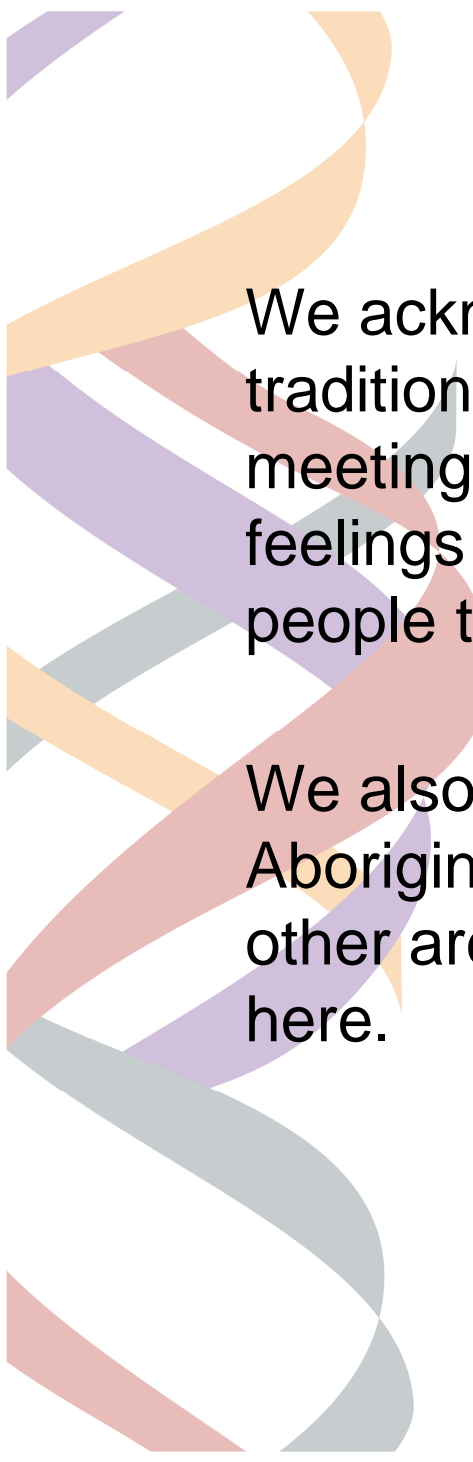




Methamphetamine: current patterns and management issues

Dr Chris Holmwood
Director Primary and Tertiary Liaison
Drug and Alcohol Services South Australia



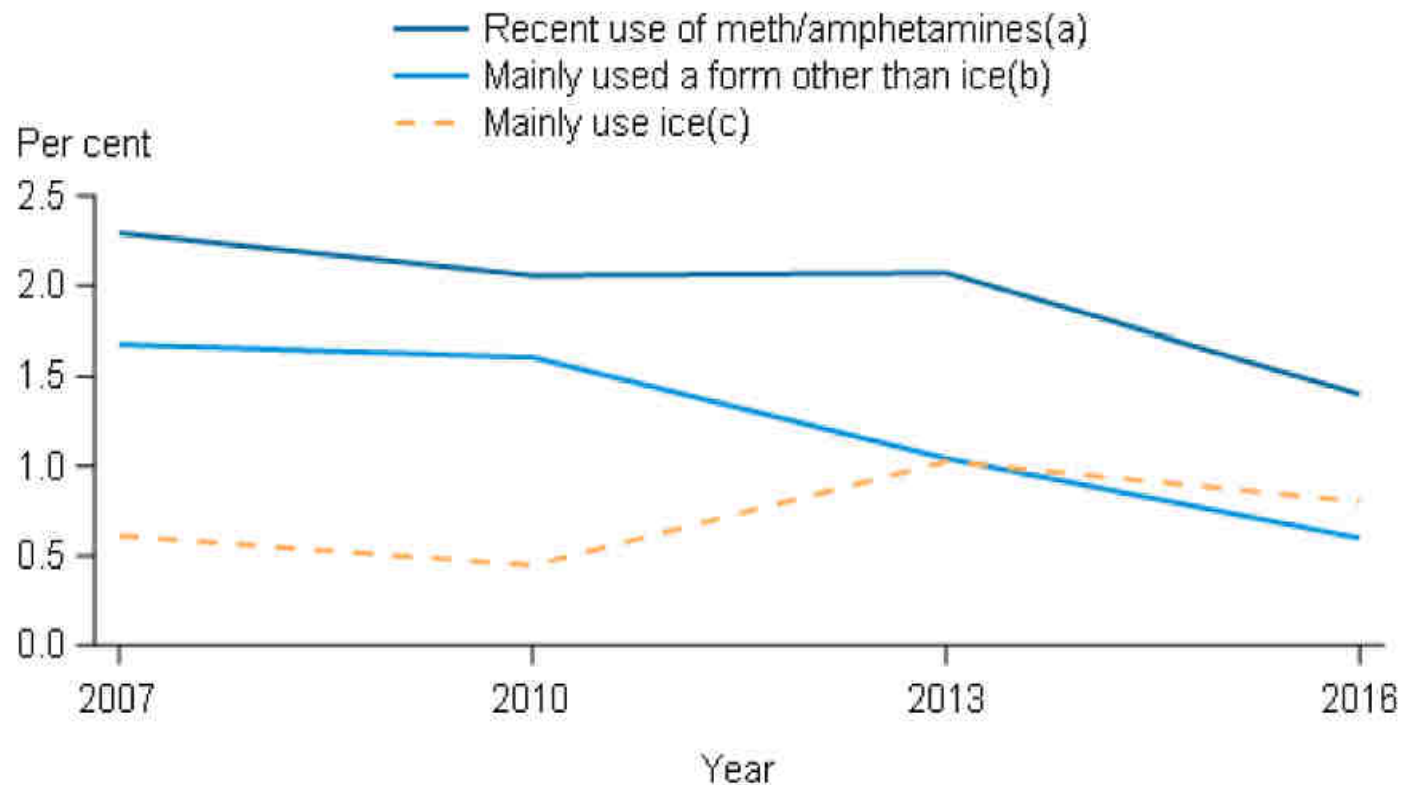


We acknowledge and respect the Kurna people, the traditional custodians whose ancestral land we are meeting on here today. We acknowledge the deep feelings of attachment and relationship of the Kurna people to this country.

We also pay respects to the cultural authority of Aboriginal people attending from other areas of South Australia and elsewhere present here.

2016 National Household Drug Survey

Figure 13: Recent meth/amphetamine user by main form used in last 12 months, people aged 14 and over, 2007 to 2016 (per cent)

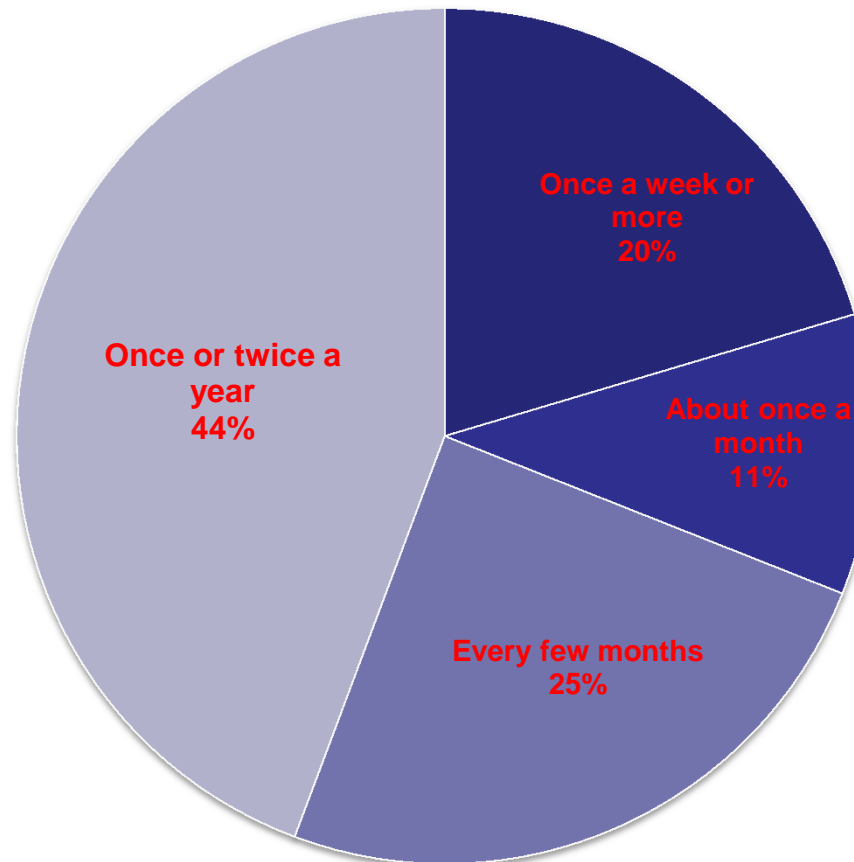


a. Used meth/amphetamines in the last 12 months.

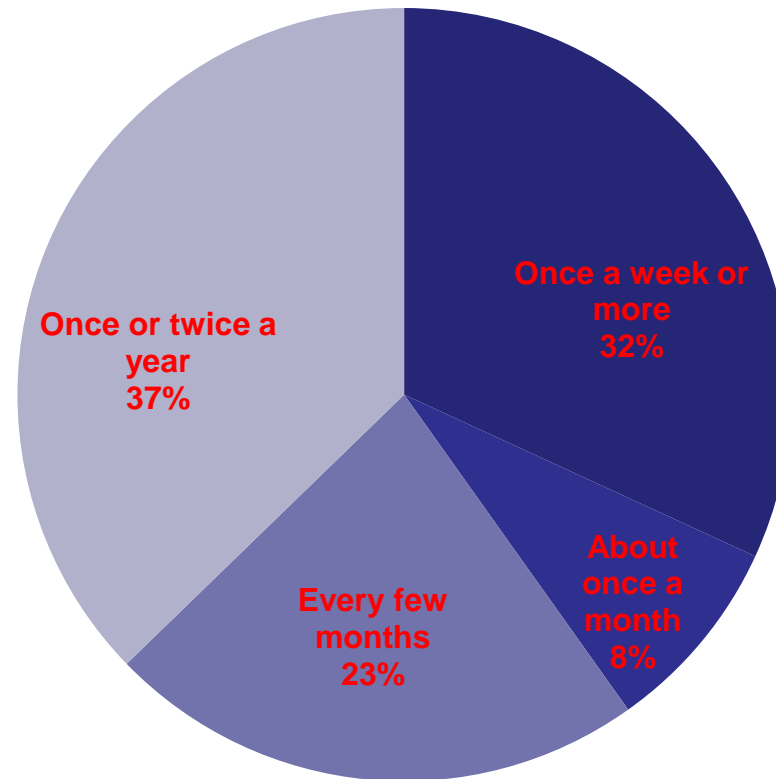
b. Recent meth/amphetamine users reporting that the main form used in last 12 months was crystal.

c. Recent meth/amphetamine users reporting that the main form used in last 12 months was a form other than crystal.

National look at frequency of **Methamphetamine [all]** use - NDS HS 2016



National Crystal methamphetamine use frequency 2016 NDS HS





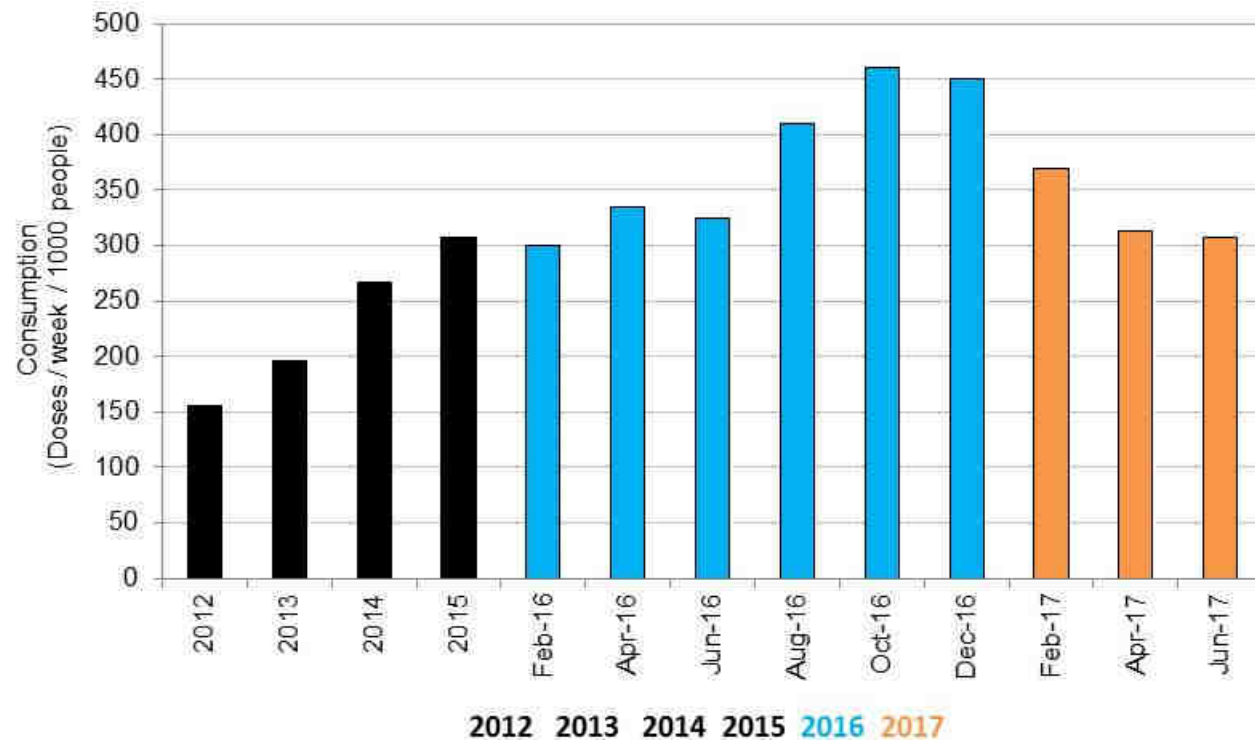
2016 National Household Drug Survey

- > People who mainly used crystal/ice were far more likely to use this drug on a regular basis (32% using it at least weekly) than those who mainly used powder (only 5.6% of this group use powder each week)

NOTE this estimate has a high relative standard error and should be interpreted with caution)

SA Wastewater - Stimulants

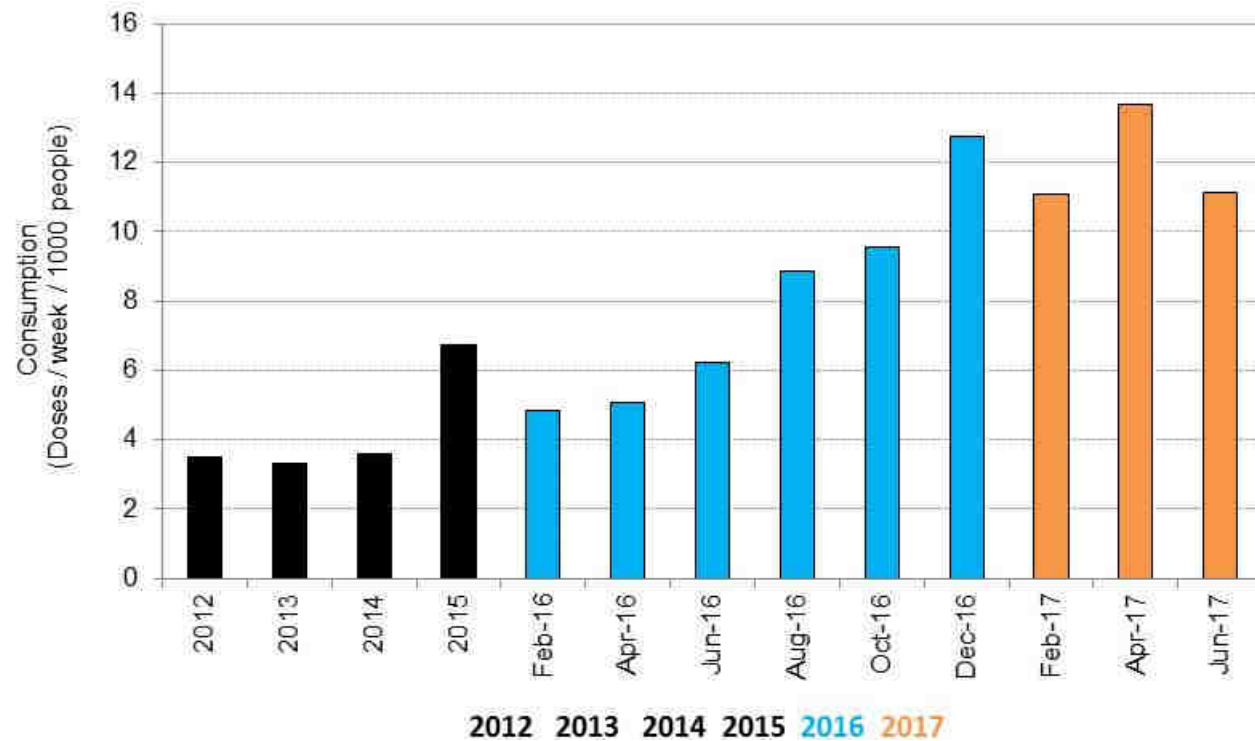
Methamphetamine consumption has increased since 2012, although there have been decreases in 2017.



Average consumption (dose/week/1000 people) of methamphetamine for 2012-2015. Weekly consumption (dose/week/1000 people) bi-monthly from February 2016.

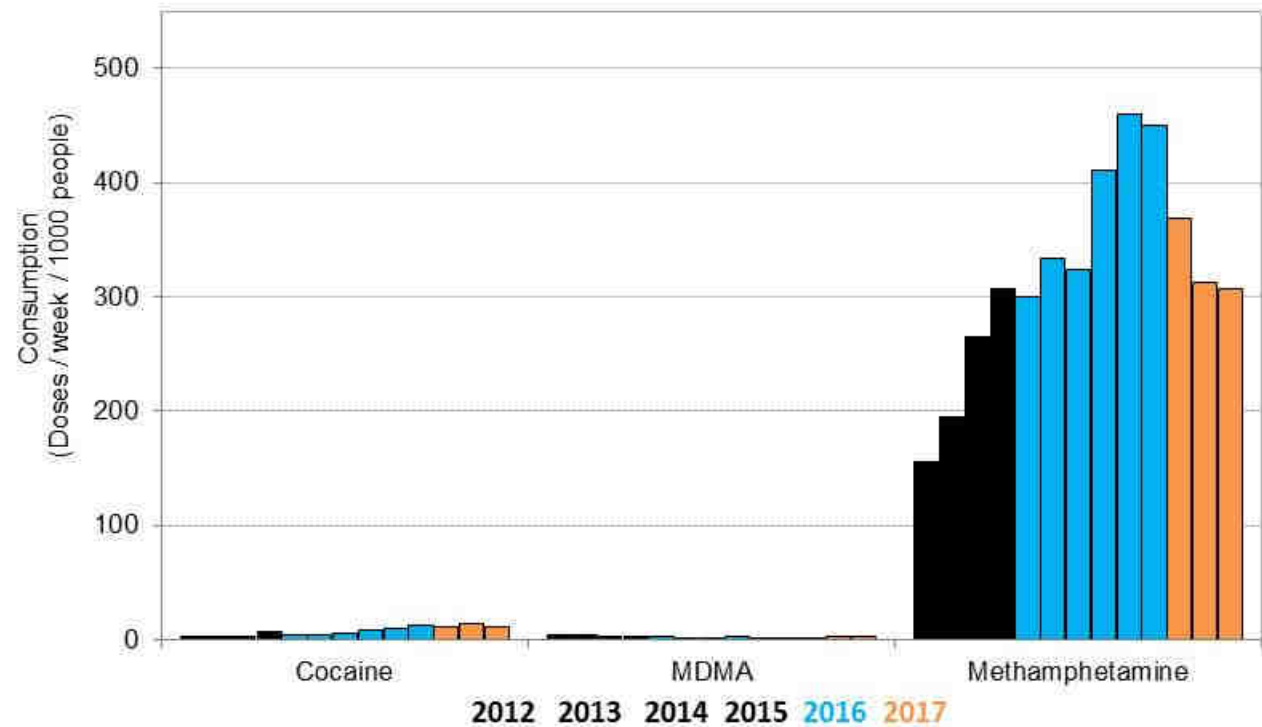
SA wastewater - Stimulants

Cocaine consumption has increased since 2015.



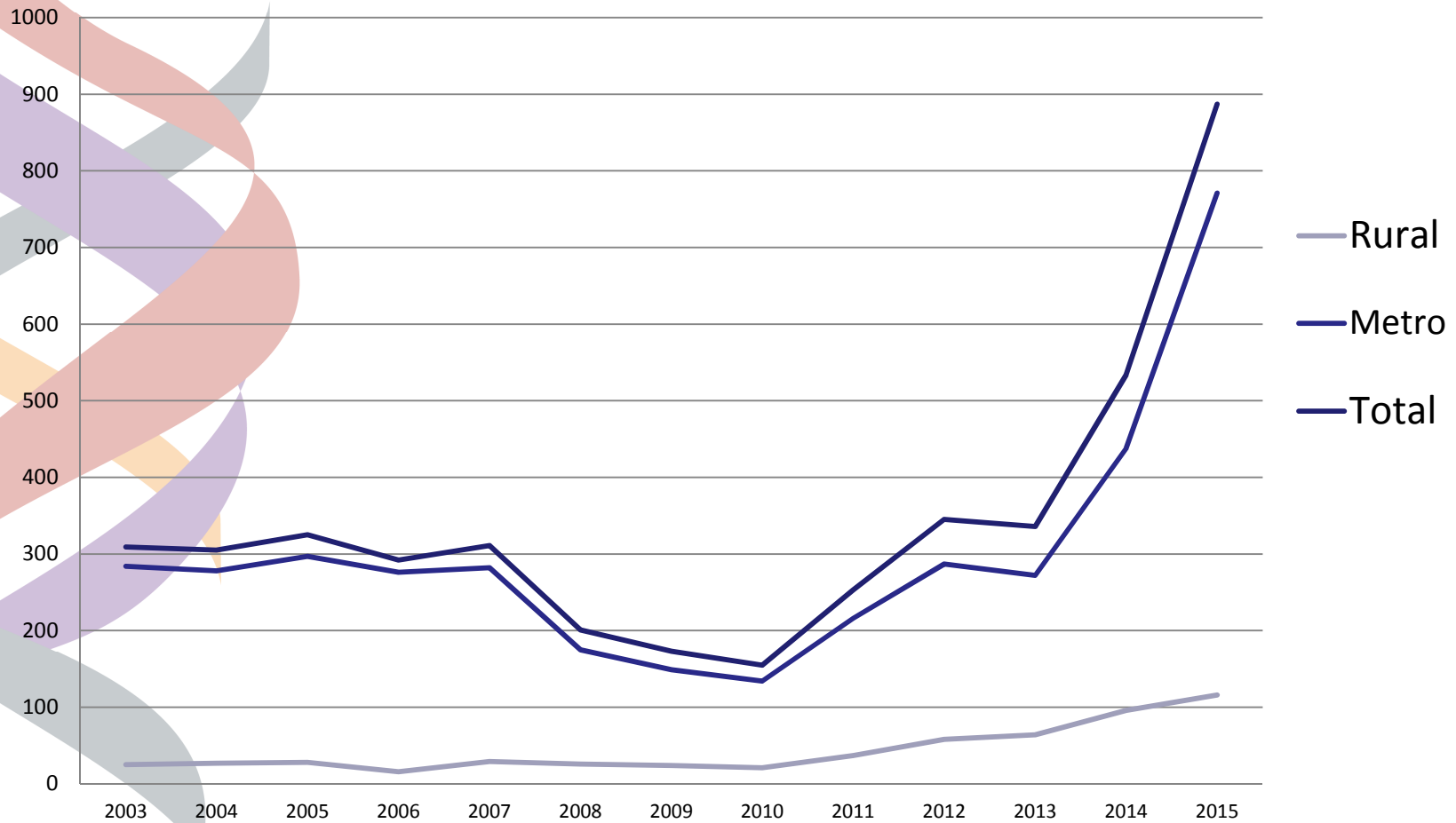
Average consumption (dose/day/1000 people) of cocaine for 2012-2015. Weekly consumption (dose/week/1000 people bi-monthly from February 2016. Dose = 100 mg.

SA wastewater - Stimulants



Average consumption (dose/day/1000 people) 2012-2015 . Weekly consumption (dose/week/1000 people) of cocaine (100mg dose), MDMA (100mg dose) and methamphetamine (30 mg dose) from Feb 2016.

SA Health hospital separations – ICD10 codes “stimulant other” – toxicity or drug induced psychosis



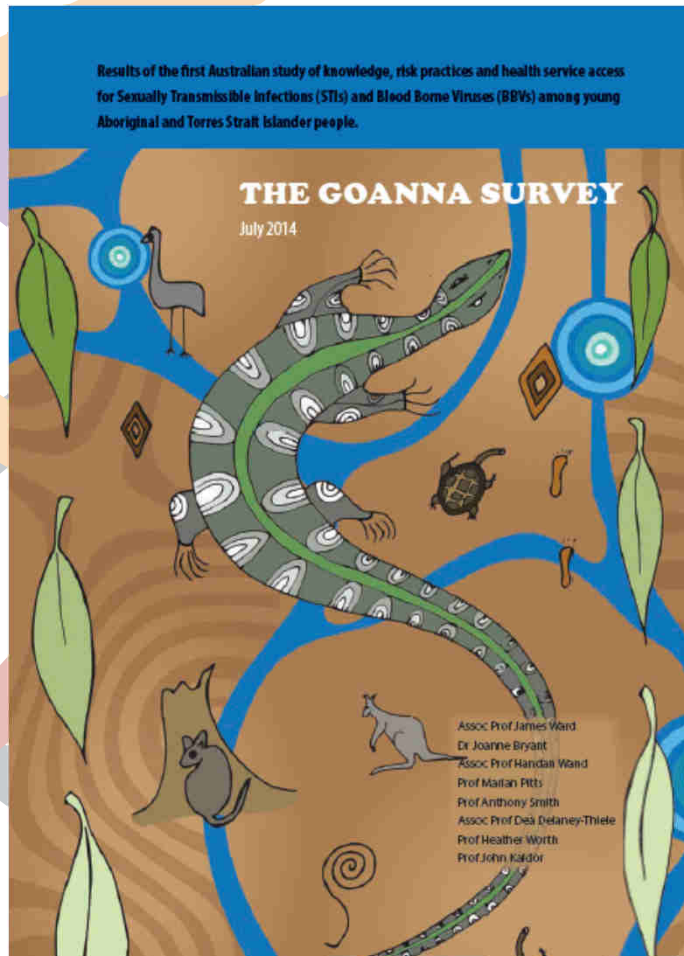


Demographic/Population Profile

Australian populations with high rates of ice use⁵

Population	Rate of use (%)
General population	1.1
Males aged 30–39	2.1
Females aged 20–29	2.7
Living in remote locality	3.1
Males aged 20–29	3.3
Unemployed	3.4
Identifying as homosexual or bisexual	5.4

Young Aboriginal People



- > GOANNA Survey 2014 looks at STIs, BBVs and risks among young Aboriginal and Torres Strait Islander people.
- > Range of drugs used recently (in last year) including tobacco, alcohol, cannabis (30%), ecstasy (11%) and methamphetamine (9%).
- > Meth/amphetamine use was reported highest among participants from urban (10%) and regional (9%) areas compared to participants from remote areas (6%).
- > Poly drug use higher among urban and regional participants (12% and 11%) compared to those in remote areas (4%)



Paul aged 20

13

- > **Presents to ED Saturday night, brought in by SAPOL.**
- > **History of being at party and becoming aggressive and threatening.**
- > **Police noted that he was agitated, restless and seemed to be confused.**



What do you want to know?

14

- > **How was Paul 12 hours ago?**
- > **How has he been the past few days or weeks?**
- > **Has he taken anything?**
- > **Has anything else happened?**
- > **Does Paul have a past history of mental health problems?**
- > **Other health problems?**

Examination findings

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- > **Paul is confused, pacing around.**
- > **Disoriented in time and place. Knows who he is. Seems distracted but will not explain what he distracted by.**
- > **Irritable but settles if not questioned too assertively.**
- > **Sweaty**
- > **Mild tremour**




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What else do you want to know?

Pulse:	156/min
BP:	178/112
Resp:	16/min
Temp:	37.4 tym
Pupils:	5mm diam
O2 sats:	97% room air

What are we seeing here?

Is there anything else we need to check on examination?



CVS exam NAD
Respir exam NAD
CNS exam NAD
ECG – sinus tachycardia
BGL 6.8mmol/L

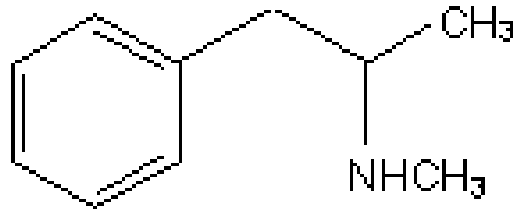


Story from girlfriend

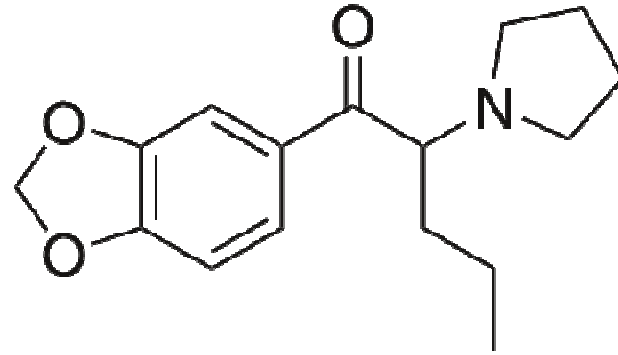
18

- > Paul has been using methamphetamine the past 12 months. Usually just weekends.
- > Tonight had 1 smoke of a new purchase and then became “strange”.
- > The recent purchase was cheaper than usual and the dealer had told him to take it easy when he first used it to check its effect

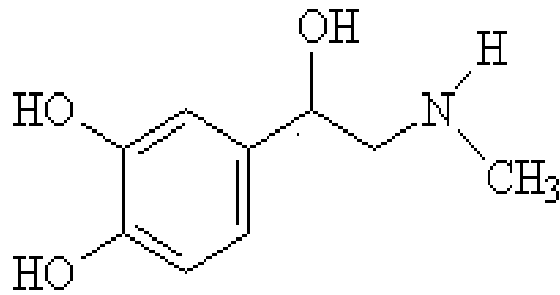
19



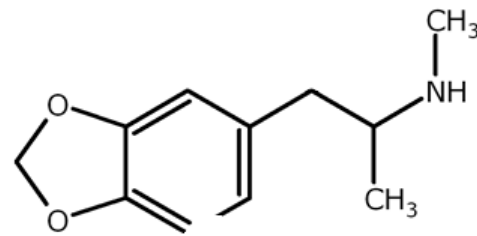
Methamphetamine




MDPV



Adrenaline



MDMA \ ecstasy



What are we seeing now
probably?

What are the risks?



WHAT NOW WITH PAUL?

21

BEHAVIOURAL
MANAGEMENT

PHARMACOLOGICAL
ASSISTANCE



22

BEHAVIOURAL MANAGEMENT

Quiet environment

Lower lighting

Personal space

Posture

Safety exits

Voice

Speech

TIME

PHARMACOLOGICAL MANAGEMENT

Oral first

IV access:

Take bloods

Allows titration of sedatives

IM last route, but sometimes only route



23

1ST LINE

Oral lorazepam* 1-2mg PO [0.5-1 in people 65ys +]
Can be repeated 2 hourly until rousable drowsiness is achieved

Max 8 mg in 24 hours total dose [4mg in 65+]

OR

Oral olanzepine 5-10 mg wafers 6 hourly
Up to 30mg in 24 hours

2ND LINE

IM or IV Midazolam

≤65 yrs: 1-2 mg IV bolus every 2 minutes prn (max 20 mg in 24 hours)

>65 yrs: 0.5-1 mg IV bolus every 5 minutes prn (max 10 mg in 24 hours)

OR

IM clonazepam

≤65 yrs: 0.5–2 mg

>65 yrs 0.25 – 1.0mg

OR

IM or IV Droperidol

≤65 yrs: 5-10 mg IM or 5mg IV stat, then repeat after 15 minutes if required (max 20 mg in 24 hours)

>65 yrs: Droperidol not approved for use in patients older than 65 years

OR

Midazolam (5 mg IV) plus Droperidol (5 mg IV), in the same syringe (Taylor et al., 2016)

Advice from:

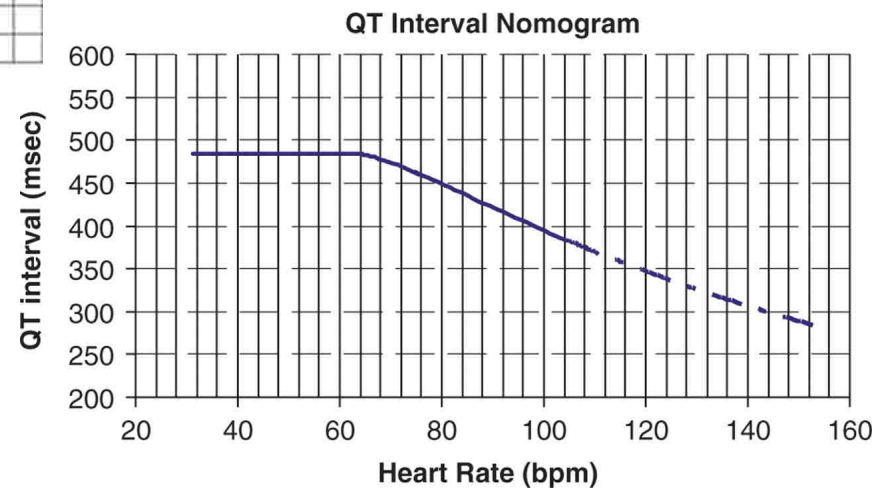
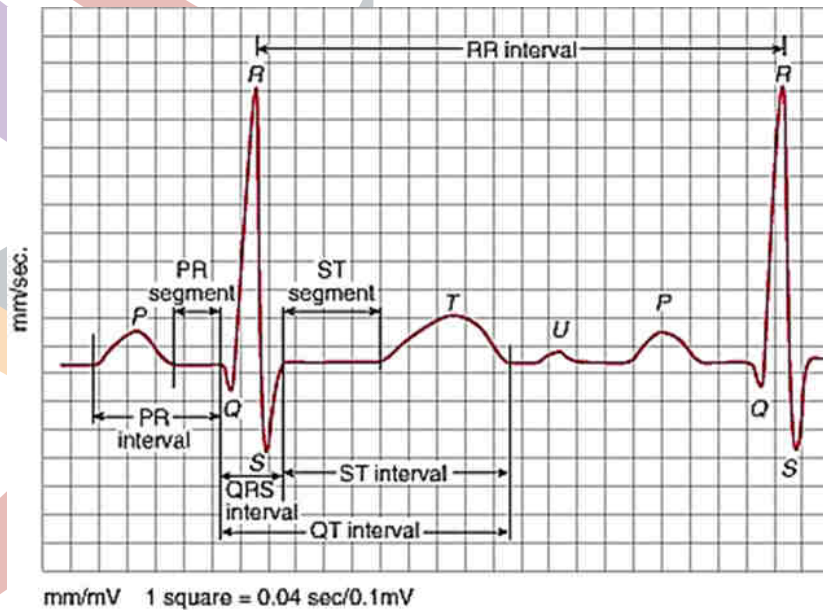
- R and R MH,
- Medstar

Ensure personnel and equipment for advanced airway management and monitoring

* Avoid benzos if agitation is due to sedative such as alcohol >> use olanzapine or droperidol if no C/I

With droperidol:

- No need for ECG prior if problems anticipated
- Obtain when safe
- Monitor if above normogram line



ECG prior to administration if possible, and after

- If above nomogram, cardiac monitoring
- If below no cardiac monitoring needed

Droperidol contraindications

Known prolonged QT,
On medications which prolong QT,
Elderly >65
Significant cardiovascular disease,
pregnant or paediatric populations,
known allergy

Drugs that may prolong QT interval

Class	Drugs ¹
antiarrhythmics	amiodarone, disopyramide, sotalol
antipsychotics	amisulpride, droperidol, haloperidol, ziprasidone
anti-infectives	atazanavir, chloroquine, clarithromycin, erythromycin, fluconazole, mefloquine, moxifloxacin, pentamidine, quinine, voriconazole
antineoplastics	arsenic trioxide, dasatinib, lapatinib, nilotinib, pazopanib, sorafenib, sunitinib, toremifene, vemurafenib
miscellaneous	cisapride, citalopram, cocaine, dextropropoxyphene, domperidone, escitalopram, methadone, solifenacin, tacrolimus, TCAs, vardenafil

¹in therapeutic doses



3rd line

Ketamine

4 mg/kg IM, 1-1.5 mg/kg IV is a third-line option, particularly for country areas and where patient has not responded after 15 minutes to appropriate doses of antipsychotic or benzodiazepine.

This should be done in consultation with MEDSTAR.



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Paul starts to settle with 20mg oral dose of diazepam and then a repeat of 10mg in 30 minutes.

However he begins to complain of increasing chest discomfort and starts to get more anxious.

What now?

Oxygen +/-

GTN spray ✓

B – blockers ✓

Aspirin ✓ OR ✗ depending on BP control



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INVESTIGATIONS

ECG sinus tachycardia, no ischaemic changes

CBE normal

UEC/LFTs normal

CPK/Troponin normal

Urinalysis negative for blood



Paul's chest pain settled with oxygen, GTN spray and a repeat dose of diazepam 5mg intravenously.

After 4 hours observation he was settled and sleeping with vital signs normal.

Police decided not to press any charges.



Acute agitation

- 1. Identify and address organic causes, hypoglycaemia, hypoxia, drugs-alcohol, infection, Wernicke's, dementia, post-op, seizures-postseizures**
- 2. Behavioural management**
- 3. Pharmacological management**



WHAT FOLLOW UP?

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1. Explain:

- what happened
- what is likely to happen again

2. Additional services

If persistent psychotic symptoms even after acute agitation has settled, consider follow up with mental health team.

If psychotic symptoms have settled then follow up with AOD counsellor or specialist referral.

3. Follow up using “On Ice” as an aid to counselling. [NB not for young experimental users, non-users, general information....designed for use with those with problems]

4. Place for some assertive follow up of non-attenders.

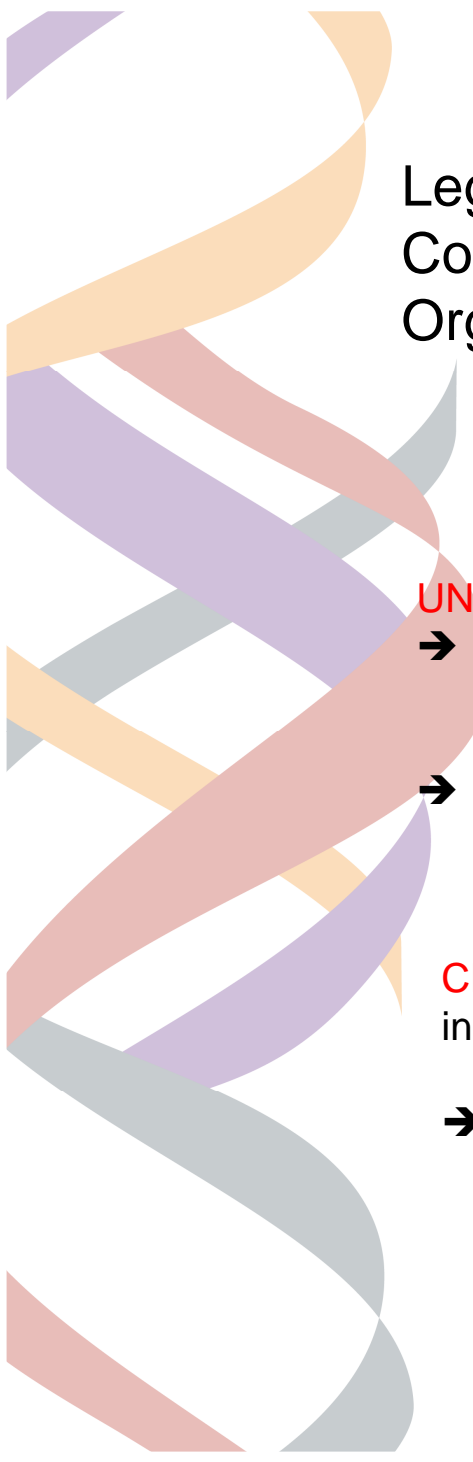
5. Try to engage family/partner as allies.



Follow up.....

Two deaths were reported from same area over the next 2 months, linked to the same dealer.

Substance identified was MDPV.



Legal Issues – Unclear In Situations Of Agitation And Confusion Requiring Non-consensual Treatment? Organic ? Psychiatric ?

UNCLEAR PRESENTATION – AETIOLOGY AND CAPACITY UNCERTAIN

- Consent To Medical Treatment And Palliative Care Act may not cover restraint etc
- Consider s56 of Mental Health Act “appears that the person has a mental illness”for assessment purposes

CLEAR PSYCHIATRIC/MENTAL HEALTH PRESENTATION

including substance induced psychosis

- if necessary Inpatient Treatment Order



Harms – acute toxicity

- > Acute agitation and behavioural disturbance
- > Dramatic increase in presentations, proportionately more growth in rural and remote areas
- > More resource impact in smaller health facilities.



Harms - psychosis

- > Features very similar to/identical with paranoid schizophrenia
- > Population/population comparisons identify some differences in clinical features. MA induced psychosis more likely if:
 - +ve drug screen
 - Forensic history
 - Tactile hallucinations
- > Time course is variable; may resolve quickly, may be prolonged.



Harms - psychosis

- > Treatment is identical to paranoid schizophrenia
- > Legal framework is the same [MHAct]
- > If first episode, and psychotogenic drugs are implicated, approach like any first episode psychosis. Include specific work on substance use, in particular motivational interviewing.



Harms cardiovascular and cerebrovascular

- > Stroke
- > Acute coronary events

- > Hypertension will often settle with Benzodiazepines if agitated
- > Treatment is otherwise identical to these syndromes when not associated with MA use.



Treatment acute toxicity

- > Treatment is identical to paranoid schizophrenia
- > Legal framework is the same [MHAct]
- > If first episode, and psychotogenic drugs are implicated, approach like any first episode psychosis. Include specific work on substance use, in particular motivational interviewing.



Treatment psychosis

- > Treatment is identical to paranoid schizophrenia
- > Legal framework is the same [MHAct]
- > If first episode, and psychotogenic drugs are implicated, approach like any first episode psychosis. Include specific work on substance use, in particular motivational interviewing.



Online information

Clinical information Search:

- [“sa health methamphetamine withdrawal management”](#)
- or
- [“sa health alcohol withdrawal”](#)
- Etc

Referral information DASSA search

- [“sa health DASSA referral”](#)

Healthy living

Health topics

Health services

Clinical resources

Health topics A - Z

Health topics by body part

Health conditions, prevention and treatment

Abortions

Alcohol

Assisted insemination

Bites, burns, cuts and pests

Blood, organ and tissue

Cancer

Challenging behaviour

Chemicals and contaminants

Diabetes

Dementia

Dental care

Drugs

Home » Health topics » Health conditions, prevention and treatment » Drugs

Methamphetamine

Methamphetamines are part of the amphetamine drug family - a group of drugs that stimulate the central nervous system (amphetamine-type stimulants). They can be swallowed, snorted, smoked or injected.

There are different forms of methamphetamine used illegally in South Australia - the crystal form is known as 'ice', the powder form is known as 'speed' and the paste form is known as 'base'. The short and long-term effects of all three forms of methamphetamine are similar, but the intensity of effect may vary depending on the form taken and the way it is used. 'Ice' has the most intense effects.

For information on the prevalence of methamphetamine use, the associated effects and harms, prevention and early intervention, treatment and where to get help, please see the **Methamphetamines - your questions and answers** fact sheet.

Information for the public

Information for health professionals

Resources

- Methamphetamines - your questions and answers (PDF 177KB) - multiple-page fact sheet, SA Health
- What are amphetamines? (PDF 59KB) - two-page fact sheet, SA Health
- National Drugs Campaign - the facts about ice
- Ice/crystal - one-page fact sheet, National Drug and Alcohol Research Centre

Related information

- Alcohol and Drug Information Service (ADIS) - 1300 13 1340
- For Clean Needle Program information, contact the Alcohol and Drug Information Service (ADIS) - 1300 13 1340

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Print this page



Related information

- Alcohol and Drug Information Service (ADIS)
- Clinical tools
- Substance withdrawal management
- Amphetamine withdrawal management
- Substance misuse and dependence

Related resources

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<http://www.sahealth.sa.gov.au/wps/wcm/connect/Public+Content/SA+Health+Internet/Health+topics/Health+conditions+prevention+and+treatment/Drugs/Methamphetamine>

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- Clinical tools
- [Substance withdrawal management](#)
- Amphetamine withdrawal management
- [Substance misuse and dependence](#)
- Screening resources to enable a quick diagnosis of stimulant use in primary health care
 - [DIPS Screening Card \(PDF 18KB\)](#) (Depression, Insomnia, Psychotic symptoms, Scabs)
 - [DIPS Checklist Card \(PDF 345KB\)](#) (Depression, Insomnia, Psychotic symptoms, Scabs)
- Psychostimulant Check-up Training Kit (March 2008)
 - [Psychostimulant Check-up - Summary Form \(PDF 120KB\)](#)
 - [Psychostimulant Check-up - Training Kit - Response Booklet \(PDF 93KB\)](#)
 - [Psychostimulant Check-up Training Kit - Clinician Manual \(PDF 100KB\)](#)

To obtain a copy of the demonstration DVD or for further information on these resources ring ADIS on 1300 13 1340
- [Psychotherapy for Methamphetamine Dependence Treatment Manual \(PDF 450KB\)](#)

- [A+](#) Increase text size
- [A-](#) Decrease text size
- [Print this page](#)



Related information

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Dental care

Drugs

Methamphetamine

Harmful drug use - drug types

Drugs - information for parents

Drug and alcohol emergency information

The dangers of mixing drugs

<https://cracksintheice.org.au/health-professionals/online-resources>

The screenshot displays the website <https://cracksintheice.org.au/health-professionals/online-resources>. The page features a dark header with the organization's logo and tagline: "Crystal Methamphetamine. Trusted, evidence-based information for the community." Navigation links include "GET THE FACTS ABOUT ICE", "WHAT ARE THE EFFECTS OF ICE?", and "STAYING SAFE". A search bar is present with the text "Search this site" and a "GO" button. Below the header, a menu lists "COMMUNITY TOOLKIT", "FAMILIES & FRIENDS", "SCHOOLS", "HEALTH PROFESSIONALS", and "ABOUT US". The main content area is titled "ONLINE RESOURCES & VIDEOS" and includes a breadcrumb trail: "Home » Health Professionals » Online Resources & Videos". Four resource cards are displayed: "ONLINE MOTIVATIONAL INTERVIEWING COURSES", "ICE TRAINING FOR FRONTLINE WORKERS", "BREAKING THE ICE: AN INTERNET-BASED BRIEF EARLY INTERVENTION", and "ASSIST ON ICE SCREENING TOOL". A vertical sidebar on the left contains a "Get support now" button. The footer contains copyright information: "© 2017 Cracks in the Ice. Website by Netfront." and lists departments: "Department of Health CTH | ACT | NSW | NT | QLD | SA | TAS | VIC | WA". It also includes an "INFORMATION" section with links for "About Cracks in the Ice", "Endorsements & Affiliated Networks", "Q & A", "Contact Cracks in the Ice", "Subscribe to Cracks in the Ice", and "Privacy Statement". A "COMMUNITY TOOLKIT" section lists "FAMILIES & FRIENDS", "SCHOOLS", "HEALTH PROFESSIONALS", and "LOGIN". The browser's taskbar at the bottom shows the time as 9:06 PM on 18/08/2017.



Alcohol and Drug Information Service

1300 13 13 40

830AM to 10PM

7 days per week

**Counselling and information
Information about services**