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Methamphetamine and mental health

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Overview

- 1 Why methamphetamine and mental health?
- 2 How common are mental health disorders?
- 3 Methamphetamine psychosis

Acknowledgements

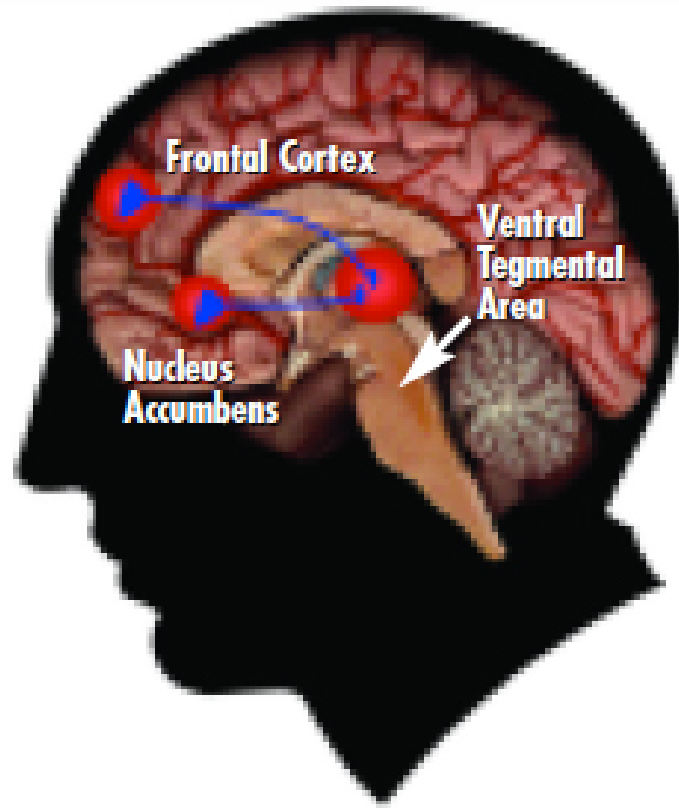


WHY METH AND MENTAL HEALTH?

- Who is using the drug
 - Trauma and life experience
- Self-medication
 - E.g., Depression leads to increased substance use
- Drug use
 - Dependence leads to worse mental health
 - Lifestyle (e.g., financial issues, social isolation)
 - Pharmacological effects

DRUGS OF ABUSE TARGET THE BRAIN'S

Brain reward (dopamine) pathways



These brain circuits are important for natural rewards such as food, music, and sex.

What is so special about meth?

- Acts on brain circuitry involved in emotional regulation

What it does in the brain:

- Monoamines:
 - Dopamine (feel good, confidence, energy, alertness)
 - Serotonin (mood regulation, sleep cycles, appetite)
 - Noradrenaline (fight or flight response)

During intoxication

- Monoamines:

- Dopamine (feel good, confidence, energy – alertness)
- Serotonin (mood regulation, sleep cycles, appetite)
- Noradrenaline (fight or flight response)

After a binge “come-down”

- Monoamines:

- Dopamine (feel good, confidence, energy – alertness)
- Serotonin (mood regulation, sleep cycles, appetite)
- Noradrenaline (fight or flight response)

After chronic heavy use

- Monoamines:

- Dopamine (feel good, confidence, energy – alertness)
- Serotonin (mood regulation, sleep cycles, appetite)
- Noradrenaline (fight or flight response)

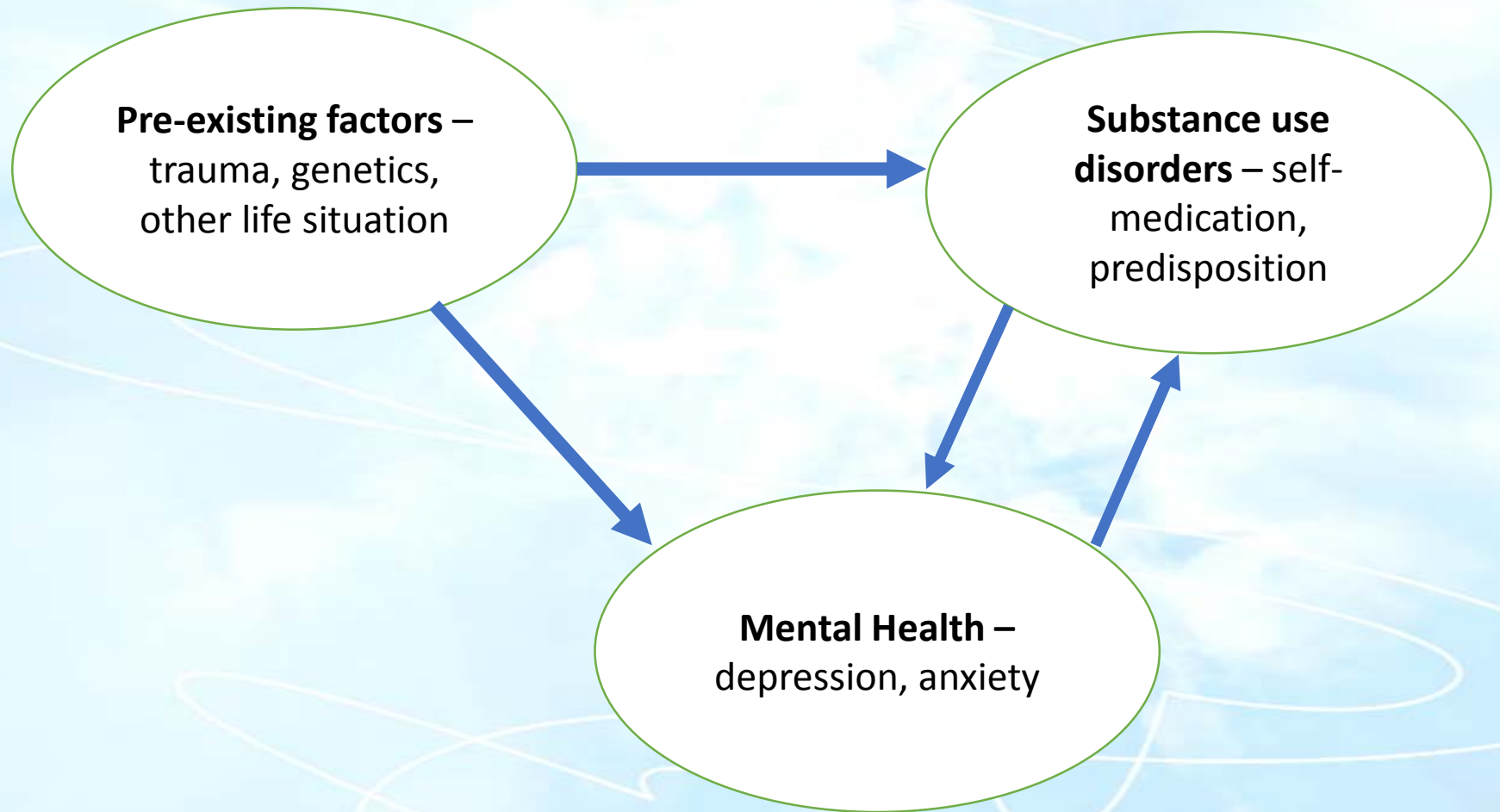
= depressed, anxious, irritable, disturbed sleep

After chronic heavy use (withdrawal)

- Monoamines:

- **Dopamine** (feel good, confidence, energy – alertness)
- Serotonin (mood regulation, sleep cycles, appetite)
- **Noradrenaline** (fight or flight response)

= all energy and fight and no zen





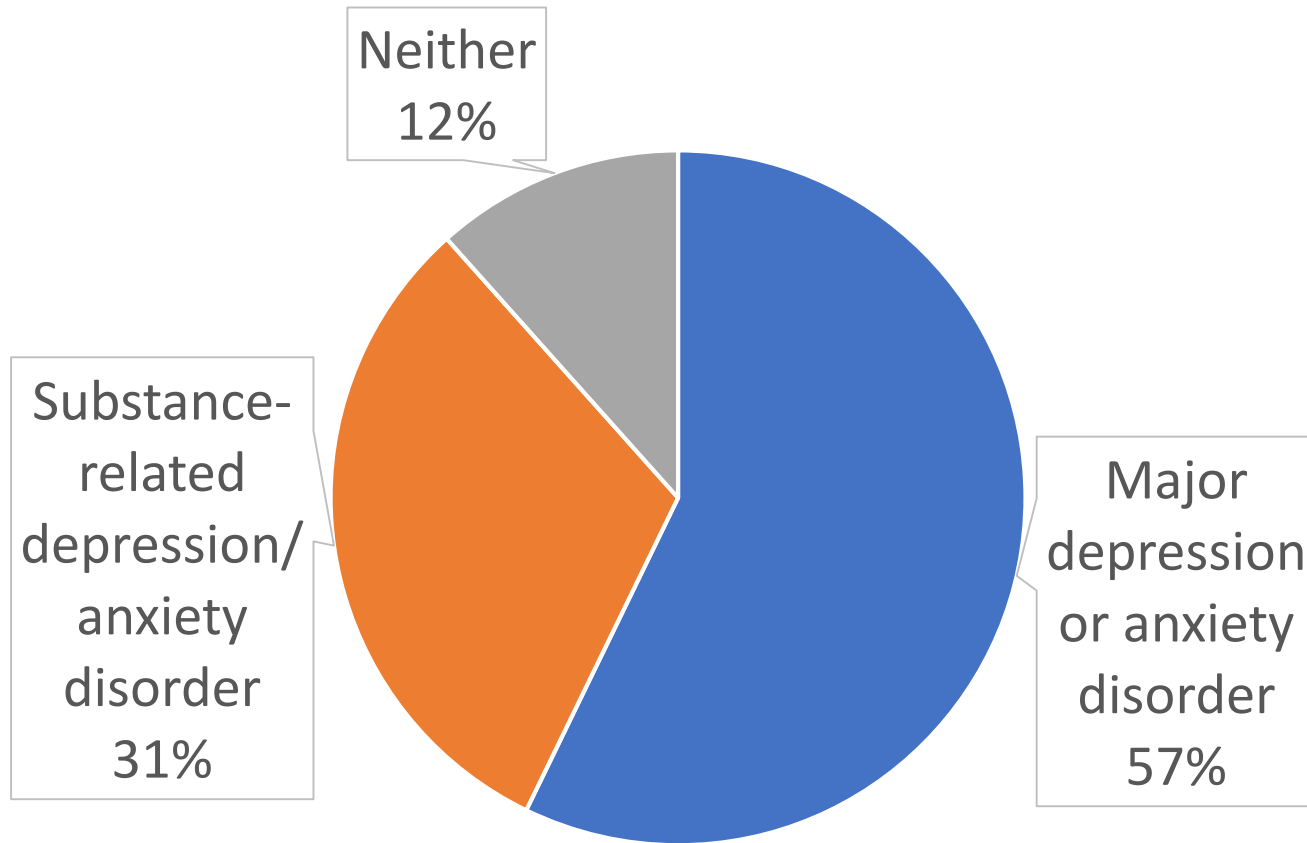
How common are
'disorders'?


Depression and anxiety (% past year)

	Primary	Substance-related	Either
Major depression	44	39	83
Social Phobia	24	17	41
Panic Disorder	26	10	36
Any of the above	57	47	88

DSM-IV diagnosis made using Composite International Diagnostic Interview
Methamphetamine dependent (n = 486), most entering drug treatment

% with DSM-IV major depression/anxiety in the past year





One year later (after treatment):

What happens after they stop using / are no longer dependent on meth?

57%

had a comorbid
depression/anxiety
when dependent

Still dependent on meth
(n = 97)

53%

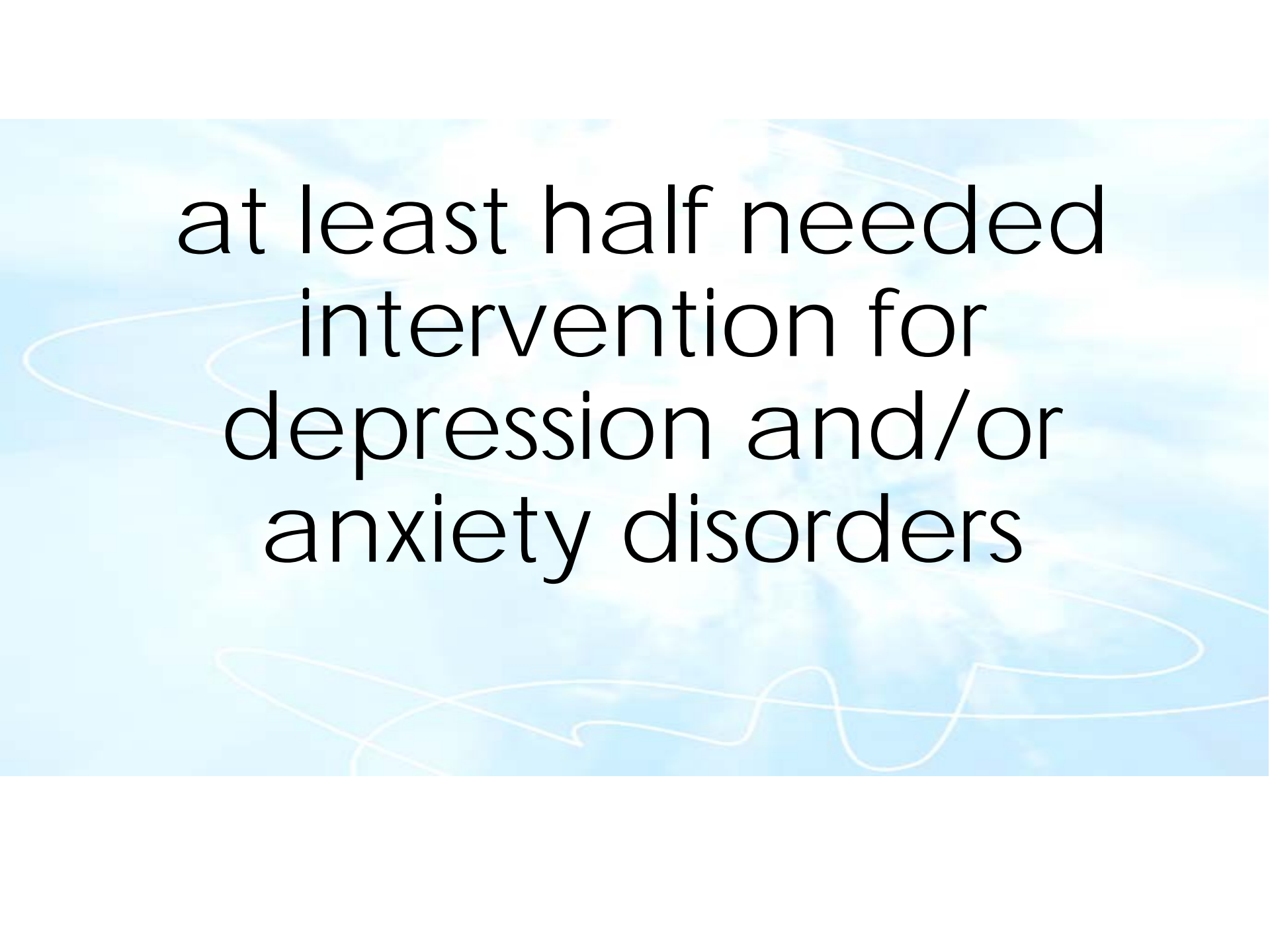
had depression/anxiety

No longer dependent on meth
(n = 279)

63%

had depression/anxiety





at least half needed
intervention for
depression and/or
anxiety disorders

Suicidality

- In the year before treatment:
 - 40% had thought about committing suicide
 - 28% had made a plan
 - 16% had attempted
- Need to identify and manage risk

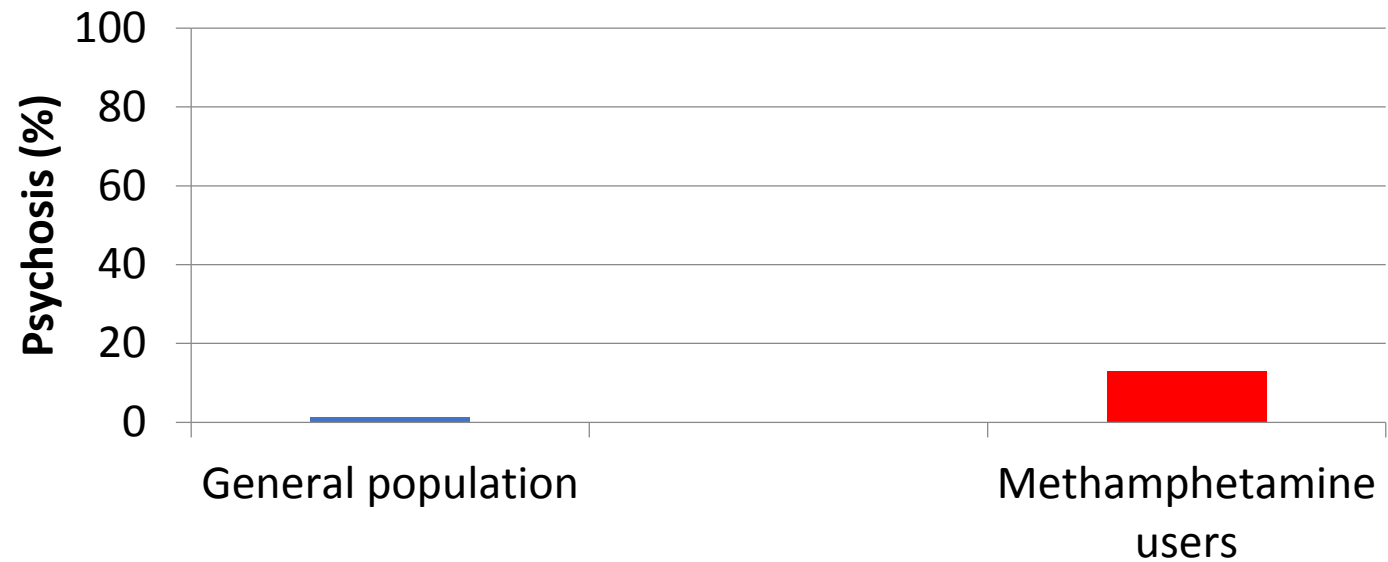


“Out of control ... sedated and restrained, a man is taken to an ambulance after a psychotic episode believed to involve methamphetamine use in Darlinghurst” SMH, July 9, 2007

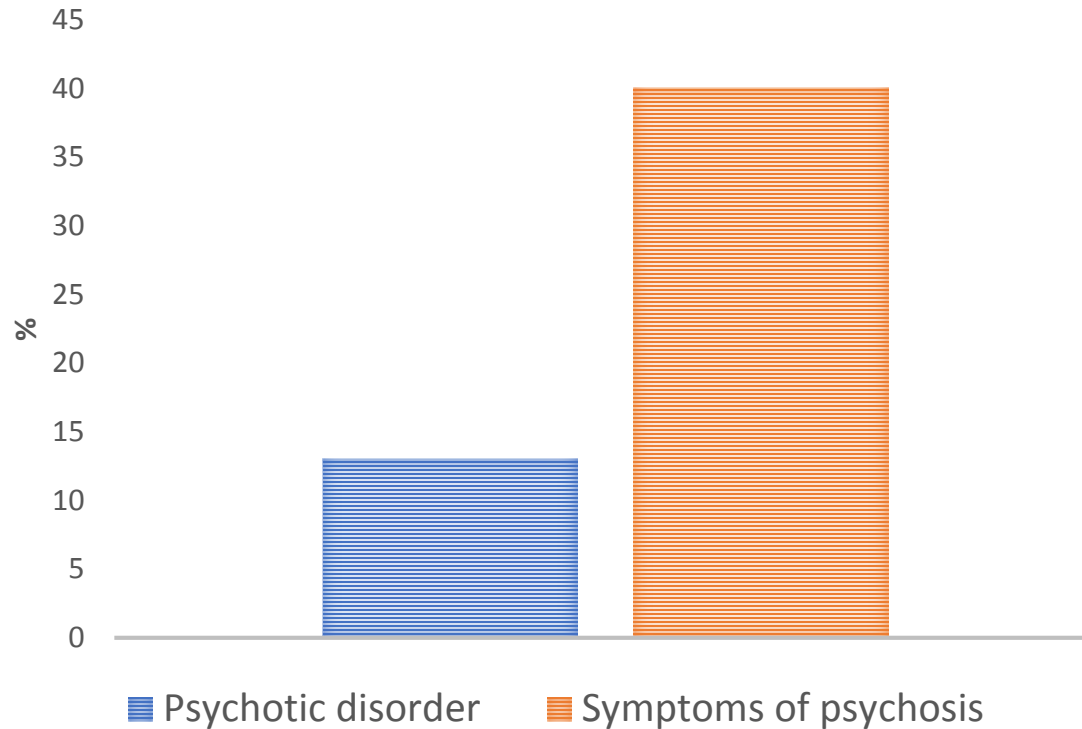
What is causing these psychotic symptoms?

- Methamphetamine intoxication causes too much dopamine
 - Too much dopamine can cause psychotic symptoms
 - Can be experimentally induced
 - Drugs that block dopamine block meth-induced psychosis
 - Same drugs that are used to treat schizophrenia
- Picture more complicated in reality:
 - Chronic use can change the regulation of dopamine and other systems –lasting vulnerability, which interacts with pre-disposition to psychosis

How common is psychosis?



Symptoms of psychosis are more common



“Yeah everyone was out to get me... I always felt I was being followed.

I’d get taxi drivers to drop me off miles away from where I was going ...I was afraid people were coming to get me.

I swear today there’s something behind it, I personally think it’s real.”

“I kept seeing people, and having
conversations with people who weren’t
there...

I sat on the tram tracks having a conversation
with someone one day ...A tram was coming
and when (my friends) realised that I wasn’t
going to move away they came and picked
me up off the tracks”

Psychotic symptoms occur on a continuum of severity:

	% affected	Signs
Nil	25	
Mild	52	Persecutory ideation that is plausible, sensory illusions, odd beliefs, doubtful/unclear
Clinically significant	23	Frank hallucinations – hearing voices, seeing things that aren't there, implausible beliefs of persecution, delusions, impacts on functioning

How long do psychotic symptoms last:

	%
Up to 2 hours	32
> 2 to 3 hours	20
> 3 to 48 hours	4
> 2 days to one week	7
> 1 week to one month	10
> 1 month	14
Ongoing	13

Only 11% went to hospital because of their psychotic symptoms

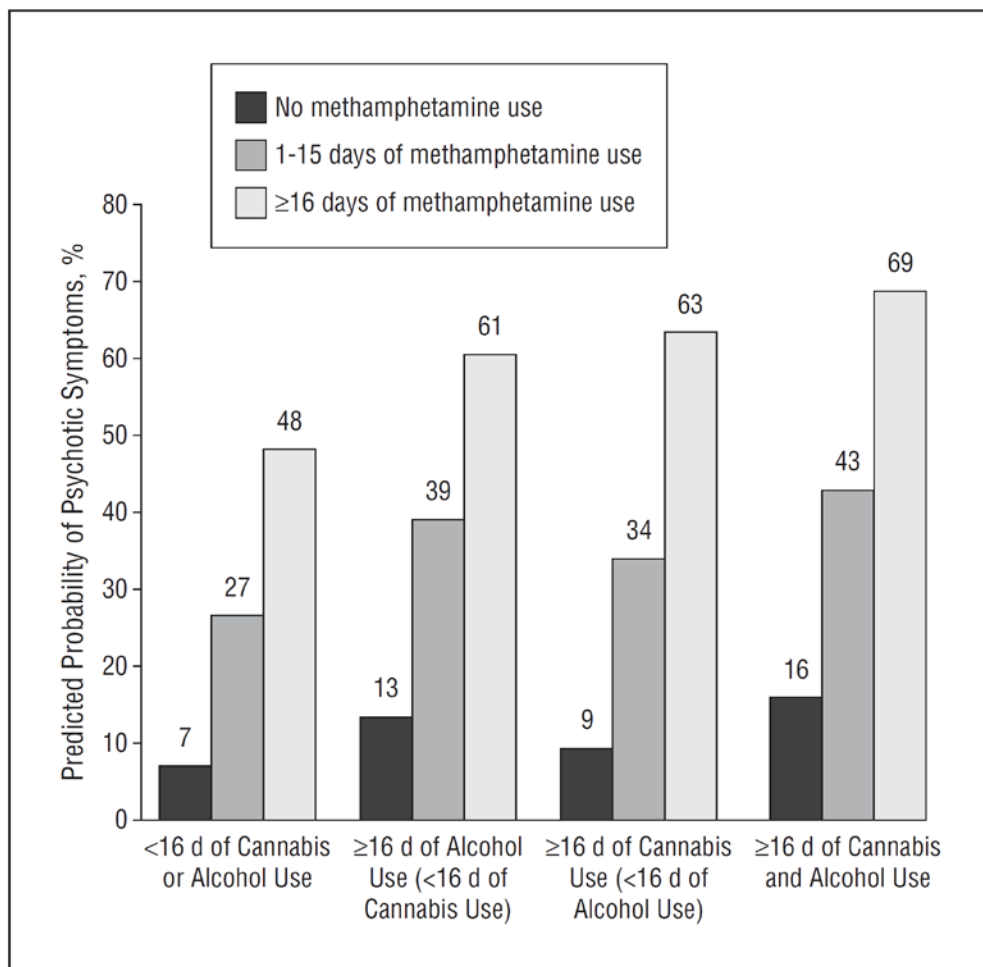
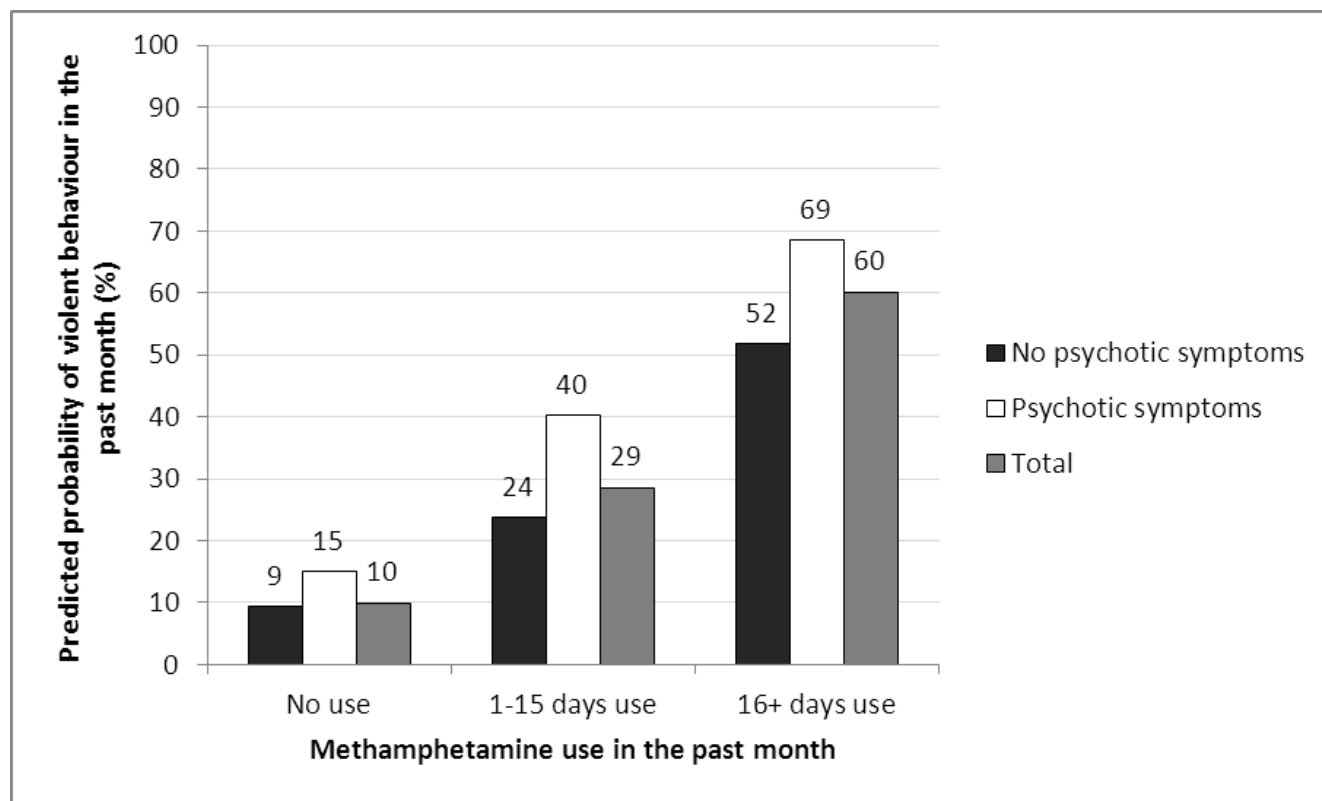


Figure. Predicted probability of psychotic symptoms by level of methamphetamine, alcohol, and cannabis use.

Dose-related
increase in
psychotic
symptoms with
more frequent
meth use

Psychosis increases risk of violent behaviour



McKetin R, Lubman D, Najman J, Dawe S, Butterworth P, Baker A. Does methamphetamine use increase violent behaviour? Evidence from a prospective longitudinal study (Under revision with Addiction)

How do we
differentiate between
meth-related
symptoms of psychosis
and schizophrenia?

Symptoms broadly similar:

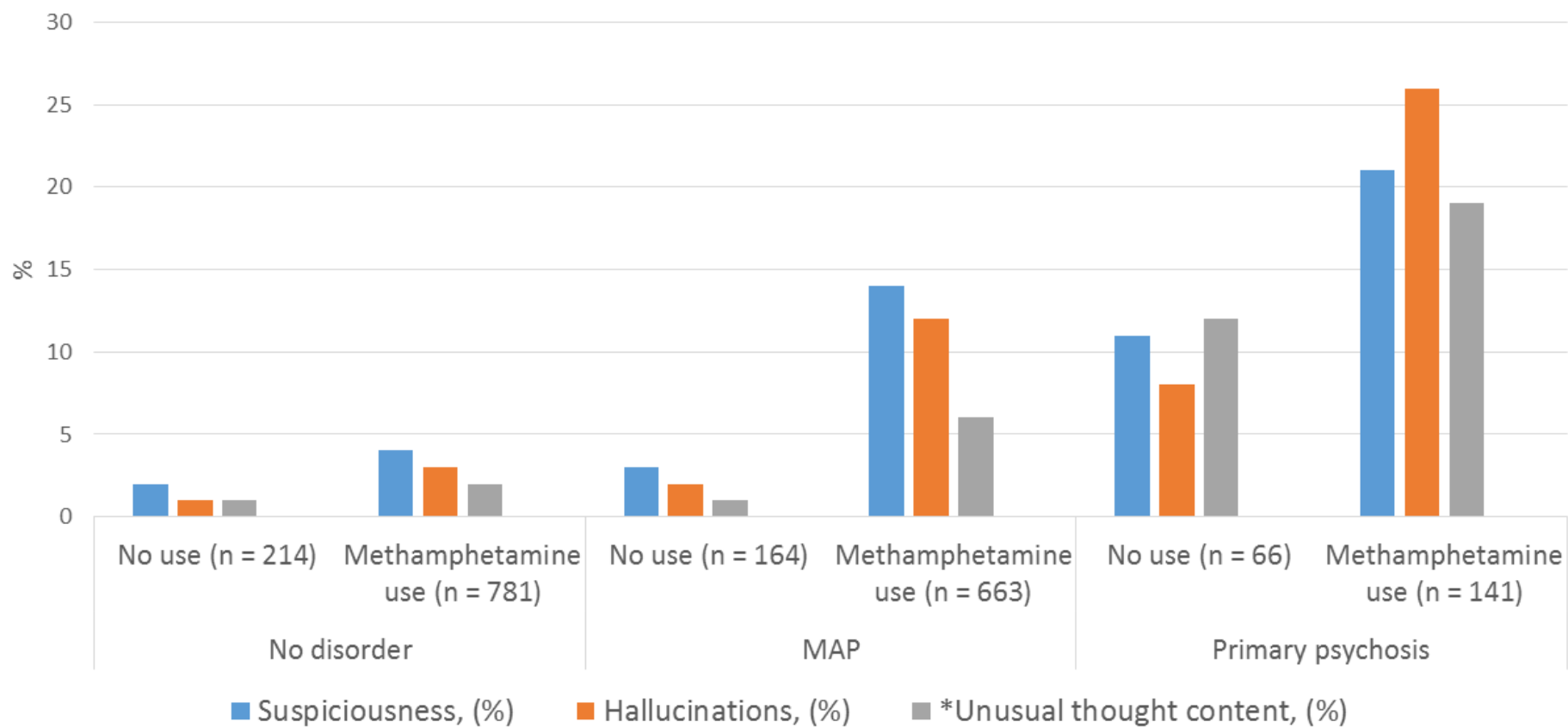
Methamphetamine psychosis	Schizophrenia
Delusions	Delusions
Hallucinations	Hallucinations
Some other symptoms	Some other symptoms

But...

Methamphetamine psychosis	Schizophrenia
Persecutory delusions	Persecutory delusions
	Non-persecutory delusions
Auditory hallucinations	Auditory hallucinations
	Complex auditory hallucinations
Visual hallucinations	Visual hallucinations
	More other hallucinations

Different clinical course

Methamphetamine psychosis	Schizophrenia
Persecutory delusions	Persecutory delusions
	Non-persecutory delusions
Auditory hallucinations	Auditory hallucinations
	Complex auditory hallucinations
Visual hallucinations	Visual hallucinations
	More other hallucinations
Hours to days – stops soon after stopping use	Persists after stopping use



Different treatment

Methamphetamine psychosis	Schizophrenia
Persecutory delusions	Persecutory delusions
	Non-persecutory delusions
Auditory hallucinations	Auditory hallucinations
	Complex auditory hallucinations
Visual hallucinations	Visual hallucinations
	More other hallucinations
Hours to days – stops soon after stopping use	Persists after stopping use
Treat meth use	Treat psychosis AND meth use

Closing thought

Mental health care should be provided to substance use patients – almost all need it.

Drug treatment should be provided for mental health patients – drug dependence is going to worsen symptoms and outcomes in most cases



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Thank you

info@cracksintheice.org.au

Find out more at:

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