads	Intervention (pilot, outcome, parents)
12.	Hoffmann et al (2019)	Germany	Different regions in Central Germany	Semi structured Interviews	Qualitative study	Experts' opinions on the challenges of treating people with meth dependence	39 treatment experts	Descriptive (qualitative, treatment challenges)
13.	Kunkler et al (2022)	Australia	International literature	Child developmental outcomes	Systematic literature review & meta-analysis	Women using methamphetamines in pregnancy	14 studies	Review (child harms)
14.	Manaboriboon et al (2020)	Thailand	Birth reports from Siriraj Hospital	Risk of OOHC placement	Retrospective cohort study	Medical records of women known to have used methamphetamines	235 mothers	Descriptive (quantitative, outcomes, OOHC)
15.	Meays et al (2019)	USA	Multiple sites in Nebraska: • alcohol and other drug treatment clinics (n=7)	• Structured clinical interview for DSM-IV (SCID)	Cross sectional study	Adults aged at least 19 years and admitted to an alcohol and other drug treatment program for methampheta	124 adults	Descriptive (quantitative, child harms)

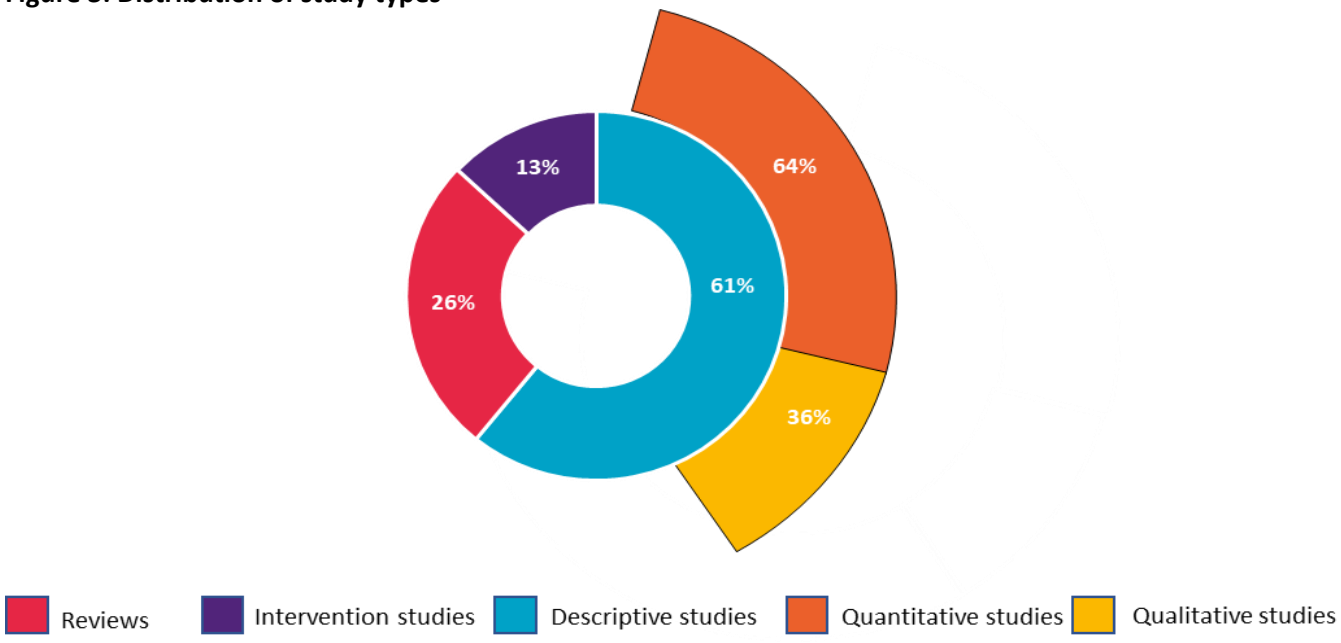
			• Community treatment centres (n=3) • Veterans Administration (n=1) • Correctional alcohol and other drug treatment facilities (n=3)			mine dependence		
16.	**O'Connor et al (2021)**	**Australia**	**One public hospital and one alcohol and other drug service in Perth, Western Australia.**	**Phenomenological methods using semi-structured interviews.**	**Qualitative study**	**Pregnant women attending Drug and Alcohol service for pregnancy care**	**20 women** **(45 per cent First Nations)**	**Descriptive** **(qualitative, parental risk factors)**
17.	**O'Connor et al (2020)**	**Australia**	**Women and new-born alcohol and other drug service for pregnancy care**	**Mental health status**	**Prospective cohort study**	**Women attending alcohol and other drug service for pregnancy care**	**109 women** **(51 per cent First Nations)**	**Descriptive** **(qualitative, parent harm)**
18.	Perez et al (2022)	Australia	International literature	Pregnancy complications and maternal mental health	Literature review	Prenatal methamphetamine use		Review (child & maternal harms)
19.	**Reilly et al (2020)**	**Australia**	**ACCHS in eight sites in regional (6), remote (1) and urban (1) locations in five Australian states and territories**	**Risk factors for meth use among young parents**	**Qualitative study** **(focus groups and individual interviews)**	**Young parents attending an ACCHS**	**147 parents** **(80 per cent First Nations)**	**Descriptive** **(qualitative, parent harm)**
20.	Robinson et al (2019)	Australia	8 salvation army recovery service centres across New South Wales, Queensland, and the Australian Capital Territory	• Mental Health Screening Form-III • Addiction Severity Index	Cohort study	Parents who use methamphetamine	2,964 parents	Descriptive (quantitative, parental risk factors)
21.	Saldana et al (2021)	USA	Medicaid billable outpatient clinic	• Addiction Severity Index (ASI) • The Parenting Stress Index (PSI) • The Brief Child Abuse Potential Inventory (BCAP)	Evaluation study	Parents who use methamphetamine	99 parents	Intervention (outcome, parents)

			• Trauma Symptom Inventory (TSI) • Beck Depression Inventory (BDI) • Demographics Questionnaire • The Parent Daily Report (PDR) • Service utilization survey (SUS)				
22. Ward et al (2021)	Australia	'VMAX' study. Participants recruited from Melbourne and three Victorian regional communities	• Patient Health Questionnaire • Generalised Anxiety Disorder • Alcohol Use Disorders Identification Test (AUDIT)	Prospective cohort study Parent and child co-resident status	Community-based methamphetamine users (in the last 6 months)	744 participants	Descriptive (quantitative, parent harm)
23. Ward et al (2022)	Australia	International literature	Interventions to improve parental and infant outcomes	Narrative literature review	Parents who use methamphetamines	3 studies	Review (outcome, parents)
24. Warton et al (2018)	South Africa	Communities in Cape Town, South Africa	Neonate harms (reduced subcortical volumes)	Prospective longitudinal cohort study	Neonates exposed to methamphetamines	39 neonates	Descriptive (quantitative, child harms)

Classification of papers

As summarised in Figure 5, most studies were descriptions of parental methamphetamine use and harms (61 per cent), and most of those were quantitative studies (64 per cent of all descriptive studies). Reviews were the next most common study type with both systematic reviews and narrative reviews (25 per cent), while intervention studies were the least common study design in this review (12 per cent).

Figure 3: Distribution of study types



Part B: Examining methamphetamine use and harms

Primary focus of studies

Figure 6 shows that the majority of studies examined harms to children from parental methamphetamine use (35 per cent), followed by harms to families (25 per cent), neonates (20 per cent), pregnant women (15 per cent) and harms to in utero fetuses (5 per cent).

Figure 4: Classification of studies by their primary focus

Detailed findings

Harms

Thirteen studies from this review reported on the harm and use of parental methamphetamine (Austin et al., 2022; Beaton & Copes, 2023; Chu et al., 2020; Dyba, Moesgen, et al., 2019a, 2019b; Harst et al., 2021; Hickert et al., 2021; Hoffmann et al., 2019; Kunkler et al., 2022; Meays et al., 2019; Perez et al., 2022; Ward et al., 2021; Warton et al., 2018). Eight studies were examining the harms of parental methamphetamine on children. Six of these were examining prenatal methamphetamine exposure (Austin et al., 2022; Chu et al., 2020; Harst et al., 2021; Kunkler et al., 2022; Perez et al., 2022; Warton et al., 2018) and one study was on perinatal mothers' use of methamphetamine (Hickert et al., 2021). The findings from the studies suggested that mothers from socially disadvantaged environments characterised by quarrelling, violence, poverty, low educational attainment, and without a partner were the maternal characteristics associated with using methamphetamine during their pregnancy (Chu et al., 2020; Harst et al., 2021).

Short term harms for the mothers using methamphetamine were pre-eclampsia, post-partum haemorrhage, placental abruption, chorioamnionitis and gestational diabetes (39). Low birth weight, low gestational age, short body length and small head circumference were the physical short-term harms observed in newborns (Harst et al., 2021; Warton et al., 2018). Neonates exposed prenatally to methamphetamine displayed withdrawal symptoms with decreased arousal, difficulty with feeding and abnormal muscle movements (Hickert et al., 2021).
The long-term harms for children can be psychological and neurogenerative with externalizing behaviours particularly in attention and visual motor integration. These children are at a serious risk of developing physical, developmental, and emotional problems (Chu et al., 2020; Dyba, Moesgen, et al., 2019a; Perez et al., 2022). Children exposed to methamphetamine use as children can use it as adults (Dyba, Moesgen, et al., 2019b). Women faced mental health issues like anxiety, suicidal ideation, depression and self-harm (Dyba, Moesgen, et al., 2019b; Harst et al., 2021; O'Connor et al., 2021).

The impact of methamphetamine on the developing fetus is severe, leading to fetal demise and placental abruption when used by parents (Harst et al., 2021; Hickert et al., 2021). Other negative effects include poor cognitive and language development in children (Kunkler et al., 2022).

These harms are summarised in Table 8 and Table 9.

Table 8: Harms associated with methamphetamine use for children

Studies	Population	Findings
Hickett et al (2021)	In utero children	• Intrauterine fetal demise (a fetus that dies at or after the 20th week or second trimester of gestation) and placental abruption
Hickett et al (2021) Perez et al (2022) Harst et al (2021) Warton et al (2018)	Neonates	• Low birth weight, low gestational age, smaller head circumference • Psychological and neurocognitive abnormalities • Children exposed had performed poorer on social ability and hand and eye coordination

		• Withdrawal symptoms in neonates include decreased arousal, sleep disruptions, difficulty with feeding, and abnormal muscle movements • Increase in mortality among newborns
Dyba et al (2019) Dyba et al (2019) Dyba et al (2019) Krunkler et al (2022) Meays et al (2019) Perez et al (2022) Hickett et al (2021)	Children	• Developmental problems with both Internalizing and externalizing symptoms. Internalizing symptoms include anxiety, sadness, social withdrawal, and fearfulness while externalizing symptoms include overactivity, poor impulse control, noncompliance, and aggression. • Decrease in school performance, • Difficulty to get along with other children • Cognitive and language development in children • Delayed motor development and poor neurocognitive and executive functioning. • Physical, developmental, and emotional problems

Table 4: Harms associated with methamphetamine use by parents

Studies	Population	Findings
O'Connor et al (2020) O'Connor et al (2021) Perez et al (2022)	Pregnant women	• Anxiety, suicidal ideation, depression, and self-harm • Physical symptoms- preeclampsia, post-partum haemorrhage, placental abruption, chorioamnionitis and gestational diabetes
O'Connor et al (2020) O'Connor et al (2021) Saldana et al (2021) Hildebrandt et al (2020) Dyba et al (2019) Chu et al (2020)	Families/ parents/ caregiver	• High psychological distress with hostility, depression, psychoticism.

Child protection and placement

Five studies have investigated the involvement of child protection systems in relation to parental methamphetamine use (Boone, 2019; Hall et al., 2023; Manaboriboon et al., 2020; O'Connor et al., 2020; Robinson et al., 2019; Saldana et al., 2021). These studies have found that parents who use methamphetamine are more likely to have their children placed in out-of-home care compared to parents using other illicit drugs. Several factors increase the risk of foster home placement, including having children under the age of 1, and incarceration (Hall et al., 2023). Mothers who test positive for methamphetamine throughout their pregnancy or during labour are also more likely to have their babies placed in foster care (Manaboriboon et al., 2020). Additionally, studies conducted in Australia have revealed a higher rate of removal of First Nations infants from their mothers' care (72 per cent) (O'Connor et al., 2020). Women who fear child removal are less likely to disclose their drug use and may seek treatment (O'Connor et al., 2020; Robinson et al., 2019).

Part C: Understanding best evidence in engagement and program effectiveness

Three papers that evaluated different programs were included in this review: i) the Shift Parent Training Program (Dyba, Moesgen, Klein, Pels, et al., 2019); ii) the Parent-Child Assistance Program (PCAP) (96); and the FAIR program (97).

Shift Parent Training Program

This group program is targeted towards parents with children up to eight years of age. The program's focus is on enhancing parenting skills, promoting family resilience and establishing abstinence stability. Targeting these elements aims to support parents to address their own methamphetamine use and promote positive family dynamics (Dyba, Moesgen, Klein, Pels, et al., 2019). The program specifies three primary objectives:

i) To address family and parenting-related issues specific to substance use, particularly methamphetamine use. This includes fostering positive parent-child interactions, promoting non-violent parenting practices, providing education on the effects of parental methamphetamine use on children, facilitating reflection on methamphetamine use within intimate relationships, and addressing feelings of guilt and shame.

ii) To encourage parents to consider the long-term consequences of their methamphetamine use.

iii) To promote family resilience, which comprises three key elements:

- developing shared belief systems, which involves making meaning of adverse events, maintaining an optimistic outlook and embracing spirituality;
- establishing organisational patterns that emphasize flexibility, connection, and the availability of psychosocial and economic resources; and
- improving the effectiveness of communication and problem-solving within the family, characterised by clear and emotionally open expressions and collaborative decision-making.

The Shift Parent Training Program demonstrated both effectiveness and high acceptability. Following the intervention, reductions in substance-related problems and improvements in parenting skills were observed. It is possible that parents who received the intervention were more motivated to seek drug treatment and achieve abstinence after addressing parenting-related concerns. As a result, this program may have indirectly contributed to the reduction of their substance use and associated issues, rather than been the main reason for the observed outcomes. There was some evidence that the direct focus on enhancing positive parenting practices proved beneficial.

The Parent-Child Assistance Program (PCAP)

PCAP is a community-based, case management program designed for low-income mothers who were highly dependent on alcohol and other drug s during their pregnancy. The PCAP model is based on the principles of relational theory, motivational interviewing and harm reduction, which aims to transform risky behaviours into healthy and adaptive ones (Hildebrandt et al., 2020). As part of the program, a subset of mothers also received a trauma-focused psychotherapeutic intervention called infant-parent psychotherapy (IPP). This specific intervention aims to reduce maternal and infant psychopathology while improving the quality of attachment between parents and their children (aged from birth to three years). By helping parents gain a better understanding of their experiences and the role of trauma in their own lives and the lives of their children, the IPP approach seeks to enhance parenting abilities and promote healthier parent-child relationships.

At the end of the 12-month study period, most mothers and children showed significant improvement in their total Family Environment Assessment Scale (FEAS) scores. This improvement was especially pronounced among children. The authors concluded that the availability of community services played a crucial role for the mothers in the study. Services such as AoD treatment, medications, clean/sober support systems, and childcare (for mothers engaged in work, seeking treatment, or pursuing education) were crucial in establishing safe and stable family lives, and helping mothers maintain custody of their children. One year pilot study of a modified PCAP in Australia showed a reduction in alcohol-exposed pregnancies, and improvements in alcohol and other drug abstinence, employment, family planning and child outcomes (Symons et al., 2022).

The Families Actively Improving Relationships (FAIR) program

FAIR is an intensive, community-based outpatient program for families with parents using methamphetamines that are involved in the child welfare system. This study was conducted in a real-world, Medicaid billable, outpatient alcohol and other drug clinic. The delivery of FAIR to families was designed to be flexible in terms of meeting times and places (e.g. in homes, shelters or parks), and aims to utilise different community settings in which parents can practice new behavioural techniques (e.g. in stores, schools and playgrounds). As is the case with some other intensive family therapies, such as Multisystemic Therapy, the FAIR team is available 24/7 for on-call support and engagement. FAIR incorporates four treatment components:

i) Substance use treatment. This includes positive reinforcement, frequent urine analysis, relationship building and creating healthy environments.
ii) Mental health treatment. This uses cognitive-behaviour strategies to develop more effective coping skills and enhance emotional regulation. Referrals to health practitioners for medication management are also provided.
iii) Parenting skills. This focuses on developing parenting and nurturing skills to enhance child/parent attachment, and more effective supervision strategies.
iv) Ancillary needs. This includes improvements in housing, education and employment options, and attendance at child welfare system appointments.

In this evaluation, 72 per cent of participants successfully completed the program. It demonstrated significant improvements in parents use of methamphetamines and opioids, mental health symptoms, and parenting risk and stability. The average cost of delivering FAIR was estimated to be $9,000 per parent over approximately 9 months (Saldana et al., 2021).