2020

Summary of methamphetamine use among Aboriginal and Torres Strait Islander people

Australian Indigenous HealthInfoNet

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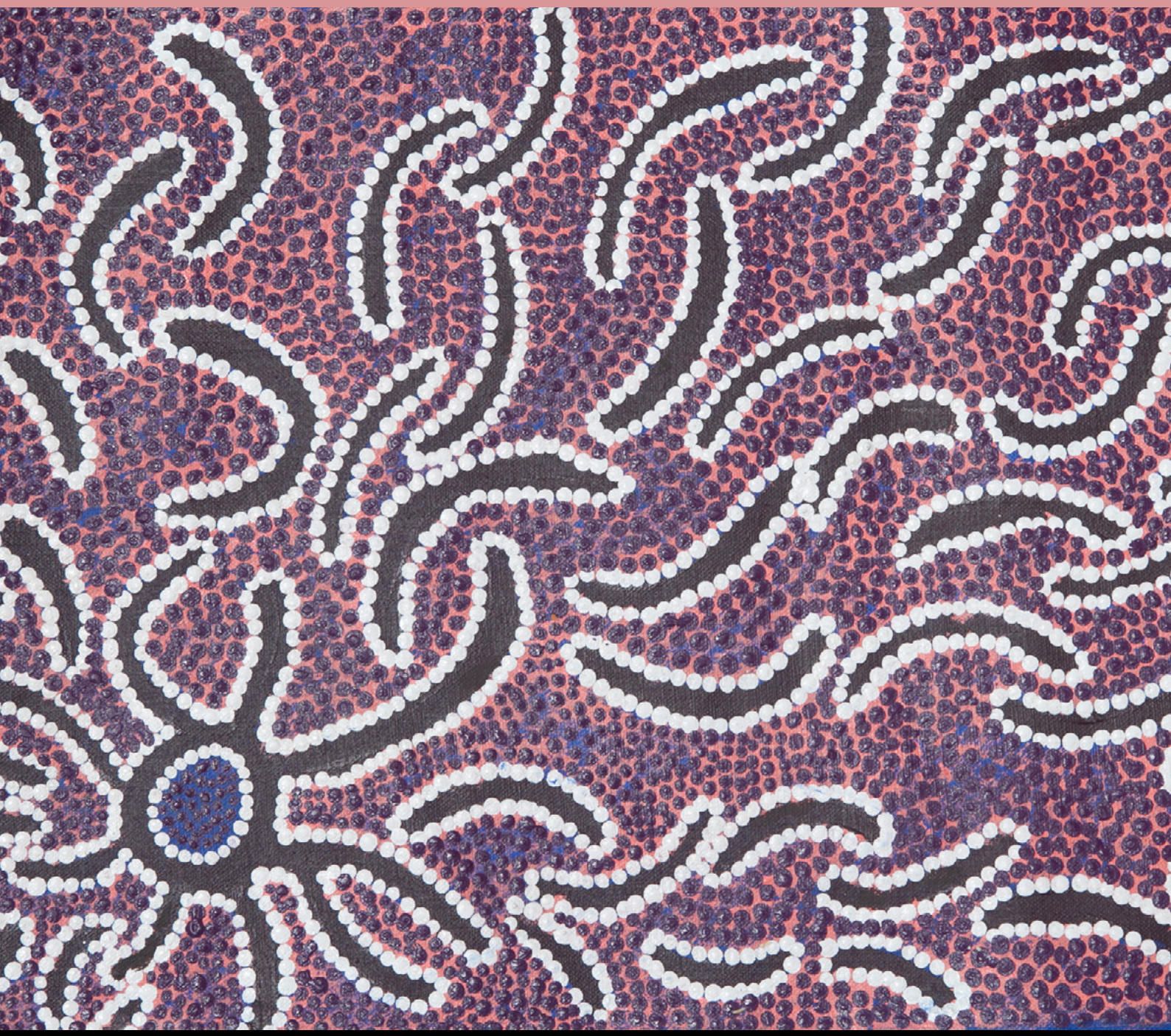

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Australian Indigenous Health*InfoNet*

The Australian Indigenous Health*InfoNet's* mandate is to contribute to improvements in Aboriginal and Torres Strait Islander health by making relevant, high quality knowledge and information easily accessible to policy makers, health service providers, program managers, clinicians and other health professionals (including Aboriginal and Torres Strait Islander health workers) and researchers. The Health*InfoNet* also provides easy-to-read and summarised material for students and the general community.

The Health*InfoNet* achieves its commitment by undertaking research into various aspects of Aboriginal and Torres Strait Islander health and disseminating the results (and other relevant knowledge and information) mainly via its website (healthinfonet.ecu.edu.au). The research involves analysis and synthesis of data and other information obtained from academic, professional, government and other sources. The Health*InfoNet's* work in knowledge exchange aims to facilitate the transfer of pure and applied research into policy and practice to address the needs of a wide range of users.

Recognition statement

The Australian Indigenous Health*InfoNet* recognises and acknowledges the sovereignty of Aboriginal and Torres Strait Islander people as the original custodians of the country. Aboriginal and Torres Strait Islander cultures are persistent and enduring, continuing unbroken from the past to the present, characterised by resilience and a strong sense of purpose and identity despite the undeniably negative impacts of colonisation and dispossession. Aboriginal and Torres Strait Islander people throughout the country represent a diverse range of people, communities and groups each with unique identity, cultural practices and spiritualities. We recognise that the current health status of Aboriginal and Torres Strait Islander people has been and is currently significantly impacted by past and present practices and policies.

We acknowledge and pay our deepest respects to Elders past and present throughout the country. In particular, we pay our respects to the Whadjuk Nyoongar peoples of Western Australia on whose country our offices are located.

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Tell us what you think

We welcome and value your feedback as part of our post-publication peer review process, so please let us know if you have any suggestions for improving this summary.

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Summary of methamphetamine use among Aboriginal and Torres Strait Islander people

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Further information

This Summary is based on the publication: Snijder, M., & Kershaw, S. (2019). Review of methamphetamine use among Aboriginal and Torres Strait Islander people. *Australian Indigenous HealthBulletin, 19*(3). Retrieved from: http://healthbulletin.org.au/articles/review-of-methamphetamine

This summary and more information about methamphetamine can be viewed at: aodknowledgecentre.ecu.edu.au/amphetamines

Contents

Featured artwork

Bush Potato Dreaming by Rene Dixon

This Yarla Jukurrpa (Bush Potato Dreaming) belongs to men of the Japaljarri/Jungarrayi subsections and to Napaljalrri/Nungarrayi women. It comes from an area to the east of Yuendumu called Cockatoo Creek. 'Yarla' (bush potato [Ipomea costata]) are fibrous tubers that grow beneath a low spreading plant, found by looking for cracks in the ground. This edible tuber grows from 'yartura' (roots) which seek out moisture to sprout new plants. "Yarla are good to eat, when cooked they are really soft and tasty." The Jukurrpa tells of yarla and 'wapirti' (bush carrot [Vigna lanceolata]) ancestors fighting a big battle in this area. The specific site associated with this painting is a 'mulju' (water soakage) called Ngarparapunyu. In contemporary Waripiri paintings, traditional iconography is used to represent the Jukurrpa, associated sites and other elements. The curved lines of the 'kuruwarri' (ceremonial designs) represent the 'ngamarna' (vine-like tendrils) from which grow 'jinjirla' (flowers). 'Karlangu' (digging sticks) are usually represented as straight lines. Karlangu are used by women to dig for bush tucker like yarla and wapirti, which are found underground.

Featured icon artwork

by Frances Belle Parker

The Health*InfoNet* commissioned Frances Belle Parker, a proud Yaegl woman, mother and artist, to produce a suite of illustrated icons for use in our knowledge exchange products. Frances translates biomedical and statistically based information into culturally sensitive visual representations, to provide support to the Aboriginal and Torres Strait Islander workforce and those participating in research and working with Aboriginal and Torres Strait Islander people and their communities. Frances came to prominence winning the Blake Prize in 2000, making her the youngest winner and the first Indigenous recipient over the 65 year history of the prize.

"Biirrinba is the Yaygirr name for the mighty Clarence River (NSW). It is this river that is the life giving vein for the Yaegl people. And it is this river which inspires much of my artwork. I am deeply inspired by my Mother's land (Yaegl land) and the Island in the Clarence River that my Mother grew up on, Ulgundahi Island. The stories which are contained within this landscape have shaped me as a person, as an artist and most recently, as a mother. This is my history, my story and it will always… be my responsibility to share this knowledge with my family and my children."

Introduction

Methamphetamine is a stimulant drug, which means that it increases the activity of the central nervous system and speeds up the chemical messages going between the brain and body. The use of methamphetamine and the related harms has been the subject of growing concern, with Australians rating it the drug of most concern in the 2016 National Drug Strategy Household Survey (NDSHS) [1]. In general, the prevalence of methamphetamine use in Australia is relatively stable and has been for several years. However, there has been a shift towards using the purer form, crystalline methamphetamine (or 'ice') rather than other forms ('speed' and 'base') [2]. Crystal methamphetamine is considered to be widely available and accessible in Australia [3]. It is associated with more serious side effects along with long term mental and physical health effects including dependence (reliance on the drug) [2].

The most commonly used drugs in Aboriginal and Torres Strait Islander communities are tobacco, cannabis and alcohol, however methamphetamine use is an issue for Aboriginal and Torres Strait Islander people [1, 4].

Definition of terms

There are different sources of information on methamphetamine use. Terms used can include a range of substances or be more specific. For example [5]:

Amphetamine type stimulants (ATS): includes amphetamine, methamphetamine and other substances that increase the activity of the body's central nervous system, for example, ecstasy.

Amphetamines: includes amphetamine, methamphetamine, dexamphetamine and other similar substances. Some amphetamines are used for therapeutic purposes such as treating attention deficit-hyperactivity disorder (ADHD).

Meth/amphetamine: includes methamphetamine and amphetamine.

Methamphetamine: also known as methylamphetamine, a type of amphetamine that has stronger effects and is longer-lasting. It is commonly found in three forms; speed, base and crystalline (ice). Of these, crystal methamphetamine is often the purer form, meaning it has stronger effects and is longer-lasting.

Impacts of methamphetamine use on individuals

Methamphetamine use can affect people differently and may be more of a problem for some people than others [6]. Not everyone who uses methamphetamine will become dependent on the drug [7]. Some reports have found that most people, including Aboriginal and Torres Strait Islander people, who use crystal methamphetamine are recreational or casual users [8, 9]. Any increase in harms most likely reflects an increase in regular use and dependence, as well as a shift to the crystal form of methamphetamine [7].

Overall, effects and impacts of methamphetamine use can include [6, 10]:

Physical effects:

- **increased blood pressure**
- **increased temperature**
- **having more energy, then feeling tired afterwards**
- **increased attention, alertness and talkativeness**
- **headaches and dizziness**
- **dehydration (loss of water)**
- **nausea (feeling ill in the stomach), vomiting, weight loss**
- **seizures (fits)**
- **jaw clenching and dental problems**
- **risks of blood-borne viruses from injecting.**

Mental state and social harms:

- **initial excitement, happiness and confidence (also called a 'high')**
- **depression (feeling sad or down)**
- **feeling anxious and paranoid**
- **increased feelings of anger**
- **aggression and violence**
- **hallucinations (seeing and hearing things not there).**

Major harms associated with methamphetamine use include increased risk of stroke (and other cardiovascular problems), dependence, psychosis, overdose and death [11-13]. There are limited recent data available on methamphetamine-related deaths in Aboriginal and Torres Strait Islander people.

Methamphetamine may be mixed with other drugs, for example ketamine, or substances, for example glucose, before being sold. These additions can cause other negative effects [14]. 'You don't always know what you're getting' was reported by Aboriginal people who use methamphetamine in 2008 [15, p.92].

The effects of methamphetamine not only impact those who use methamphetamine but also their families, friends, communities and workplaces [16].

One study found that people who use methamphetamine frequently, are six times more likely to be violent when using methamphetamine, than when they have not used the drug [13].

Another study found that families and communities find it difficult to cope with methamphetamine use due to the aggressive behaviour associated with use. This can also lead to greater concern about safety in communities and households [15].

Historical and social factors

There are many factors that need to be considered regarding the use of methamphetamine among Aboriginal and Torres Strait Islander people.

Historical factors

The effects on Aboriginal and Torres Strait Islander people due to the colonisation of Australia include:

- loss of many traditional lands, languages, cultures, law and customs [17].
- being displaced, mistreated and traumatised through different government policies [17, 18]
- social and economic exclusion, marginalisation and racism [18].

The effects continue to have an impact through intergenerational trauma [19]. Aboriginal and Torres Strait Islander people are likely to have grown up in families suffering from the long-term effects of this history and to have experienced trauma themselves though family conflict, substance use, racism and other problems.

Connection to culture and country for Aboriginal and Torres Strait Islander people

Having a strong connection to culture and country can be a protective factor against drug use [18].

Connection to country is important because:

- it is empowering
- it provides:
  - an identity
  - a sense of belonging
  - a safe place of nurturing [21].

Social determinants

Education

Lower levels of education have been linked to increased problematic substance use [22]. Overall, Aboriginal and Torres Strait Islander people are more likely to have lower levels of education, reading and language (English) skills compared with non-Indigenous people.

Employment

In general, Aboriginal and Torres Strait Islander people are less likely to be in full time employment than non-Indigenous people [23]

47%

of Aboriginal and Torres Strait Islander people (aged 15 to 64 years) were employed in 2016 [24]

Unemployment can cause emotional distress and increase the likelihood of people taking drugs. In 2014-15, 40% of unemployed Aboriginal and Torres Strait Islander people experienced high to very high levels of psychological distress, compared with 24% of those who were employed [25]

1. Country includes land, air, water and stories of 'Dreaming'. It connects Aboriginal peoples 'back to ancestral beings from the time of creation'. Country can be thought of as 'viewing and/or actively interacting with features of the biophysical environment that provides spiritual, cultural, historical or emotional meaning' [20].

Income

The 2016 Census of Population and Housing detailed that Aboriginal and Torres Strait Islander people, after adjustment for household size and composition, had a weekly household income of between $150 and $799 [23]. This is lower than non-Indigenous people who had an income between $400 and $1,249.

Aboriginal and Torres Strait Islander people

$150-$799

Non-Indigenous people

$400-$1,249

A lack of regular and enough income can lead to people selling drugs, including methamphetamine. This increases access to the drug which can further impact families and communities as well as the individual [18].

Extent of methamphetamine use

The most commonly used drugs in Aboriginal and Torres Strait Islander communities are tobacco, cannabis and alcohol. However, methamphetamine use seems to be more common among Aboriginal and Torres Strait Islanders than non-Indigenous Australians [1, 4].

In the 2016 NDSHS:

3.1%

of Aboriginal and Torres Strait Islander people said that they had used meth/amphetamine in the last 12 months [26]

2.2X

Aboriginal and Torres Strait Islander people aged 14 years and over were 2.2 times more likely to use meth/amphetamine than non-Indigenous people [1]. This was an increase from the 1.5 times higher rate reported in the 2013 NDSHS [4]

The 2014-15 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) reported:

5%

aged 15 years and over used amphetamines, including methamphetamines, in the last 12 months

6%

of males used amphetamines

3%

of females used amphetamines

Between 2015 and 2016, for Aboriginal and Torres Strait Islander people who received support from Aboriginal primary health care services for substance use, amphetamines were the second most common illicit drug [28].

Aboriginal primary health care services reporting amphetamines as a common substance use issue increased from 70% of organisations in 2014-15 to 79% in 2015-16 [29].

The 2014 Goanna Survey, a cross-sectional survey conducted with young (16 to 29 years) Aboriginal and Torres Strait Islander people (total number 2,877) at 40 community events, found that [30]:

9%
had used meth/amphetamine in the past year

3rd
Meth/amphetamine was the third most popular illicit drug after cannabis (30%) and ecstasy (11%)

3%
had injected drugs

1st
Meth/amphetamine most commonly injected (37%) followed closely by heroin (36%)

Meth/amphetamine use was highest among respondents from urban and regional areas compared with remote areas

10% *urban areas*

9% *regional areas*

6% *remote areas*

Several studies report that there has been an overall increase in the use of methamphetamine among Aboriginal and Torres Strait Islander people. Wilkes et al. 2014 reported a 204% increase in the use of (Amphetamine-type stimulants) ATS by Aboriginal and Torres Strait Islander people when data from 1993-1994 were compared with data from 2004 [31].

While levels and patterns of ATS use were different in different areas, in a 2014 online survey, 79% of front line workers stated that ATS use is an issue among their Aboriginal and Torres Strait Islander clients and 92% stated that ATS use is an issue in their local community [32]. Most (88%) reported that this is a recent increase.

Of 953 rural and remote community members, 6% named crystal methamphetamine and 11% said ATS were being used in their Indigenous community [33].

Injecting drug use

Injection is one of the most common ways to take methamphetamine [15]. There are health harms linked with injecting, including increased risk of Hepatitis C Virus (HCV), Human Immunodeficiency Virus (HIV) and other blood borne viruses (BBV).

The Goanna Survey reported that 3% of Indigenous young people (16 to 29 years) nationally had injected any drug in the last year [30]. Meth/amphetamine was the most frequently injected drug (37%) followed closely by heroin (36%). Needle use was reported by 37%, with 45% reporting sharing other injecting equipment (spoons, filters, swabs). Women were less likely to report injecting compared to men (39% compared to 62%) and heterosexual participants were less likely to report injecting compared to homosexual participants (71% compared with 93%). Methamphetamine was the most common drug injected in regional areas with heroin the most common drug injected in urban areas [30, 34].

A few studies have found that Aboriginal and Torres Strait Islander people are more likely than non-Indigenous people to start injecting at an early age, report needle and equipment sharing, inject more often and to be positive for HCV [35-37]. Aboriginal and Torres Strait Islander people who inject drugs have indicated that feelings of shame stop them from using needle and syringe programs.

A Victorian study of Aboriginal and Torres Strait Islander people who inject drugs found that 'the biggest concern with the clients interviewed for the project was their family's negative reaction towards their injecting drug use behaviour' [38, p.21]. In particular, clients cited fears of shaming and stigma from their family and community, as well as the potential for physical violence if the family learned of their habit. These fears directly affected how they accessed injecting equipment, with many clients unwilling to collect clean injecting equipment from Aboriginal and Torres Strait Islander Community Controlled Health Services where they may be identified by members of their community, preferring instead to use mainstream services that were more anonymous.

Risk factors for methamphetamine use

The use of other drugs, for example alcohol, tobacco and cannabis, can also influence the likelihood of an individual trying methamphetamine.

In the Queensland Injecting Drug Survey (QuIDS), Aboriginal and Torres Strait Islander people who injected drugs [39]:

- reported dual dependence on methamphetamine and opioids (23%)
  - which was associated with psychological stress, unemployment and repeated time spent in prison.
- reported a methamphetamine dependence, 38%
  - half of which were also dependent on alcohol
  - 74% were also dependent on cannabis
  - which was associated with shame around injecting drug use and recent trauma.

Previous contact with the justice system and/or time in prison is an important risk factor [30]. Many studies have noted the over-representation of Aboriginal and Torres Strait Islander young people within the adult and youth justice systems.

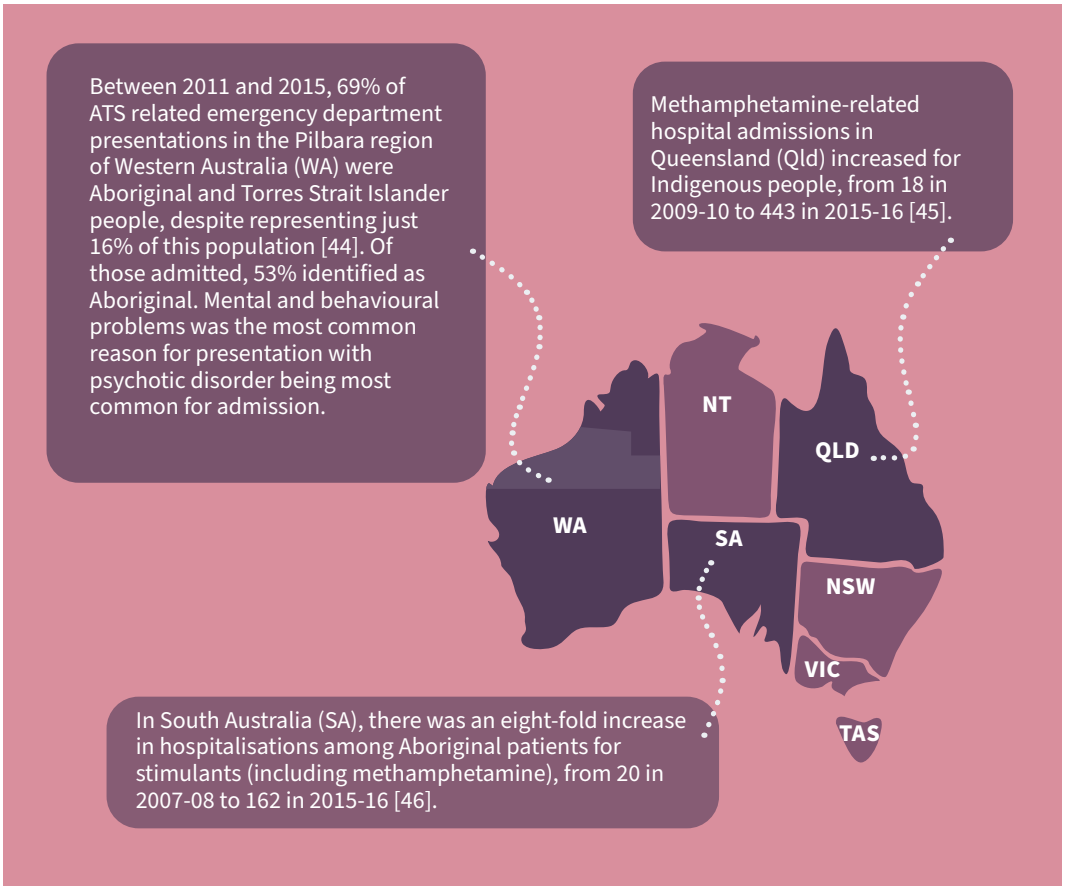
The link between the use of methamphetamine and crime is complex and unclear but methamphetamine can cause or contribute to a wide range of social impacts. In a study of 1,146 police detainees in Australia in 2013, 36% reported using methamphetamine in the 30 days prior to their detention [40]. A higher proportion of methamphetamine users were Aboriginal and Torres Strait Islander people than non-Indigenous people.

Shame can be a significant risk factor that increases a person's use of methamphetamine [18]. This, in turn, can lead to an involvement in crime or sex work to fund the habit, increasing the shame further.

Impacts of methamphetamine use

Mental health and use of hospital services

Mental health harms may last from a few days to a few weeks [41]. National data suggest that Aboriginal and Torres Strait Islander people are more likely than non-Indigenous people to present for treatment following amphetamine use [42, 43].



Sexually transmitted infections

The use of methamphetamine increases the risk of developing sexually transmitted infections (STIs) [47]. A risk factor for contracting an STI is having many sexual partners. In the Goanna Survey, young Aboriginal and Torres Strait Islander people who used meth/amphetamine were more likely to report a higher number of sexual partners in the past 12 months and more likely to have had a previous STI diagnosis [30].

Responses to methamphetamine use

In 2008, interviews with workers in Drug and Alcohol Units in Aboriginal Medical Services and Mental Health Services in New South Wales (NSW), SA and WA found that [15]:

- authorised interventions are traumatic
- often family feel very guilty about contacting authorities.

Family ties can be a strong positive motivator for people to seek help for their methamphetamine use. It was noted that family reintegration provided the strongest motivation for change for Aboriginal people who used ice [18]. Family relationships have been shown at times to encourage following treatment and to protect against relapse [48].

Communities can also be negatively impacted by a person's use of ice:

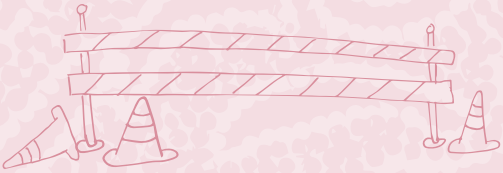
- aggression and violence, can impact front line staff such as police, paramedics and hospital staff [49]
- the sense of safety in the community
- community members may feel lost, isolated, scared and ashamed [18]
- users of ice may feel isolated from family and community and an increase in despair.

Providing communities with information on methamphetamine and how to manage issues related to its use is important.

Barriers

Barriers to health care for Aboriginal and Torres Strait Islander people who are seeking help for methamphetamine use or dependence (addiction) include:

- social and cultural reasons
- distance and transport
- language
- lack of education
- psychological
- cost in time or money
- past experiences of discrimination and racism
- Intense shame has also been reported to prevent people who use ice and their families from seeking help [7, 18, 50].



It is recognised that Aboriginal-specific health services are important for Aboriginal and Torres Strait peoples because they offer culturally safe primary health services with solutions to these barriers [50]. Limited support services can be a risk factor for drug use [13].

Community, family and peers (people of the same age or social group) can act as either a protective factor or a risk factor for drug use [18]. People who use methamphetamine often have friends, family or partners who use the same drugs and spend time in places where these types of drugs are easy to get and a normal part of life [51].

The ease of access to methamphetamine can be a problem for communities, especially if they have limited information, cultural leadership or resources to help manage problems associated with methamphetamine use. A recent study found that Aboriginal and Torres Strait Islander young people were significantly more likely to use methamphetamine if it was easily accessible in their community [18]. Dysfunctional community dynamics can be a risk factor for drug use.

In 2017, it was reported in focus group research that Australian motorcycle gangs 'bikies' promote methamphetamine (particularly crystal methamphetamine) to Aboriginal people and suggest to them to begin selling 'dealing' [18]. Because of their close community connections, Aboriginal people were able to provide easy access to possible new users. Bikies and other dealers reportedly greeted people leaving jail with samples of crystal methamphetamine to re-introduce its use.

What works

At this time, there is not much evidence on what responses to methamphetamine use among Aboriginal and Torres Strait Islander people work [52]. There are studies that consider possible strategies. These include:

Family and friends

Family support is important to Aboriginal and Torres Strait Islander people who use methamphetamine and for those family supporting users, including to have family involved in treatment [18, 52-56]. Many would prefer rehabilitation services where their family can come with them.

Family and Friends Support Program (FFSP) is an evidenced informed online intervention and support package for families and friends supporting loved ones using ice. It includes information on how families and friends can best help their loved ones and protect them from adverse impacts of their drug-using lifestyle. FFSP recognises that supporting someone who is using drugs can be extremely stressful, and aims to assist families and friends to best manage the demands of this role. FFSP is publicly available on www.ffsp.com.au.

Culturally appropriate/safe services

Culturally appropriate and safe prevention and treatment services, such as healing centres (see *Healing centres*, p. 20) are essential. This is especially needed in primary health care services as the first access to care. This includes:

- a focus on social determinants
- acknowledging the importance of connection to country, community and family, and cultural strengths
- the history of colonisation and disempowerment (focus on healing of past and current traumas).

Holistic services

Holistic services that go beyond providing help for the methamphetamine issue, but also provide support in other areas of the clients' lives are needed. For example, Youth Empowered Towards Independence (YETI), based in Cairns, Qld, provides drug and alcohol counselling to young people, aged 12 to 25 years, as well as support around housing, employment, finances and family support.

Strength-based approach

A strength-based approach [33, 57] includes sharing positive messages from individuals and communities who have successfully addressed their methamphetamine issues.

Localised resources and services

Localised resources and services, including detox and residential rehabilitation facilities and information kits in regional and remote areas, are needed so that:

- Aboriginal and Torres Strait Islander people can stay close to family and close to their traditional lands
- treatment can be better adapted to the local community's culture
- social marketing, information and education messaging is directly relevant for the target group.

Prevention and education

Prevention of methamphetamine use and related harms is important [15, 53, 54, 58]. There are currently no school-based drug prevention programs that have been shown to work for Aboriginal and Torres Strait Islander students [59], or for methamphetamine use specifically [52]:

- some Aboriginal and Torres Strait Islander youth start to use methamphetamine as young as 11 years old and some researchers have called for drug education to start in primary school [53].
- drug prevention programs for Aboriginal and Torres Strait Islander youth should go beyond providing information and focus on developing interpersonal skills, provide strategies for resisting peer pressure, integrate cultural knowledge elements and be developed with the local community [53, 54, 59].

Diversionary activities

Diversionary activities are strategies to prevent methamphetamine use among Aboriginal and Torres Strait Islander people [58, 60]. Examples include drug and alcohol-free festivals and events, and sporting and cultural activities in the community. The aim is to:

- ease boredom (that can lead to substance use)
- create support networks in the community
- provide young people with ways to build confidence and self-esteem.

They are likely to be most effective when they are provided with other activities, such as:

- educational opportunities
- drug and alcohol education
- empowerment opportunities [61, 62].

Social marketing

Social marketing and mass media campaigns have the potential to educate Aboriginal and Torres Strait Islander people about methamphetamine and how it can affect the individual, their family and the community. They can also help family members identify when their loved one is using methamphetamine and provide guidance for how to find support [15, 18, 52]. There is a need for more information about methamphetamine for community and family members [18, 33, 53, 58].

Because stigma and shame around use have been identified to be significant barriers for Aboriginal and Torres Strait Islander people to seek help for their use [39], campaigns should be positive and provide suggestions for ways that methamphetamine users can be helped to overcome harmful use [18].

Examples of these include: New South Wales police Not Our Way campaign [63] and Mallee District Aboriginal Services (MDAS) Healing from ice use in Victorian Aboriginal communities [64].

Cracks in the Ice Toolkit for Aboriginal and Torres Strait Islander people

The Australian Department of Health has funded The Matilda Centre for Research in Mental Health and Substance Use at the University of Sydney, to adapt the Cracks in the Ice online community Toolkit [41] to be culturally appropriate for Aboriginal and Torres Strait Islander people and provide added resources.

Community-based responses

It is important to acknowledge that a one-size-fits-all approach addressing methamphetamine use and associated harms will not work and that solutions need to be community specific [57, 65]. Localised responses need to be based on effective actions and existing community-strengths. There is a lack of evaluation of effective community action against methamphetamine use among Aboriginal and Torres Strait Islander people, but it is helpful to look at strategies that appear to work in other communities. Community strengths can be identified through community forums (gatherings). Community forums focussing on methamphetamine or 'ice' have been successfully organised by police, government and non-governmental organisations. They are a place for community members to:

- discuss their worries
- share experiences
- learn about methamphetamines and 'ice'
- develop community-based responses [9, 60, 66].

Documented positive examples of communities initiating their own response against methamphetamine use include:

The Block where a social housing block owned by the Aboriginal Housing Company in Redfern, NSW, banned use of methamphetamine. Community members would display negative behaviours towards people known to use 'ice' (e.g. by growling at them) this was more of a deterrent than official policing [15, 52].

Project Ice Mildura where community-based mainstream organisations, the police, Aboriginal Health Services, the City Council and community members are working together to raise awareness around issues surrounding methamphetamine use in their community and taking action around issues [52]. An evaluation of the project showed positive results in relation to:

- increased awareness by community members
- increased reporting to the authorities [67]
- advocating for more appropriate withdrawal and rehabilitation services for users
- creation of a community report and a short video.

As the community environment can strongly influence why someone is using methamphetamine, community development initiatives can be preventive. However, research is still needed to identify what works in reducing methamphetamine use and related harms.

A study is underway in Australia to test whether the Communities that Care (CTC) approach in reducing methamphetamine use and harms in Aboriginal and Torres Strait Islander communities works [68]. The study forms part of the Australian Government's response to the recommendations made in the *Final report of the Ice Task Force* in 2015 [69, 70].

The Novel Interventions to Address Methamphetamine Use in Aboriginal and Torres Strait Islander Communities (NIMAC) study

Professor James Ward and a team of researchers at the South Australian Health and Medical Research Institute (SAHMRI) are undertaking a project funded by the National Health and Medical Research Council (NHMRC). The aim is to develop new approaches to address methamphetamine use and related harms in Aboriginal and Torres Strait Islander communities. Phase 3 of this project involves working with 10 Aboriginal and Torres Strait Islander communities to implement the CTC approach. The participating communities will implement interventions to address methamphetamine use in their own community. For more information see: nimac.org.au [68].

Addressing social determinants

An important component of preventing methamphetamine use, is to address the social determinants that influence use. Positive education and employment programs that address these underlying social determinants have the potential to prevent methamphetamine use [54, 58, 60, 66, 71, 72].

Education and employment

The Pathways program coordinated by Winnunga Nimmityjah Aboriginal Medical Service in partnership with Community Education and Training in the Australian Capital Territory (ACT) supports Aboriginal people to obtain their driver's licence [54]. The program gave financial assistance to participants to pay for outstanding traffic fines, drivers' lessons and exams. Interviews indicated that methamphetamine users identified this as a positive program and that people who had participated in the program started looking for work as well as undertaking further training and education. An increase in training and education likely contributed to less drug use.

In 2014, the Parliament of Victoria's Law Reform Drugs and Crime Prevention Committee conducted an inquiry into the supply and use of methamphetamines in Victoria Vic [58, 66] and identified programs that focused on improving education and employment for Aboriginal and Torres Strait Islander peoples. The programs are for people from kindergarten through to university. None of the programs have been evaluated for their effectiveness in preventing methamphetamine use, however the programs have been successful to different degrees in their focus.

In 2017, nearly 6,000 Aboriginal young men were participating in a local Clontarf Academy [71, 72]. The program uses Australian Rules Football to:

- attract young men into the program and education
- improve their self-esteem
- develop skills
- change behaviour
- experience success
- reward achievements
- support them to complete Year 12.

Harm reduction

Treatment

Cognitive Behaviour Therapy

While Cognitive Behaviour Therapy (CBT) has been found to be effective in reducing methamphetamine use in the general population [73, 74], there have been no studies to date to assess CBT effectiveness with Aboriginal and Torres Strait Islander people who use methamphetamine. The National Indigenous Drug and Alcohol Committee (NIDAC) as well as the Handbook for Aboriginal Alcohol and Drug Work recommend using CBT with Aboriginal and Torres Strait Islander clients [66, 75]. A study with Aboriginal counsellors, found CBT to be highly appropriate and feasible for Aboriginal clients for multiple reasons [76]:

- empowering clients to increase their sense of control (agency) aligns with the aspiration of self-determination
- here-and-now focus and healing trauma
- clients share what worked for them with their family members who then also benefit.

Community Reinforcement Approach and Family Training (CRA and CRAFT)

The Community Reinforcement Approach (CRA) [77, 78] works with the client to identify the motivations for their substance use and the motivations for not using or doing something else. Then CRA works with the client to develop strategies to reward not using.

CRA Family Training (CRAFT) works with the family as well as the client [77-79]. The involvement of family in the treatment of methamphetamine use has been identified as a priority for Aboriginal and Torres Strait Islander communities [52-55, 62, 80].

A study with Aboriginal clients of an Aboriginal Community Controlled Health Service (ACCHS), found CRA to be highly acceptable among Aboriginal clients after alcohol withdrawal and that delivery of CRAFT was highly acceptable with family members or friends who wanted to support their loved one [81]. Following this study, both the CRA and CRAFT programs have been adapted to the Aboriginal Australian context using an approach that involved health workers from a local ACCHS being trained in delivering the programs to their Aboriginal clients [82]. The adapted CRA and CRAFT manuals are available online [83, 84]. CRA and CRAFT have not been specifically evaluated for their effectiveness in reducing methamphetamine use among Aboriginal and Torres Strait Islander people.

Brief intervention and motivational interviewing

The aims of brief intervention and motivational interviewing are:

- to start a conversation with people who are not ready for change
- increase the person's understanding of real and potential risks and problems
- to encourage them to consider reasons for change [85-89].

Brief intervention and motivational interviewing have been used with Aboriginal and Torres Strait Islander people to address:

Alcohol use:

- clinicians think the non-judgemental approach of motivational interviewing works well [91]
- alcohol use is often regarded as a private issue and not all health professionals are comfortable asking about it [90, 91]
- confidentiality and trust are issues for clients who have family, community members or friends who are health professionals [90, 91]
- some clients are only interested in feedback about their drinking [90].

Mental health combined with cannabis use:

- The evaluation showed improved mental health and substance use outcomes compared to treatment as usual
- the improvement sustained over an 18 month period [80].

The NIDAC recommends using brief intervention to address methamphetamine use among Aboriginal and Torres Strait Islander people [58]. This is based on:

- the effectiveness with mainstream methamphetamine clients [89]
- the effectiveness of brief intervention to improve mental health and cannabis outcomes for Aboriginal and Torres Strait Islander people [80]. The NIMAC study by Ward and colleagues [68] will develop therapeutic interventions based on motivational interviewing and CBT approaches.

The NIMAC study is web-based and will be:

- visual
- interactive
- culturally appropriate
- delivered by ACCHSs
- combined with clinical support [68].

Residential rehabilitation

Residential rehabilitation services are:

- abstinence-based (involve detox and not using)
- long-stay programs where clients stay at the facility
- able to remove triggers, influences and access to methamphetamines
- often combined with other treatment models, including CBT.

The effectiveness of residential rehabilitation has not been evaluated for Aboriginal and Torres Strait Islander methamphetamine users. The importance of connection to family and community makes residential rehabilitation for Aboriginal and Torres Strait Islander people a less-than-optimal approach [18, 52-54, 66].

However, some Aboriginal and Torres Strait Islander people who have attended residential rehabilitation have found this a positive experience [15, 54, 66, 92]. Positive experiences were mainly related to Aboriginal community-led residential rehabilitation services in which culture and connection to Country were part of the treatment. Clients said that being out in the bush, being able to connect to Country and getting away from everything was important for their recovery [15, 54, 92]. Residential rehabilitation can also be beneficial for families to 'get a break' from their substance using family member [66].

One study found that all of those experiencing methamphetamine dependence had relapsed after returning home [15]. The lack of after care and return to the home environment are main barriers to maintained abstinence (not using) following residential rehabilitation for Aboriginal and Torres Strait Islander people [15, 52, 60, 93]. Studies have consistently found that there is a need for more local detox and rehabilitation services for Aboriginal people, so they can stay close to their homelands and community [53, 56, 93].

Healing centres

Healing centres:

- are more culturally appropriate than residential rehabilitation [52, 66]
- are physically, socially and culturally safe spaces for Aboriginal and Torres Strait Islander people
- led by Aboriginal and Torres Strait Islander people
- strengthen connections between families, communities, land and culture
- located in or close to the community they service
- work closely with local communities to overcome causes and symptoms of trauma
- empower individuals and communities [94]
- are likely cost-beneficial in preventing incarceration, family violence and petrol sniffing [94].

Positive examples of healing centres are:

Wiimpatja Healing Centre at Warrakoo station (near Mildura, Vic): clients who have attended said 'being in the country and connecting to the land gave them the space and peace of mind to recover' [52].

Bunjilwarra Koori Youth Alcohol and Drug Healing service (Hastings, Vic) [52, 66, 95] is supported by:

- trauma-informed practice
- an adolescent development framework
- therapeutic communities
- recovery framework [95].

Medical treatment

Currently there is no effective medical treatment (where the client is provided with a safer alternative to the drug they are using in terms of dose, administration and adverse effects) for methamphetamine dependence [96]. There is a preference for abstinence-focused (detox and not using) treatments in some Aboriginal and Torres Strait Islander communities, as medical treatment can be seen as condoning drug use [52, 58, 60].

Policing and the justice system

People who use methamphetamines are more likely to engage in criminal activities than people who do not use drugs [18, 97]. Methamphetamine therefore is a challenge for police and the justice system, as well as community and family members who are victims of crime [66]. People who use methamphetamine may be more likely to be sent to mental health services or corrective services and have no access to treatment services [15].

Prison can be the first time that Aboriginal and Torres Strait Islander people who use methamphetamines can detox, have beneficial time-out and receive treatment [15, 52, 98].

The justice system plays an important role in addressing methamphetamine use and the related harms:

- as a first point of contact
- as a referral agent
- as an opportunity to provide treatment to juveniles [99].

The police force have been actively involved in prevention and community activities [53, 60]. Examples of involvement include:

- the organisation of community forums and invitation of local cultural leaders
- development of Ice Community Awareness Packages
- linking in with local skin groups (a group within a clan)
- establishing a night patrol program, night controls or Aboriginal security guards to guard crime hotspots
- the support of sporting or other major drug-and alcohol-free events in communities.

By sharing information across state and territory borders, police can target drug trafficking and work to disrupt the delivery of methamphetamines into remote and regional communities [60]. Policing strategies (both preventative and responsive) work best when the police officers reside in the local communities [60].

Workforce development

There is a need for staff in health and drug and alcohol services to be trained to address methamphetamine use and people using [15, 54]. Specific challenges include:

- multidrug use — methamphetamine is seldom the only drug people are using [39]
- the high referral rate to services from the justice system [47, 99, 100]
  - recent increases in the high level of methamphetamine dependence [100]
  - the *Handbook for Aboriginal alcohol and drug work* [75] includes a chapter on stimulant use (including methamphetamines) and treatment.

Health workers working with people who are using methamphetamines often need to respond to a range of issues beyond the methamphetamine use. The Family WellBeing Program is an Aboriginal developed program that takes a holistic approach to improving material, emotional, mental, and spiritual wellbeing to build self-empowerment [101]. Health workers have commented that the Family WellBeing Program is highly relevant for family members as well as health workers to support people who are using methamphetamines [102].

Since late 2016, the National Centre for Education and Training on Addiction (NCETA) in Adelaide, has been developing training modules for the Aboriginal and Torres Strait Islander workforce around methamphetamine use. They have also:

- developed training modules around working with Aboriginal and Torres Strait Islander clients
- been providing interactive workshops around the country
- been developing information sheets
- been developing a 'customised topic' as part of their online training package on ice use [103].

Policies and strategies

National Aboriginal and Torres Strait Islander Drug Strategy

The priority areas of the 2014-2019 strategy mentions methamphetamines, including:

- building capacity and training more Aboriginal and Torres Strait Islander AOD workers
  - culturally responsive programs that are inclusive of family members
  - locally designed solutions
  - communicating good practice [65].

National Ice Task Force

In 2015, the National Ice Task Force conducted an inquiry into crystal methamphetamine use and related harms and made 38 recommendations [69]. Recommendation number 21 outlined providing culturally appropriate services for Aboriginal and Torres Strait Islander communities:

- with governments working in close consultation with Aboriginal Community Controlled Organisations and communities
- that are integrated and evidence-based
- that support community development and capacity building
- that make many links with other health and support services.

Since these recommendations were released, the Australian Department of Health has funded initiatives addressing methamphetamine use among Aboriginal and Torres Strait Islander people aiming to provide culturally appropriate education, information and prevention and treatment.

This has included:

- funding researchers to research and develop online evidence-based education and information portals for schools and the wider community (Cracks in the Ice project)
- providing Primary Health Networks with additional funding to offer culturally appropriate services.

Concluding comments

Methamphetamines are the fourth most commonly used drugs by Aboriginal and Torres Strait Islander people. Historical factors and social factors are major influences. Therefore, responses should address social determinants, as well as provide treatment services.

Serious investments from the Commonwealth, state and territory governments are needed to address the lower levels of education, employment and access to services experienced by most Aboriginal and Torres Strait Islander people. Effective prevention requires an approach targeting social determinants, health and crime outcomes combined.

There is a need for improved cultural appropriateness of services and more cultural competence training of workers. This is especially needed in primary health care services that form the first level of access to care. Many Aboriginal and Torres Strait Islander people do not feel comfortable turning to primary health care services Workforce training, such as the modules developed by NCETA are essential, so that the first point of contact is not through the justice system, but the health system.

Addressing methamphetamine use in regional and remote communities where people are twice as likely to use methamphetamine compared to people in metropolitan areas [104] and with higher proportions of Aboriginal and Torres Strait Islander people than non-Indigenous people [23] should be a priority. This must include: education and employment issues; better access to services; more local residential rehabilitation or healing centres; and services close to their community and on country.

Finally, there should be a focus on how to strengthen communities in responding to methamphetamine issues in their local areas. Promising initiatives do exist through Aboriginal health services, local drug action teams funded by the Australian Drug Foundation and the police. The evaluation of the CTC (see p. 16-17) approach in Aboriginal and Torres Strait Islander communities will also inform future strategies. Ongoing efforts to empower local communities to strengthen their own community are important in successfully addressing methamphetamine use and related harms experiences by Aboriginal and Torres Strait Islander people.

References

1. Australian Institute of Health and Welfare. (2017). *National Drug Strategy Household Survey 2016: detailed findings*. Canberra: Australian Institute of Health and Welfare.
2. McKetin, R., & Black, E. (2014). *Methamphetamine: what you need to know about speed, ice, crystal, base and meth*. Canberra: Australian Government Department of Health.
3. Australian Crime Commission. (2015). *The Australian methylamphetamine market: the national picture*. Canberra: Australian Crime Commission.
4. Australian Institute of Health and Welfare. (2014). *National Drug Strategy Household Survey detailed report: 2013* (AIHW Catalogue no PHE 183, drug statistics series no 28). Canberra: Australian Institute of Health and Welfare.
5. Australian Institute of Health and Welfare. (2018). *Alcohol, tobacco & other drugs in Australia.* Retrieved 14 August 2018 from https://www.aihw.gov.au/reports/alcohol/alcohol-tobacco-other-drugs-australia/contents/introduction
6. Lee, N., Jenner, L., & Ross, P. (2017). *Beyond the tip of the iceberg: a practitioners' guide to ice*. Melbourne: 360 Edge.
7. Davy, C., Harfield, S., McArthur, A., Munn, Z., & Brown, A. (2016). Access to primary health care services for Indigenous peoples: a framework synthesis. *International Journal for Equity in Health, 15*. Retrieved from: http://dx.doi.org/10.1186/s12939-016-0450-5
8. Degenhardt, L., Larney, S., Chan, G., Dobbins, T., Weier, M., Roxburgh, A., . . . McKetin, R. (2016). Estimating the number of regular and dependent methamphetamine users in Australia, 2002–2014. *Medical Journal of Australia, 204*(4), 1.e1-1.e6.
9. Cartwright, K., & Tait, R. J. (2019). Service providers' experience of methamphetamine and the portrayal of the 'ice epidemic' in remote Australia. *Australian Journal of Rural Health, 27*(1), 83-87.
10. Darke, S., Kaye, S., McKetin, R., & Duflou, J. (2008). Major physical and psychological harms of methamphetamine use. *Drug and Alcohol Review, 27*(3), 253-262.
11. Degenhardt, L., Sara, G., McKetin, R., Roxburgh, A., Dobbins, T., Farrell, M., . . . Hall, W. D. (2016). Crystalline methamphetamine use and methamphetamine-related harms in Australia. *Drug and Alcohol Review, 36*(2), 160-170.
12. 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.
13. McKetin, R., Lubman, D. I., Najman, J. M., Dawe, S., Butterworth, P., & Baker, A. L. (2014). Does methamphetamine use increase violent behaviour? Evidence from a prospective longitudinal study. *Addiction, 109*(5), 798-806.
14. National Drug and Alcohol Research Centre. (2006). Methamphetamine supply in Australia (pp. 2). Sydney: National Drug and Alcohol Research Centre.
15. Australian Government Department of Health and Ageing. (2008). *Patterns of use and harms associated with specific populations of methamphetamine users in Australia - Exploratory research*. Canberra: Australian Government Department of Health and Ageing.
16. Champion, K. E., Chapman, C., Newton, N. C., Brierley, M. E., Stapinski, L., Kay-Lambkin, F., . . . Teesson, M. (2018). A web-based toolkit to provide evidence-based resources about crystal methamphetamine for the Australian community: collaborative development of Cracks in the Ice. *JMIR Mental Health, 5*(1). Retrieved from:
17. Salmon, M., Doery, K., Dance, P., Chapman, J., Gilbert, R., Williams, R., & Lovett, R. (2019). *Defining the indefinable: descriptors of Aboriginal and Torres Strait Islander peoples' cultures and their links to health and wellbeing*. Canberra: National Centre for Epidemiology and Population Health.
18. MacLean, S., Hengsen, R., & Stephens, R. (2017). Critical considerations in responding to crystal methamphetamine use in Australian Aboriginal communities. *Drug and Alcohol Review, 36*(4), 502-508.
19. Gray, D., Saggers, S., Atkinson, D., & Wilkes, E. (2008). Substance misuse. In S. Couzos & R. Murray (Eds.), *Aboriginal primary health care: an evidence-based approach* (3rd ed., pp. 755-787). South Melbourne: Oxford University Press.
20. Kingsley, J., Townsend, M., Henderson-Wilson, C., & Bolam, B. (2013). Developing an exploratory framework linking Australian Aboriginal peoples' connection to country and concepts of wellbeing. *International Journal of Environmental Research and Public Health, 10*(2), 678-698.
21. Salmon, M., Doery, K., Dance, P., Chapman, J., Gilbert, R., Williams, R., & Lovett, R. (2018). *Defining the indefinable: descriptors of Aboriginal and Torres Strait Islander peoples' cultures and their links to health and wellbeing*. Canberra: National Centre for Epidemiology and Population Health.

22. Cass, A., Lowell, A., Christie, M., Snelling, P. L., Flack, M., Marrnganyin, B., & Brown, I. (2002). Sharing the true stories: improving communication between Aboriginal patients and healthcare workers. *Medical Journal of Australia, 176*(10), 466-470.

23. Australian Bureau of Statistics. (2018). *Census of population and housing: characteristics of Aboriginal and Torres Strait Islander Australians, 2016.*

24. Australian Bureau of Statistics. (2017). *Census of population and housing: reflecting Australia - stories from the Census, 2016: Aboriginal and Torres Strait Islander population.* Retrieved 28 June 2017 from https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/2071.02016?OpenDocument

25. Australian Health Ministers' Advisory Council. (2017). *Aboriginal and Torres Strait Islander Health Performance Framework: 2017 report*. Canberra: Department of the Prime Minster and Cabinet.

26. Australian Institute of Health and Welfare. (2020). *Alcohol, tobacco & other drugs in Australia [web report].* Retrieved 23 April 2020 from https://www.aihw.gov.au/reports/alcohol/alcohol-tobacco-other-drugs-australia/contents/introduction

27. Australian Bureau of Statistics. (2016). *National Aboriginal and Torres Strait Islander Social Survey, 2014-15*. Canberra: Australian Bureau of Statistics.

28. Allan, J., Ip, R. H. L., Kemp, M., & Snowdon, N. (2019). Increased demand for amphetamine treatment in rural Australia. *Addiction Science & Clinical Practice, 14*. Retrieved from: https://doi.org/10.1186/s13722-019-0144-6

29. Australian Institute of Health and Welfare. (2017). *Aboriginal and Torres Strait Islander health organisations: online services report - key results 2015-16. Aboriginal and Torres Strait Islander health services report no. 8*. Canberra: Australian Institute of Health and Welfare.

30. Ward, J., Bryant, J., Wand, H., Pitts, M., Smith, A., Delaney-Thiele, D., . . . Kaldor, J. (2014). *Sexual health and relationships in young Aboriginal and Torres Strait Islander people: results of the first Australian study of knowledge, risk practices and health service access for sexually transmissible infections (STIs) and blood borne viruses (BBVs) among young Aboriginal and Torres Strait Islander people: the Goanna Survey*. Alice Springs: Baker IDI Heart & Diabetes Institute.

31. Wilkes, E., Gray, D., Casey, W., Stearne, A., & Dadd, L. (2014). Harmful substance use and mental health. In P. Dudgeon, H. Milroy & R. Walker (Eds.), *Working together: Aboriginal and Torres Strait Islander mental health and wellbeing principles and practice* (2nd edition ed., pp. 125-146 (chapter 128)). Canberra: Department of The Prime Minister and Cabinet.

32. National Indigenous Drug and Alcohol Committee, & National Aboriginal Community Controlled Health Organisation. (2014). *NIDAC/NACCHO online consultation: amphetamine-type stimulants use*. Canberra: National Indigenous Drug and Alcohol Committee.

33. Clough, A. R., Fitts, M., & Robertson, J. (2015). Recent warnings of a rise in crystal methamphetamine ("ice") use in rural and remote Indigenous Australian communities should be heeded [letter]. *Medical Journal of Australia, 203*(1), 19.

34. Bryant, J., Ward, J., Wand, H., Byron, K., Bamblett, A., Waples-Crowe, P., . . . Pitts, M. (2015). Illicit and injecting drug use among Indigenous young people in urban, regional and remote Australia. *Drug and Alcohol Review, 35*(4), 447-455.

35. Larson, A. S. C., Shannon, C., & Eldridge, C. (1999). Indigenous Australians who inject drugs: results from a Brisbane study. *Drug and Alcohol Review, 18*(1), 53-62.

36. Paquette, D., McEwan, M., & Bryant, J. (2013). Risk practices among Aboriginal people who inject drugs in New South Wales, Australia. *AIDS and Behavior, 17*(7), 2467-2473.

37. Ward, J., Topp, L., Iversen, J., Wand, H., Akre, S., Kaldor, J., & Maher, L. (2011). Higher HCV antibody prevalence among Indigenous clients of needle and syringe programs. *Australian and New Zealand Journal of Public Health, 35*(5), 234-245.

38. Mapfumo, L., Waples-Crowe, P., & Ware, J. (2010). *Action research: addressing HIV risks related to injecting drug use in Victorian Aboriginal communities*. Melbourne: Anex.

39. Smirnov, A., Kemp, R., Ward, J., Henderson, S., Williams, S., Dev, A., & Najman, J. M. (2016). Patterns of drug dependence in a Queensland (Australia) sample of Indigenous and non-Indigenous people who inject drugs. *Drug and Alcohol Review, 35*(3), 611-619.

40. Goldsmid, S., & Willis, M. (2016). *Methamphetamine use and acquisitive crime: evidence of a relationship*. Canberra: Australian Institute of Criminology.

41. Cracks in the Ice. (2017). *Cracks in the Ice.* Retrieved 2017 from https://cracksintheice.org.au/

42. Australian Bureau of Statistics. (2013). *Australian Aboriginal and Torres Strait Islander health survey: first results, Australia, 2012-13* (ABS Catalogue no. 4727.0.55.001). Canberra: Australian Bureau of Statistics.

43. Australian Institute of Health and Welfare. (2016). *Alcohol and other drug treatment services in Australia 2014-15* (Drug treatment series no. 27. Cat. no. HSE 173). Canberra: Australian Institute of Health and Welfare.

44. Monahan, C., & Coleman, M. (2018). Ice in the outback: the epidemiology of amphetamine-type stimulant-related hospital admissions and presentations to the emergency department in Hedland, Western Australia. *Australasian Psychiatry, 26*(4), 417-421.

45. Queensland Health. (2017). *Queensland Health methamphetamine paper*. Brisbane: State of Queensland.

46. Drug and Alcohol Services South Australia. (2017). *Substance use and associated harms among Aboriginal and/or Torres Strait Islander South Australians* (DASSA Statistical Bulletin no. 13). Adelaide: Drug and Alcohol Services South Australia.

47. Wand, H., Ward, J., Bryant, J., Delaney-Thiele, D., Worth, H., Pitts, M., & Kaldor, J. M. (2016). Individual and population level impacts of illicit drug use, sexual risk behaviours on sexually transmitted infections among young Aboriginal and Torres Strait Islander people: results from the GOANNA survey. *BMC Public Health, 16*. Retrieved from: http://dx.doi.org/10.1186/s12889-016-3195-6

48. McKetin, R., Kothe, A., Baker, A. L., Lee, N. K., Ross, J., & Lubman, D. I. (2018). Predicting abstinence from methamphetamine use after residential rehabilitation: findings from the Methamphetamine Treatment Evaluation Study. *Drug and Alcohol Review, 37*(1), 70-78.

49. Westmore, T., Van Vught, J., Thomson, N., Griffiths, P., & Ryan, J. (2014). *Impacts of methamphetamine in Victoria: a community assessment*. Melbourne: Penington Institute report for the Victorian Department of Health.

50. Australian Institute of Health and Welfare. (2016). *Australia's health 2016*. Canberra: Australian Institute of Health and Welfare.

51. O'Donnell, A., Addison, M., Spencer, L., Zurhold, H., Rosenkranz, M., McGovern, R., . . . Kaner, E. (2018). Which individual, social and environmental influences shape key phases in the amphetamine type stimulant use trajectory? A systematic narrative review and thematic synthesis of the qualitative literature. *Addiction, 114*(1), 24-47.

52. MacLean, S., Hengsen, R., Stephens, R., & Arabena, K. (2015). *Supporting the Mildura Aboriginal Community's response to ice use*. Melbourne: Onemda VicHealth Group, The University of Melbourne.

53. Clough, A., Robertson, J., Fitts, M., Lawson, K., Bird, K., Hunter, E., . . . Obrecht, K. (2015). *Impacts of meth/amphetamine, other drugs and alcohol in rural and remote areas in northern and north-east Queensland: an environmental scan*. Cairns: James Cook University.

54. Dance, P., Tongs, J., Guthrie, J., McDonald, D., D'Souza, R., Cubillo, C., & Bammer, G. (2004). *'I want to be heard': an analysis of needs of Aboriginal and Torres Strait Islander illegal drug users in the ACT and region for treatment and other services*. Canberra: National Centre for Epidemiology and Population Health, Australian National University.

55. Northern Territory Government. (2016). *Tackling Ice in the Northern Territory*. Darwin: Northern Territory Government.

56. 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*. Perth: National Drug Research Institute.

57. MacLean, S., Harney, A., & Arabena, K. (2015). Primary health-care responses to methamphetamine use in Australian Indigenous communities. *Australian Journal of Primary Health, 21*(4), 384-390.

58. Parliament of Victoria Law Reform Drugs and Crime Prevention Committee. (2014). *Inquiry into the supply and use of methamphetamines, particularly ice, in Victoria: final report: volume 1*. Melbourne: Parliament of Victoria.

59. Snijder, M., Stapinski, L., Lees, B., Ward, J., Conrod, P., Mushquash, C. J., . . . Newton, N. (nd). Preventing substance use among Indigenous adolescents in the United States of America, Canada, Australia and New Zealand: A systematic review of the literature. *Prevention Science, Under review*.

60. Delahunty, B., & Putt, J. (2006). *The policing implications of cannabis, amphetamine and other illicit drug use in Aboriginal and Torres Strait Islander communities* (Monograph series no.15). Canberra: Australian Institute of Aboriginal and Torres Strait Islander Studies and Australian Government Department of Health and Ageing.

61. Snijder, M., & et al. (2019). *An ecological model of substance use and related harms among Aboriginal and Torres Strait Islander Australians: a systematic review of the literature*.

62. Gray, D., Stearne, A., Bonson, M., Wilkes, E. T., Butt, J., & Wilson, M. (2014). *Review of the Aboriginal and Torres Strait Islander alcohol, tobacco and other drugs treatment service sector: harnessing good intentions*. Perth: National Drug Research Institute.

63. New South Wales Police Force. (2017). Not Our Way campaign. Sydney: New South Wales Police Force.

64. Onemda Koori Health. (2015). Healing from ice use in Victorian Aboriginal communities. Melbourne: Onemda Koori Health.

65. Intergovernmental Committee on Drugs. (2015). *National Aboriginal and Torres Strait Islander peoples' drug strategy 2014-2019*. Canberra: National Drug Strategy.

66. Parliament of Victoria Law Reform Drugs and Crime Prevention Committee. (2014). *Inquiry into the supply and use of methamphetamines, particularly ice, in Victoria: final report: volume 2*. Melbourne: Parliament of Victoria.

67. Vinson Centre for Applied Social Research. (2014). *Project Ice Mildura: evaluation of the community campaign measuring reach and impact*. Mildura, Vic: Northern Mallee Community Partnership.

68. Ward, J., Wilkes, E., Wand, H., Conigrave, K., Gray, D., Dunlop, A., . . . Mcketin, R. (2016). *Novel interventions to address methamphetamines in Aboriginal communities, including a randomised trial of a web based therapeutic tool used to treat dependence in clinical settings. [2016 - 2020].*

69. Department of the Prime Minister and Cabinet. (2015). *Final report of the National Ice Taskforce*. Canberra: Commonwealth of Australia.

70. Australian Government Department of Health. (2015). *Taking action to combat ice*. Canberra: Australian Government Department of Health.

71. Purdie, N., & Buckley, S. (2010). *School attendance and retention of Indigenous Australian students* (Issues Paper No 1). Canberra: Closing the Gap Clearinghouse.

72. Clontarf Foundation. (2018). *Clontarf Foundation annual report 2017*. Perth: Clontarf Foundation.

73. Baker, A., Lee, N. K., Claire, M., Lewin, T. J., Grant, T., Pohlman, S., . . . Carr, V. J. (2005). Brief cognitive behavioural interventions for regular amphetamine users: a step in the right direction. *Addiction, 100*(3), 367-378.

74. Tait, R. J., McKetin, R., Kay-Lambkin, F., Carron-Arthur, B., Bennett, A., Bennett, K., . . . Griffiths, K. M. (2015). Six-month outcomes of a web-based intervention for users of amphetamine-type stimulants: randomized controlled trial. *Journal of Medical Internet Research, 17*(4). Retrieved from:

75. Lee, K., Freeburn, B., Ella, S., Miller, W., Perry, J., & Conigrave, K. (2012). *Handbook for Aboriginal alcohol and drug work*. Sydney: University of Sydney.

76. Bennett-Levy, J., Wilson, S., Nelson, J., Stirling, J., Ryan, K., Rotumah, D., . . . Beale, D. (2014). Can CBT be effective for Aboriginal Australians? Perspectives of Aboriginal practitioners trained in CBT. *Australian Psychologist, 49*(1), 1-7.

77. Miller, W. R., & Wilbourne, P. (2002). Mesa Grande: a methodological analysis of clinical trials of treatments for alcohol use disorders. *Addiction, 97*(3), 265-277.

78. Phillips, K. A., Epstein, D. H., & Preston, K. L. (2014). Psychostimulant addiction treatment. *Neuropharmacology, 87*, 150-160.

79. Meyers, R. J., & Smith, J. E. (1995). *Clinical guide to alcohol treatment: the community reinforcement approach*. New York, United States of America: Guildford Press.

80. Nagel, T., Robinson, G., Condon, J., & Trauer, T. (2009). Approach to treatment of mental illness and substance dependence in remote Indigenous communities: results of a mixed methods study. *Australian Journal of Rural Health, 17*(4), 174-182.

81. Calabria, B., Clifford, A., Shakeshaft, A., Allan, J., Bliss, D., & Doran, C. (2013). The acceptability to Aboriginal Australians of a family-based intervention to reduce alcohol-related harms. *Drug and Alcohol Review, 32*(3), 328-332.

82. Calabria, B., Clifford, A., Rose, M., & Shakeshaft, A. P. (2014). Tailoring a family-based alcohol intervention for Aboriginal Australians, and the experiences and perceptions of health care providers trained in its delivery. *BMC Public Health, 14*. Retrieved from: http://dx.doi.org/10.1186/1471-2458-14-322

83. Rose, M., Calabria, B., Allan, J., Clifford, A., & Shakeshaft, A. P. (2014). *Aboriginal-specific Community Reinforcement Approach (CRA) training manual* (Technical report no. 326). Sydney: National Drug and Alcohol Research Centre.

84. Rose, M., Calabria, B., Allan, J., Clifford, A., & Shakeshaft, A. P. (2014). *Working with families with substance misuse problems: community reinforcement and family training (CRAFT) manual* (327). Sydney: National Drug and Alcohol Research Centre.

85. McQueen, J., Howe, T. E., Allan, L., Mains, D., & Hardy, V. (2011). Brief interventions for heavy alcohol users admitted to general hospital wards. *Cochrane Database of Systematic Reviews,* (8). Retrieved from: https://doi.org/10.1002/14651858.CD005191.pub3

86. Lindson-Hawley, N., Thompson, T. P., & Begh, R. (2015). Motivational interviewing for smoking cessation. *Cochrane Database of Systematic Reviews,* (3). Retrieved from: https://doi.org/10.1002/14651858.CD006936.pub3

87. Carney, T., Myers, B. J., Louw, J., & Okwundu, C. I. (2016). Brief school-based interventions and behavioural outcomes for substance-using adolescents. *Cochrane Database of Systematic Reviews,* (1). Retrieved from: https://doi.org/10.1002/14651858.CD008969.pub3

88. Harland, J., & Ali, R. (2017). *ASSIST on Ice: The Alcohol, Smoking and Substance Involvement Screening Test and brief intervention for methamphetamine use*. Adelaide: DASSA-WHO Collaborating Centre, University of Adelaide.

89. Skvarc, D. R., Varcoe, J., Rowland, B., Fuller-Tyszkiewicz, M., Austin, D., & Toumbourou, J. W. (2015). *The effects of online brief interventions for the prevention and treatment of methamphetamine use: a systematic review*. Sydney: Sax Institute.

90. Conigrave, K., Freeman, B., Caroll, T., Simpson, L., Kylie Lee, K. S., Wade, V., . . . Freeburn, B. (2012). The Alcohol Awareness project: community education and brief intervention in an urban Aboriginal setting. *Health Promotion Journal of Australia, 23*(3), 219-225.

91. Brady, M., Sibthorpe, B., Bailie, R., Ball, S., & Sumnerdodd, P. (2002). The feasibility and acceptability of introducing brief intervention for alcohol misuse in an urban Aboriginal medical service. *Drug and Alcohol Review, 21*(4), 375-380.

92. Munro, A., Allan, J., Shakeshaft, A., & Breen, C. (2017). 'I just feel comfortable out here, there's something about the place': staff and client perceptions of a remote Australian Aboriginal drug and alcohol rehabilitation service. *Substance Abuse Treatment, Prevention, and Policy, 12*. Retrieved from: https://doi.org/10.1186/s13011-017-0135-0

93. Gray, D., Stearne, A., Wilson, M., & Doyle, M. (2010). *Indigenous-specific alcohol and other drug interventions: continuities, changes and areas of greatest need* (ANCD research paper 20). Canberra: Australian National Council on Drugs.

94. The Healing Foundation. (2014). *Prospective cost benefit analysis of healing centres*. Canberra: The Healing Foundation.

95. Bunjilwarra Koori Youth Alcohol & Drug Healing Service. (2014). Bunjilwarra Service Model factsheet (pp. 4). Hastings, Vic: Bunjilwarra Koori Youth Alcohol & Drug Healing Service.

96. Pérez-Mañá, C., Castells, X., Torrens, M., Capellà, D., & Farre, M. (2013). Efficacy of psychostimulant drugs for amphetamine abuse or dependence. *Cochrane Database of Systematic Reviews,* (9). Retrieved from: https://doi.org/10.1002/14651858.CD009695.pub2

97. Bennett, T., Holloway, K., & Farrington, D. (2008). The statistical association between drug misuse and crime: a meta-analysis. *Aggression and Violent Behavior, 13*(2), 107-118.

98. Doyle, M. (2018, 6-9 November 2018). *Addressing alcohol and other drug use among people involved in the criminal justice system.* Paper presented at the 5th National Indigenous Drug & Alcohol Conference, Adelaide.

99. Doolan, I., Najman J. , Henderson, S., Cherney, A., Plotnikova, M., Ward, J., . . . Smirnov, A. (2015). A retrospective comparison study of Aboriginal and Torres Strait Islander injecting drug users and their contact with youth detention and/or prison. *Australian Indigenous HealthBulletin, 15*(3). Retrieved from: http://healthbulletin.org.au/articles/a-retrospective-comparison-study-of-aboriginal-and-torres-strait-islander-injecting-drug-users-and-their-contact-with-youth-detention-andor-prison/

100. Goutzamanis, S., Higgs, P., Richardson, M., & MacLean, S. (2018). Increasing amphetamine use and forensic involvement among clients of three residential Indigenous alcohol and other drug services in Victoria, Australia. *Drug and Alcohol Review, 37*(5), 671-675.

101. Whiteside, M., Tsey, K., Cadet-James, Y., & McCalman, J. (2014). *Promoting Aboriginal health: the family wellbeing empowerment approach*: SpringerBriefs in Public Health.

102. Whiteside, M., MacLean, S., Callinan, S., Marshall, P., Nolan, S., & Tsey, K. (2018). Acceptability of an Aboriginal wellbeing intervention for supporters of people using methamphetamines. *Australian Social Work, 71*(3), 358-366.

103. National Centre for Education and Training on Addiction. (2017). Ice: Training for Frontline Workers. Adelaide: National Centre for Education and Training on Addiction.

104. Australian Institute of Health and Welfare. (2015). *Trends in methylamphetamine availability, use and treatment, 2003-04 to 2013-14*. Canberra: Australian Institute of Health and Welfare.

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