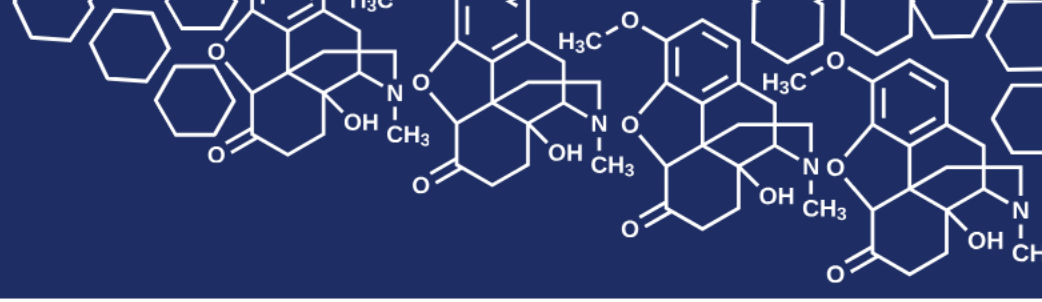
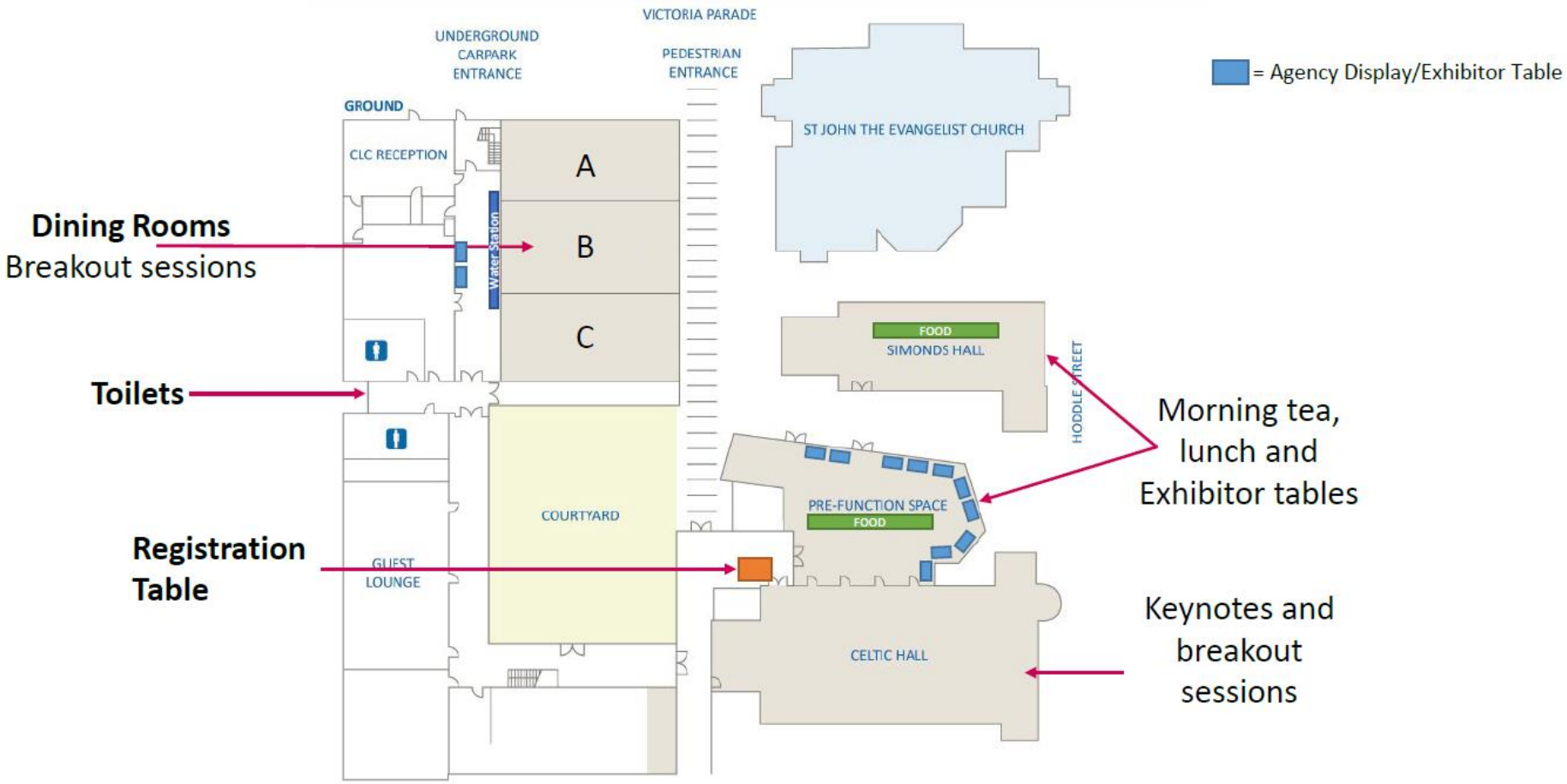


AOD Service Providers Conference 2024

Inspiring Change:
Excellence in AOD Treatment and Harm Reduction


VICTORIA PARADE
UNDERGROUND CARPARK ENTRANCE
PEDESTRIAN ENTRANCE
= Agency Display/Exhibitor Table
GROUND
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A
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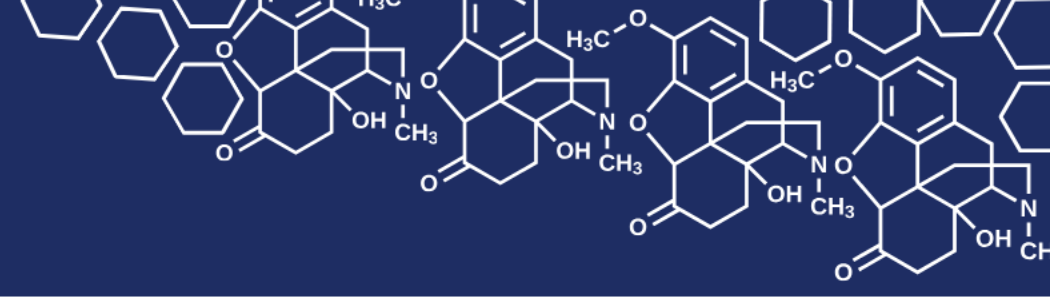
Toilets
Morning tea, lunch and Exhibitor tables
COURTYARD
PRE-FUNCTION SPACE
FOOD
Registration Table
GUEST LOUNGE
CELTIC HALL
Keynotes and breakout sessions

Acknowledgement of Country

VAADA acknowledges the Traditional Owners of the land on which we are meeting today, the Wurundjeri Woi Wurrung peoples of the Kulin Nation. We pay our respects to all Elders past and present and acknowledge their continuing and ongoing connection to land, waters and sky.



Introduction

Hon. Ingrid Stitt
Minister for Mental Health, Ageing and Multicultural Affairs

AOD SERVICE PROVIDERS CONFERENCE

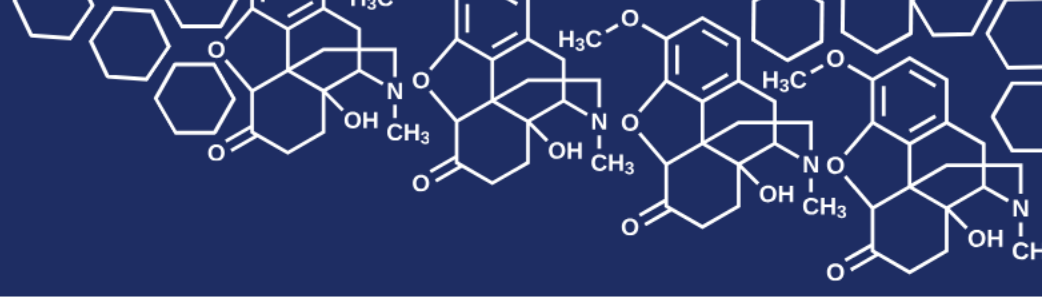
Inspiring Change: Excellence in AOD Treatment and Harm Reduction

vaada
Victorian Alcohol & Drug Association

Sponsor of
WORLD CONGRESS
ON ALCOHOL AND ADDICTIONS
23-26 September

By attending the Service Providers Conference today, all registered VAADA Member Organisations go into the draw to win a ticket.

WINNER ANNOUNCED THIS AFTERNOON!

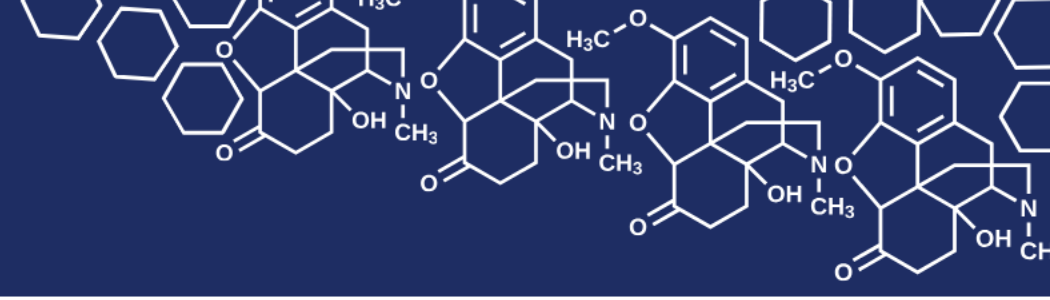


What's needed from a Victorian AOD Strategy?

Chris Christoforou
VAADA Chief Executive Officer

www.menti.com

Code: 2884 6048



Lived and living experience workforce, workforce leadership and partnership - Initiatives for 2024 and beyond

Clare Davies | SHARC
Emma Cadogan | Department of Health

Lived and living experience workforce, leadership and partnership - Initiatives for 2024 and beyond

VAADA Service Providers Conference 2024

sharc
Self Help Addiction Resource Centre

VICTORIA State Government | Department of Health

Acknowledgement of Country

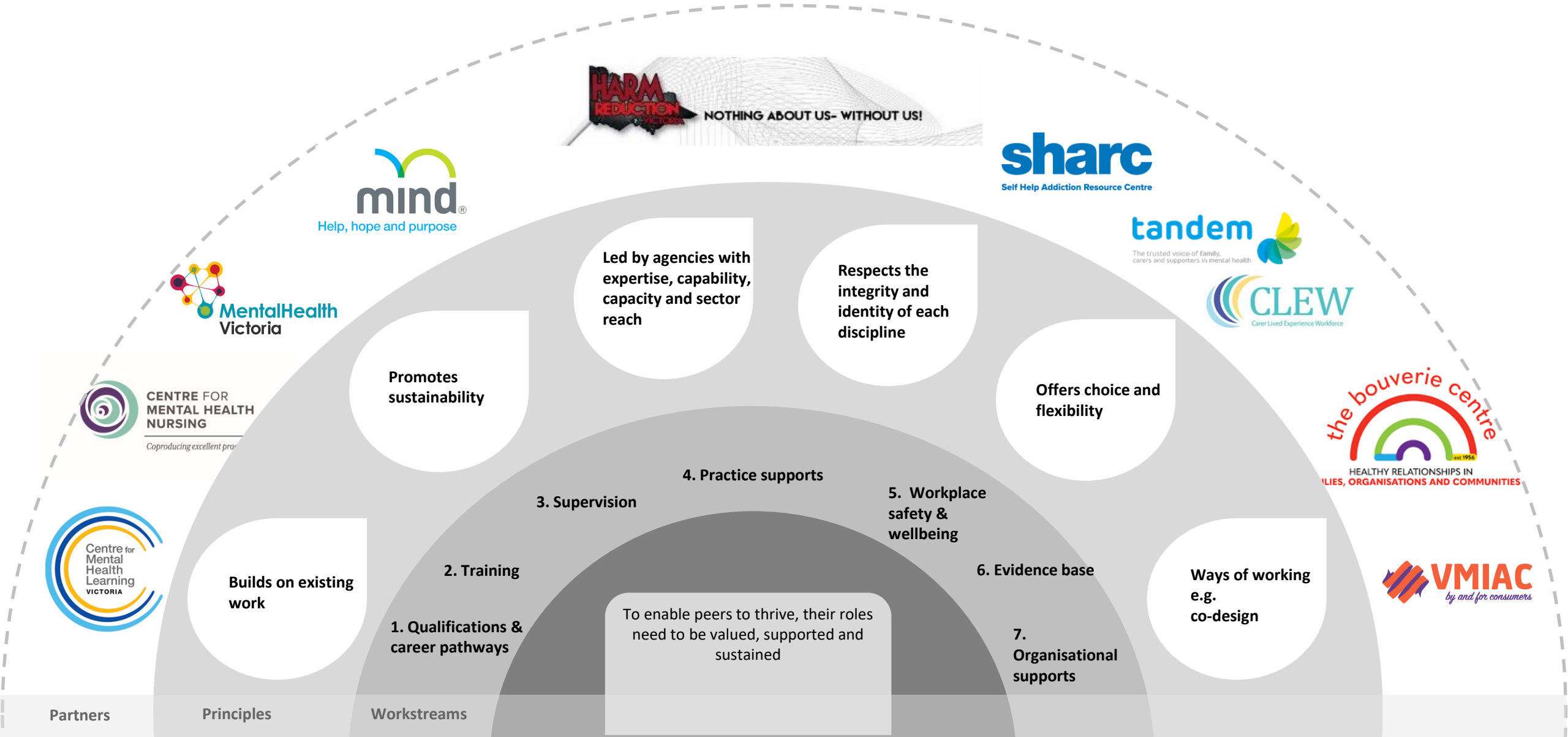
We acknowledge Aboriginal and Torres Strait Islander people as the first people of Australia and the Traditional Owners of the land and its waters.

We pay our respect to elders, knowledge-holders and leaders both past and present.

sharc
Self Help Addiction Resource Centre

Where have we come from and why do we need change?

All LLEW have career development supports and are valued and authorised in their workplaces



The future – Lived and Living Experience Leadership Strategy

LLE Partnerships

LLE Governance

LLE Peak Bodies

MHW Commissioners

Collaborative Centre

LLE Development

14

LLE technical experts

Royal Commission Analysis

Intentions and gaps for LLE leadership and workforces

Environmental Scan

Of LLE workforces, leadership & partnership

249 People

36 Interviews & focus groups

131 Survey responses

41 Current state findings

11 Key themes informing the strategy

Literature Review

Of LLE workforces, leadership & partnership

Victorian Collaborative Centre for Mental Health & Wellbeing

Mental Health & Wellbeing Commission

Overview of draft vision and strategic directions

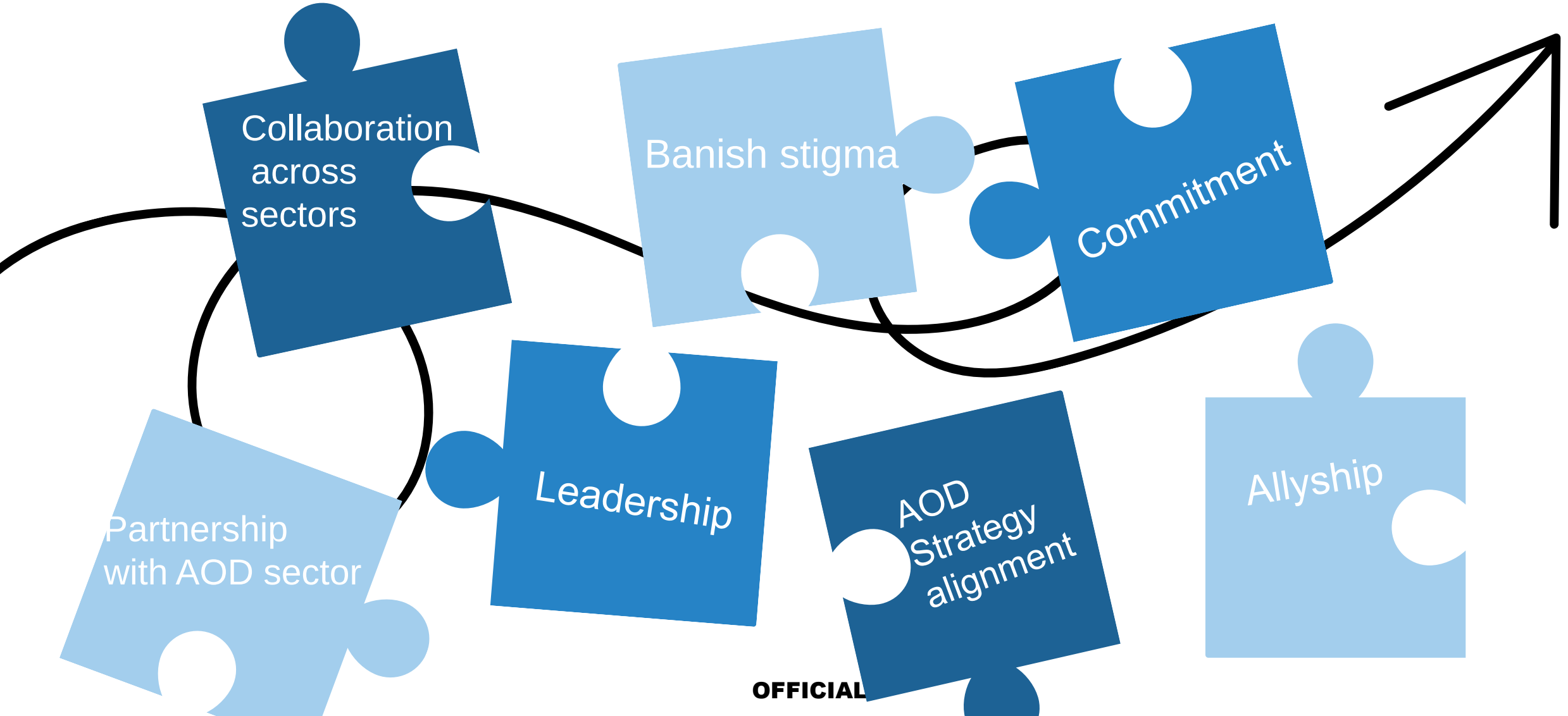
Ultimate vision
All Victorians are enabled to live a life they value, and experience better outcomes through culturally safe, holistic, and hopeful systems and services.

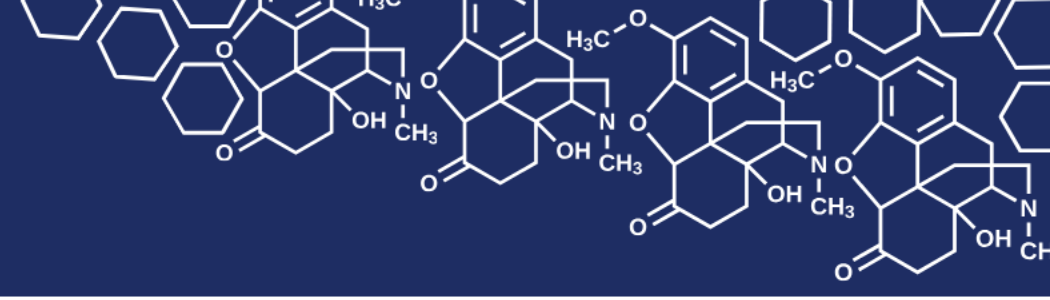
Strategy vision
Victorian systems and services are shaped, led, and delivered by people with lived and living experience.

Strategic Directions

Enable Aboriginal and Torres Strait Islander **LLE** leadership and self-determination*	**Diversify** LLE leadership and workforces	**Grow** LLE leadership and workforces	**Professionalise** LLE leadership and workforces	**Drive LLE-led culture change** across systems	**Embed** LLE leadership across systems
**To be developed with Aboriginal and Torres Strait Islander LLE*	Diversify LLE workforces and leadership to reflect Victoria's diverse communities and perspectives	Expand LLE workforces, elevate LLE leadership roles, and grow LLE-led organisations, services and supports.	Develop and formalise LLE as a profession with unique disciplines, educational pathways, and diverse specialisations.	Build a system that prioritises and elevates LLE perspectives and practices.	Integrate LLE leadership in system-wide governance, monitoring, and decision-making.

We need you!





National Peer Workforce Framework

Ele Morrison
Australian Injecting and Illicit Drug Users League

NATIONAL PEER WORKFORCE FRAMEWORK HARM REDUCTION & ILLICIT DRUG USE

VAADA - 17 JUNE 2024

AIVL Australian Injecting & Illicit Drug Users League

INTRODUCTION

- Peer workforces and where we are
- DUOs and our experience
- The National Harm Reduction Peer Workforce Framework
- Who could or should use this?

HISTORY OF PEER WORKFORCE

Many different sectors have peer workers and an understanding of the peer workforce

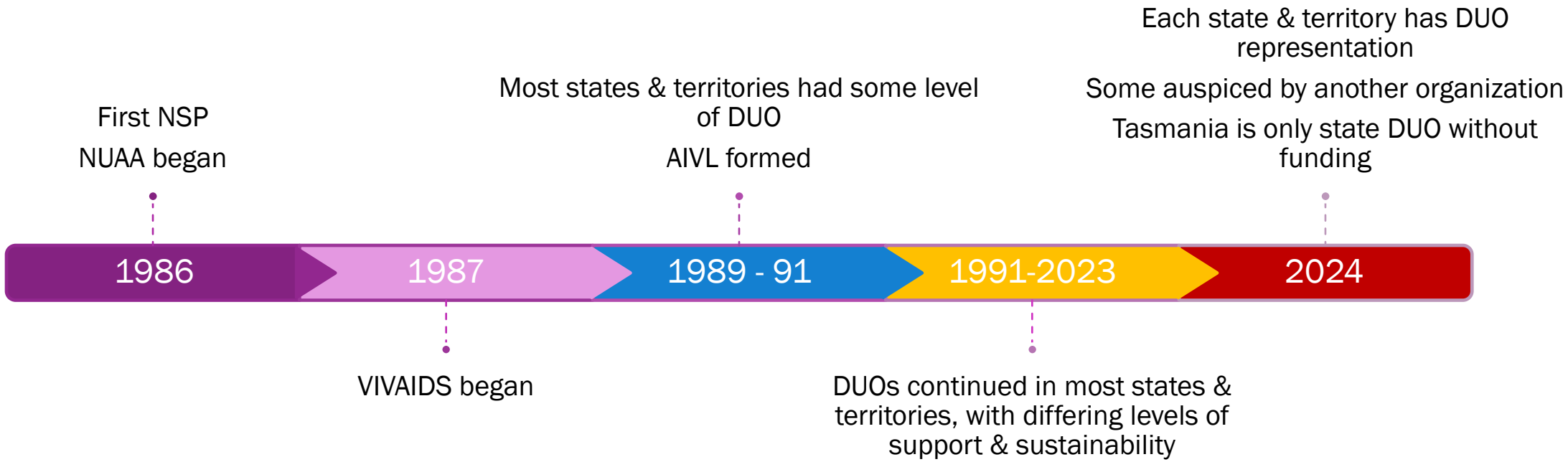
AOD treatment, mental health, harm reduction, LGBTI+, sex workers, Aboriginal and Torres Strait Islanders

Each have their own specific needs and complexities

CURRENT SITUATION

- Value of peer workforce increasing in recognition
- Resourcing and focus on peer workforce increasing
- Some sectors are further ahead than others
- Some states and territories are further ahead than others
- Some state and territories, and some sectors, are focused on different things

BRIEF HISTORY OF AUSTRALIA'S PEER DRUG USER ORGANISATIONS



AIVL HARM REDUCTION PEER WORKFORCE FRAMEWORK: A WORKING TITLE

- 40 years of experience as people with lived-living experience of illicit drug use and harm reduction
- More services and organisations employ or want to employ peers with experience of drug use
- Stigma, discrimination and criminalisation affects people who use and inject drugs in unique ways, with unique guidance and responses needed
- We want and should be able to define ourselves

WHO ARE PEERS?

FOR THE PURPOSE OF OUR NATIONAL FRAMEWORK

- **Peer:** An individual who is recognised by their community as having the same or similar concerns and experience and who has experience of intense stigma and discrimination related to their illicit drug use that changed their sense of self and/or world view.

- **Peer worker:** A peer who intentionally uses their own lived-living experience to support their work of illicit drug use in providing a service benefiting their community while nurturing inclusivity and equity.

BUT ALSO, WHO ARE PEERS?

Current or past drug use?

- What if a person's drug use changes?

- Connected to community?
  - How do you know?
- Lived-living experience or peer?
  - What's the difference?
- Peer identified or not?

HOW DID WE CHOOSE THESE DEFINITIONS?

- We did a lot of consultation within our own organisations
- We thought about our own experience as peer workers
- We thought about our own experience as drug user organisations
- We partnered with researchers and did our own research into the peer workforce and guiding documents and frameworks
- We talked to people in the AOD treatment sectors
- We are continuing to talk to people in mental health, LGBTI+, Aboriginal and other sectors with peer experience

WHO COULD USE THE FRAMEWORK?

- Employers who want to or already do employ peers in harm reduction and peer education roles
- Employers who employ people with lived-living experience and who want to support these employees to use their experience for the benefit of service users with similar experience
- People who use drugs who are interested in or are in early stages of their career who want to use their experience for the benefit of their peers

HOW TO USE THE FRAMEWORK?

Services Employing Peers

- Types of roles
- Responsibilities of organisations
- Understand and value expertise
- Strategies for supporting peers
- Prepare other staff, policies and processes
- Prevent, recognise and respond to stigma
- Best practice in employment

Peer Workers

- Types of roles
- Rights and responsibilities
- Understand value of expertise
- Recognise stigma
- Types of support that should be available
- Boundaries
- Best practice in employment

WHAT WE WANT TO ACHIEVE

- People with experience of using illicit drugs are supported to use their experience of using drugs in AOD and harm reduction roles
- Peers are receiving equal pay, appropriate support and equal professional development opportunities to others
- Peers are not experiencing stigma and discrimination within their workplaces
- Organisations are prepared to employ peers with policies, procedures, cultural safety training and partnerships that support external and internal peer supervision for peer workers

THANK YOU

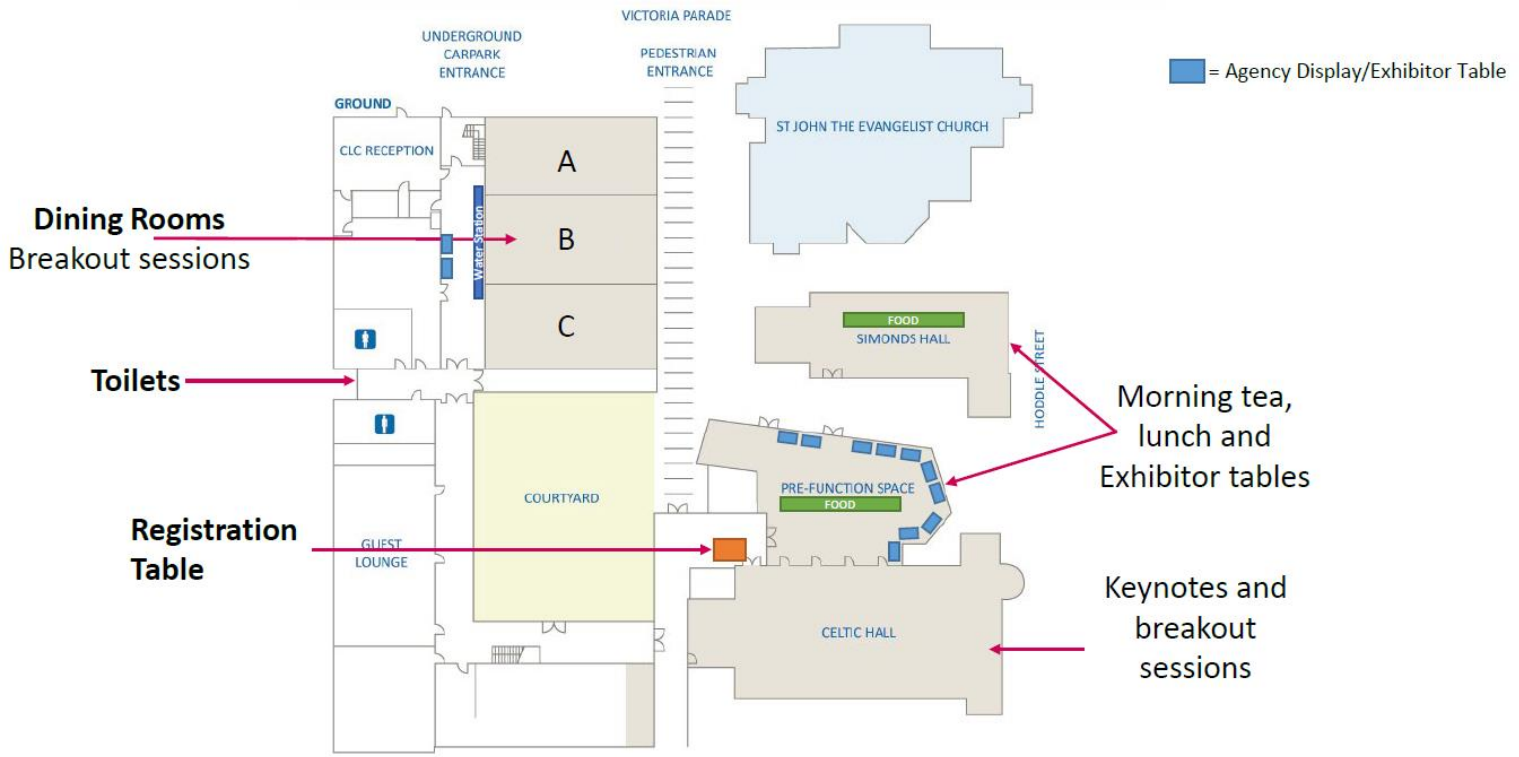
Ele Morrison

AIVL Director of Advocacy

Email: elem@aivl.org.au

AIVL Australian Injecting & Illicit Drug Users League

Morning Tea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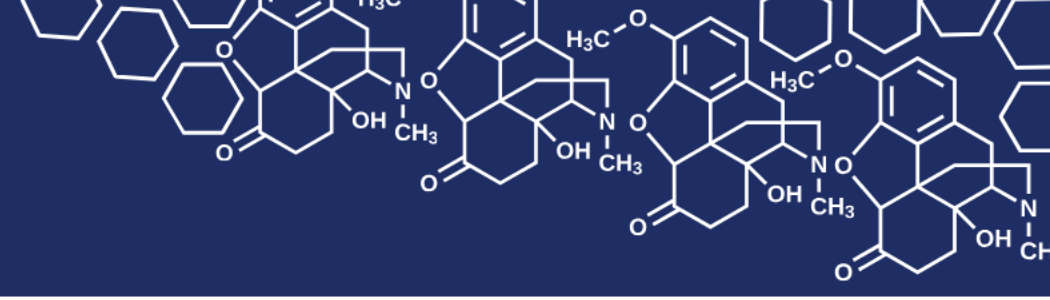


The Prevalence and Treatment of Mental Health Conditions in the AOD Sector

Nich Rogers
Cleugh Consulting

VAADA research

The Prevalence and Treatment of Mental Health Conditions in the AOD Sector

Nich Rogers & Emma Pritchard

Research overview

Questions

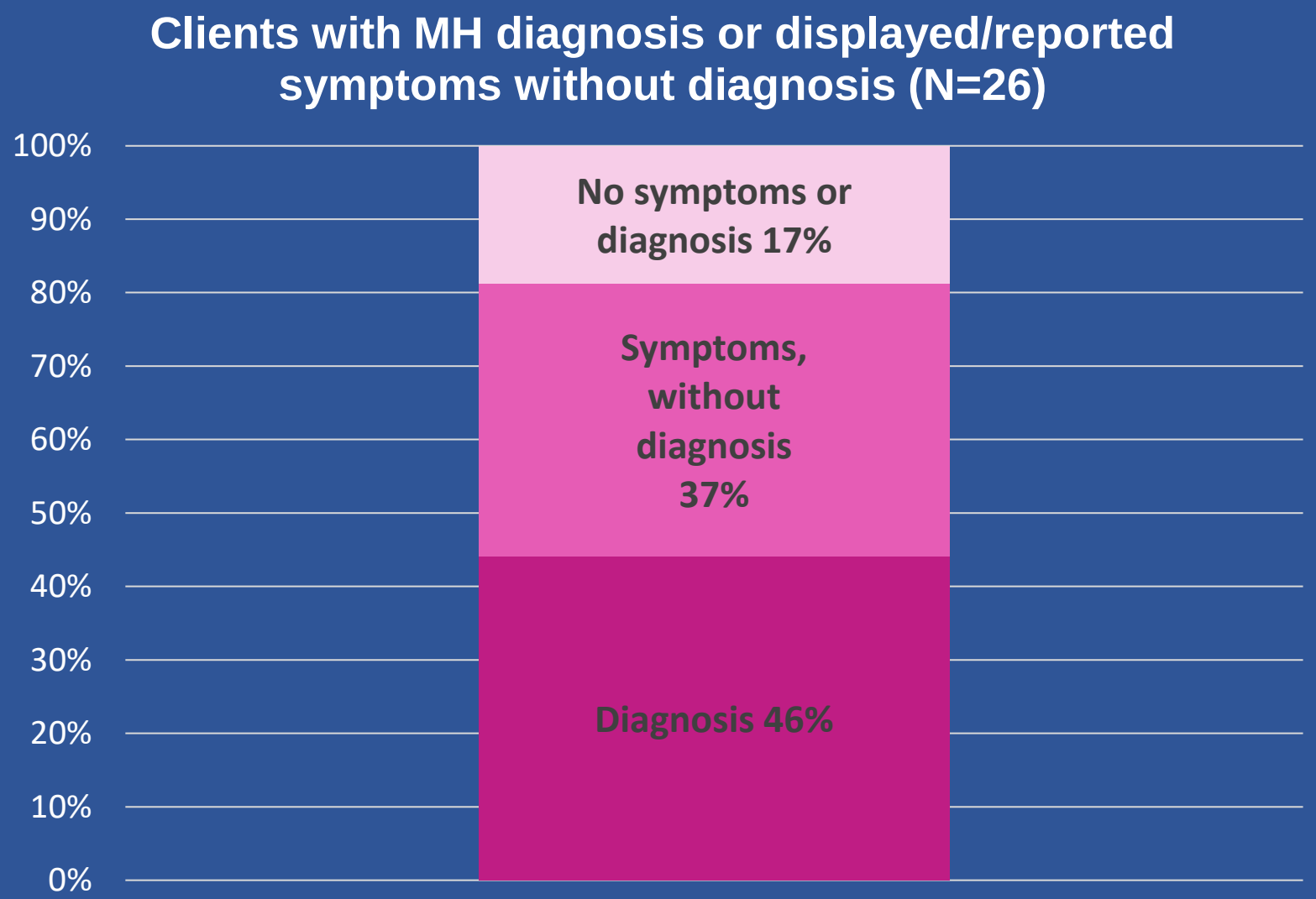
- **What is the prevalence of mental health (MH) conditions in people receiving AOD services?**
- **What support and treatment do AOD services provide to people with co-occurring needs?**
- **What is needed to further build AOD sector and service capacity?**

Methods & participants

- **AOD Agency Survey – 29 responses (40% response rate)**
- **Focus groups with AOD clinicians and senior executives** (N =22)
- **Interviews with people who have a lived and living experience** (LLE) of mental illness and substance use problems (N=8) and family members who support them (N=2)
- **Data analysed for period July 2022 – June 2023**

Prevalence

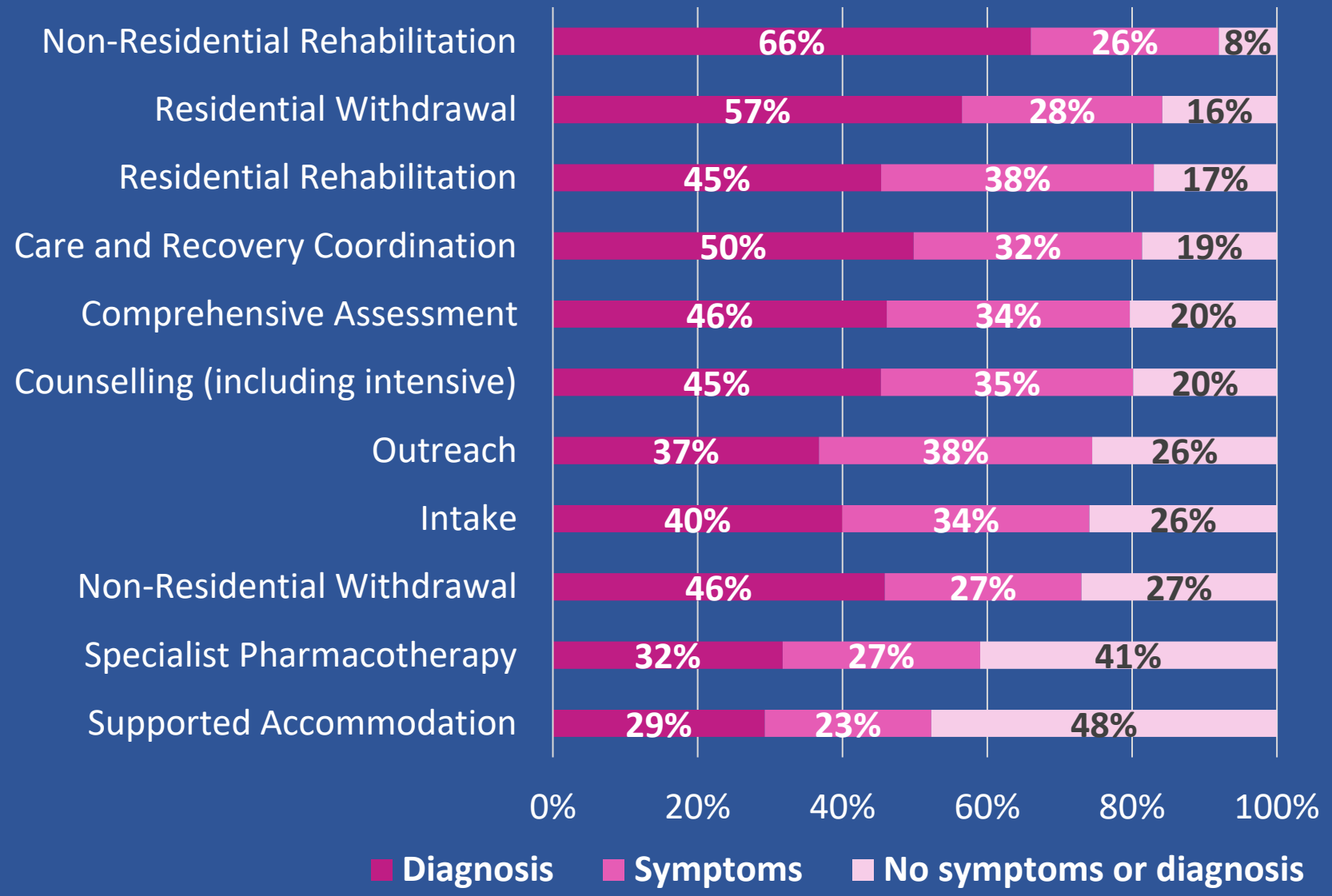
Overall



- **83% of AOD clients had a mental health condition or symptoms**
  - *excludes substance use disorders*

Prevalence

By program type



- **9 of 11 program types had prevalence rates > 70%**
- **Rehabilitation and withdrawal programs reported highest rates (83- 92%)**

Prevalence

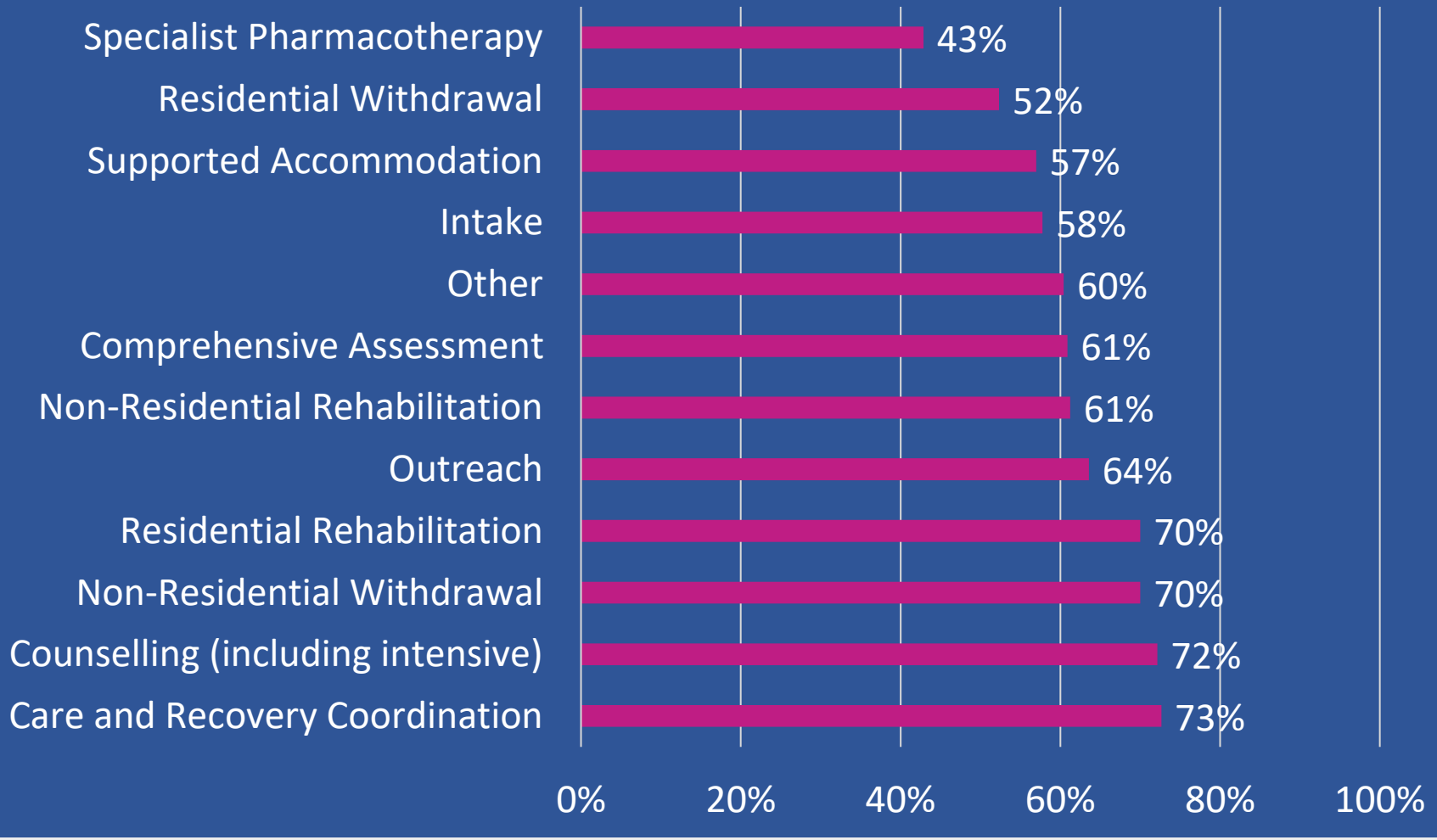
Most common mental health conditions

HIGH prevalence	In the top three most common presentations (N=28)	
	%	n
Anxiety conditions	93	26
Trauma conditions	82	23
Depressive conditions	82	23
ADHD	18	5

LOW prevalence	In the top three most common presentations (N=28)	
	%	n
Personality disorders	93	26
Psychotic disorders	89	25
Bi-polar disorders	86	24
Eating disorders	14	4

AOD service responses
By program type

Clinical time supporting people with co-occurring needs



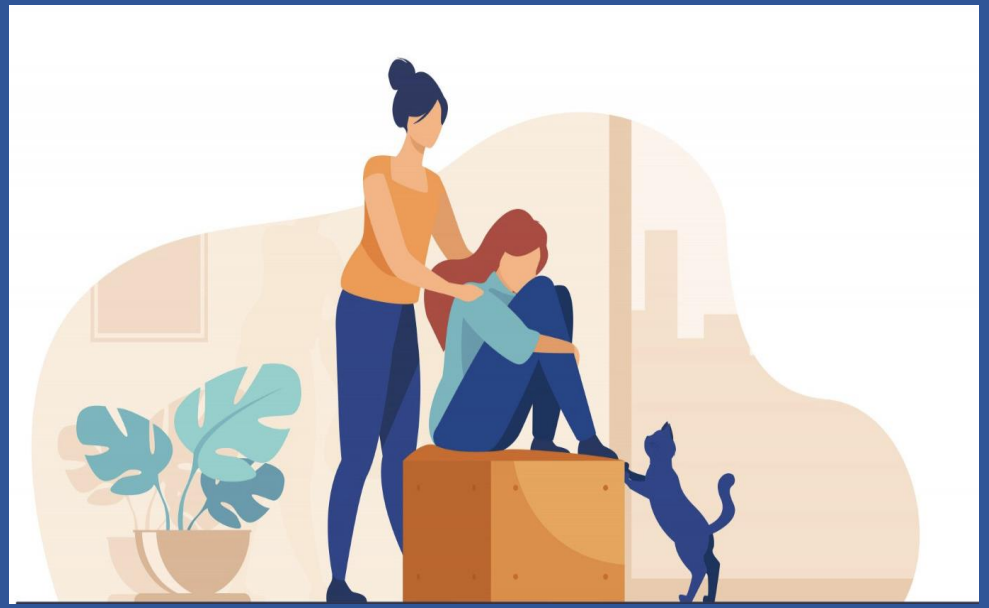
- **As high as 73%**
- **> 60% in 8 program types**
- **Specialist Pharmacotherapy responses low**

AOD service responses
Crisis support

Weekly hours of crisis support

26 AOD agencies provided an average **1,346 hours of crisis support** each week between July 2022 – June 2023

Equates to >50 hours per week per AOD Agency



AOD service responses, FY 2023

Mental health conditions taking up most clinician time

1. Anxiety conditions
2. Personality disorders
3. Trauma conditions

❖ Varies by ‘treatment’ or ‘crisis support’

Most common interventions to treat MH needs

1. Mindfulness and meditation
2. Motivational enhancement
3. Diverse CBT
4. Lifestyle measures and self- care
5. Alternative therapies (e.g. Art)

AOD service responses - Co-occurring needs

Strengths

- AOD practice frameworks
- Clinician capability
- Diverse & integrated MH treatment
- Crisis support
- Service coordination support
- High client satisfaction

AOD service responses - Co-occurring needs

Challenges

- **AOD intake processes and MH screening**
- **Resourcing for more complex MH treatment**
  - CBT
  - Lifestyle interventions
  - Alternative therapies
- **Knowledge gaps (e.g. neurodiversity)**
- **Accessing MH professional development**
- **MH system access**
  - Systems
  - Experiences
- **Information and sharing**

Capacity building needs

AOD systems

- Cross sector service coordination
- Further sector positioning and advocacy
- Research
  - Integrated treatment effectiveness
  - Cost avoidance

Capacity building needs

AOD service delivery

- Mental health professionals employed directly within the AOD service system
- Further professional development opportunities
- Employing more people with a LLE of mental illness and substance use or addiction

Takeaway messages

- Most AOD service users have a MH condition that requires treatment
- AOD services provide significant unfunded resources and time, supporting and treating peoples MH needs
- AOD clinicians are confident and capable providers of frontline MH treatment
- The AOD sector requires resources to employ more MH specialists and further build AOD workforce capacity

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Thank You

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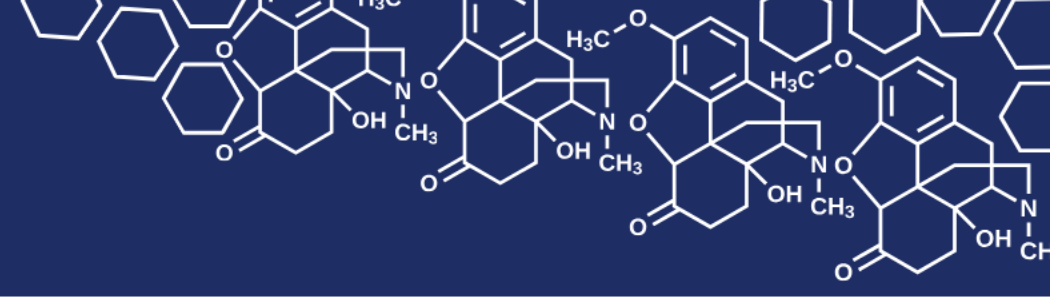

Not Just Antabuse – CAPA: Community Access to Pharmacotherapy for Alcohol

Dr Paul McCartney | cohealth
Dr Dean Membrey | cohealth

NOT JUST ANTABUSE

Community Access to Pharmacotherapy for Alcohol

Dean Membrey and Paul Maccartney

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Acknowledgement of Country

cohealth acknowledges the Traditional Custodians of the lands and waterways where we provide healthcare, the Boon Wurrung, Wurundjeri and Wadawurrung people, and the Paredarerme and Palawa Tasmanian peoples. We acknowledge the Stolen Generations and the historical and ongoing impact of colonisation on Aboriginal and Torres Strait Islander peoples. We also recognise the resilience, strength and pride of Aboriginal and Torres Strait Islander communities.

Content warning:

Aboriginal and Torres Strait Islander people are warned that the following presentation may contain images of deceased persons.

If you see an image or name in these materials that you believe should no longer be used for reasons such us death, misgendering or deadnaming, please email communications@cohealth.org.au to have it removed.

Disclosures

Nil

Community Access to Pharmacotherapy for Alcohol

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1 million Australians with AUD

Health impacts 4.5% National burden of disease

Hospital admissions 150,000

173 alcohol related fatal overdoses, 6000 deaths in total

Victoria – 30,000 episodes of care

Costs to community –

Financial

Social

Recent changes –COVID ++++ Noted by 70% of agencies

Waitlists increased 40%

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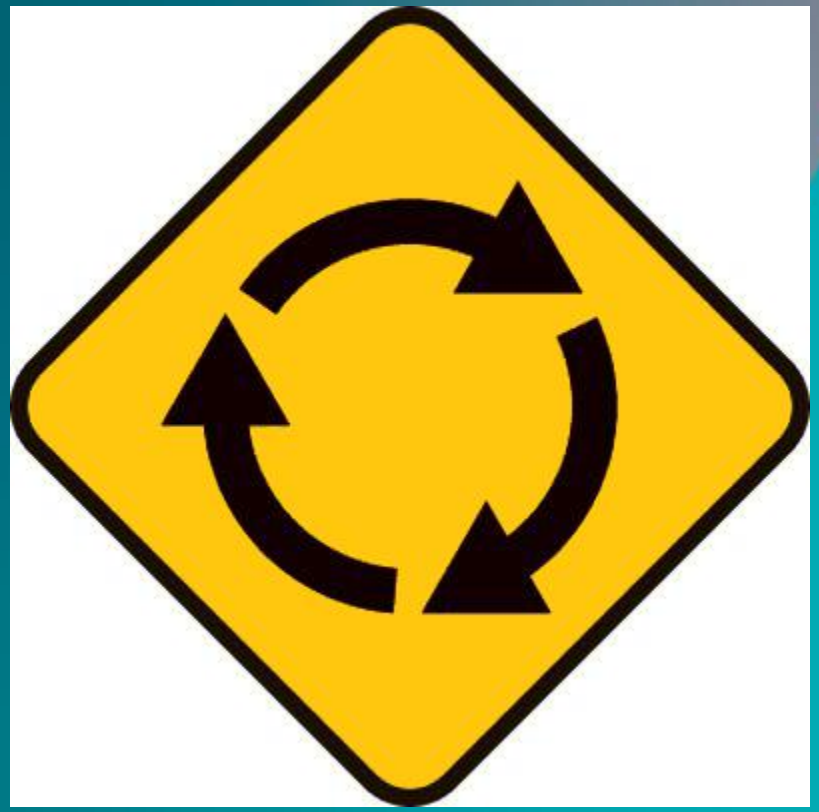
Experience of the System



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Joseph's Story

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Cassie 38 yo female

Calls central intake. Currently drinking 10-20 std drinks/day.

Problematic alcohol consumption from mid twenties

Worse since Covid!

Short periods of abstinence maintained, often after inpatient withdrawal stays

Multiple episodes of AOD counselling and seeing psychologist

Has completed inpatient withdrawal episodes many times, twice been to rehab, last withdrawal/rehab episode 3 months previously

No other physical health issues although deranged LFTs without clear cirrhosis

Lives alone, works in insurance (although work performance waning)

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Cassie

The patient states that she would love to be able to drink a couple of drinks on the weekend like every one else.

Through the intake process, what treatment options will this patient be offered?

What treatment options SHOULD this patient be offered?

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Treatment Guidelines:

'The principles of patient-centred care and shared decision making are now understood to be essential for effective treatment for alcohol problems. This entails providing care that is respectful of, and responsive to, individual patient preferences, needs and values, and ensuring that patient values guide all clinical decisions.'

GUIDELINES FOR
THE TREATMENT OF ALCOHOL PROBLEMS

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Haber PS, Riordan BC (2021). Guidelines for the Treatment of Alcohol Problems (4th edition). Sydney: Specialty of Addiction Medicine, Faculty of Medicine and Health, The University of Sydney

Treatment Guidelines:

Pharmacotherapies for alcohol dependence

Acamprosate is recommended to help maintain abstinence from alcohol (Level A).

Naltrexone is recommended for prevention of relapse to heavy drinking (Level A).

Disulfiram is only recommended in close supervision settings where patients are motivated for abstinence (Level A).

Some evidence for off-label therapies baclofen and topiramate exists, but their side effect profiles are complex and neither should be a first-line medication (Level B).

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GUIDELINES FOR
THE TREATMENT OF
ALCOHOL PROBLEMS

Haber PS, Riordan BC (2021). Guidelines for the Treatment of Alcohol Problems (4th edition). Sydney: Specialty of Addiction Medicine, Faculty of Medicine and Health, The University of Sydney

Treatment Guidelines:

Most cases of withdrawal can be managed in an ambulatory setting with appropriate support (Level B).

Tapering diazepam regimens (Level A) with daily staged supply from a pharmacy or clinic are recommended (GPP).

Residential rehabilitation may be of benefit to patients who have moderate-to-severe alcohol dependence and require a structured residential treatment setting (Level D).

GUIDELINES FOR
THE TREATMENT OF
ALCOHOL PROBLEMS

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Haber PS, Riordan BC (2021). Guidelines for the Treatment of Alcohol Problems (4th edition). Sydney: Specialty of Addiction Medicine, Faculty of Medicine and Health, The University of Sydney

Evidence for Treatment:

Naltrexone appears to be an effective and safe strategy in alcoholism treatment.

Rösner S, Hackl-Herrwerth A, Leucht S, Vecchi S, Srisurapanont M, Soyka M.Opioid antagonists for alcohol dependence.Cochrane Database of Systematic Reviews 2010, Issue 12. Art. No.: CD001867.DOI: 10.1002/14651858.CD001867.pub3.

Acamprosate appears to be an effective and safe treatment strategy for supporting continuous abstinence after detoxification in alcohol dependent patients

Rösner S, Hackl-Herrwerth A, Leucht S, Lehert P, Vecchi S, Soyka M.Acamprosate for alcohol dependence.Cochrane Database of Systematic Reviews 2010, Issue 9. Art. No.: CD004332.DOI: 10.1002/14651858.CD004332.pub2.

Baclofen likely reduces the risk of relapse to any drinking and increases the percentage of abstinent days, mainly among detoxified participants

Agabio R, Saulle R, Rösner S, Minozzi S.Baclofen for alcohol use disorder.Cochrane Database of Systematic Reviews 2023, Issue 1. Art. No.: CD012557.DOI: 10.1002/14651858.CD012557.pub3.

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Evidence For Treatment:

RETROSPECTIVE COHORT STUDY:

Mass General Brigham Biobank

Mean follow up duration 9.2 years

9635 patients with AUD

Medical Addiction Therapy: disulfiram, acamprosate, naltrexone, gabapentin, topiramate, baclofen

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Evidence For Treatment (Vannier):

JAMA Network | Open

Original Investigation | Gastroenterology and Hepatology

Incidence and Progression of Alcohol-Associated Liver Disease After Medical Therapy for Alcohol Use Disorder

Augustin G. L. Vannier, BA; Jessica E. S. Shay, MD, PhD; Vladislav Fomin, MD; Suraj J. Patel, MD, PhD; Esperance Schaefer, MD, MPH; Russell P. Goodman, MD, PhD; Jay Luther, MD

PARTICIPANT PROFILE:

9635 patients with AUD

60% male, mean age 54.8y

3906 (40%) of patients received medical addiction therapy

Patients who started medication did so 1.65 years after index AUD diagnosis

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Evidence For Treatment (Vannier):

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RESULTS:

Table 2. Odds Ratios for the Development of Alcohol-Associated Liver Disease After Medical Addiction Therapy

Medical addiction therapy	Adjusted odds ratio (95% CI)	*P* value
Any pharmacotherapy	0.37 (0.31-0.43)	<.001
Gabapentin	0.36 (0.30-0.43)	<.001
Topiramate	0.47 (0.32-0.66)	<.001
Baclofen	0.57 (0.36-0.88)	.01
Naltrexone	0.67 (0.46-0.95)	.03
Disulfiram	0.86 (0.43-1.61)	.66
Acamprosate	2.59 (1.84-3.61)	<.001

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Evidence For Treatment (Vannier):

Is cirrhosis too late?

We studied 105 patients with cirrhosis who were treated with medical addiction therapy after an index diagnosis of cirrhosis and 301 patients who did not receive medical addiction therapy; they were followed up for a mean (SD) duration of 11.8 (7.8) years and 8.6 (6.3) years, respectively, and then assessed for hepatic decompensation.

We found that patients with cirrhosis who received medical addiction therapy after a diagnosis of cirrhosis were less likely to experience hepatic decompensation *(aOR, 0.41; 95% CI, 0.23-0.71; P = .002).*

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Evidence For Treatment (Vannier):

JAMA Network Open

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Is cirrhosis too late?

Naltrexone is currently contraindicated in severe liver disease given the concern for hepatotoxicity and the precipitation of liver failure in these vulnerable patients.

The results of this study suggest a ***benefit of naltrexone: it is a factor in not only preventing ALD but also limiting hepatic decompensation in patients with established cirrhosis.***

The data that support the risk of hepatotoxicity and liver failure in patients receiving naltrexone are limited.

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So, with all this evidence, patients are routinely receiving medications for alcohol use disorder, right?

Roughly 3% of those with alcohol dependence in Australia receive pharmacotherapy.

Of those, only 15–25% receive the recommended 3 months of treatment.

ELSEVIER

Drug and Alcohol Dependence

Volume 166, 1 September 2016, Pages 254-257

Short communication

National trends in alcohol pharmacotherapy: Findings from an Australian claims database

Kirsten C. Morley [a], Warren Logge [b], Sallie-Anne Pearson [c], Andrew Baillie [b], Paul S. Haber [a d]

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cohealth
care for all

Goals for the Sector

- Intake
- Withdrawal units
- Hospital
- Wider Community

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Barriers to widespread implementation

Lack of interest from doctors –STIGMA!!!!

Abstinence incumbency

Minimal patient advocacy

cohealth
care for all

A New Path

cohealth
care for all

thank you

Dean Membrey and Paul MacCartney

AOD SERVICE PROVIDERS CONFERENCE

Inspiring Change: Excellence in AOD Treatment and Harm Reduction

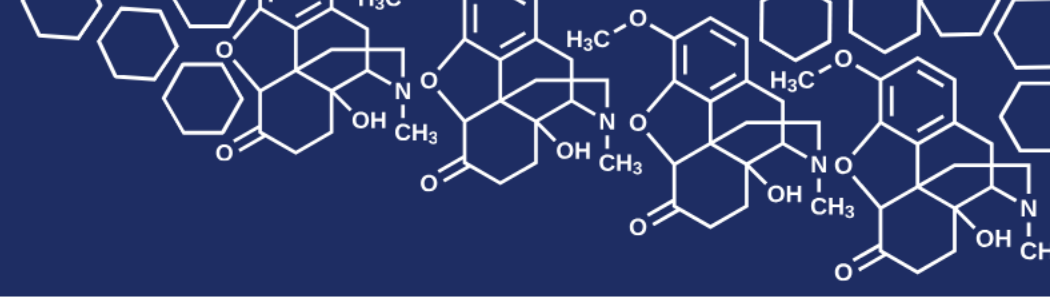
BREAKOUT SESSION 1

Contemporary Treatment Research MC: Dr James Petty Celtic Hall + Online*	Harm Reduction Excellence MC: Nadia Gavin Dining Room A	Clinical Excellence MC: Dr Martin Lloyd-Jones Dining Room B	Access & Equity MC: Chris McDonnell Dining Room C
Evaluation of an online relationship program to enhance outcomes for people in residential AOD treatment Stefan Gruenert, CEO, Odyssey House Victoria & Prof. Gery Karantzas, School of Psychology, Faculty of Health, Deakin University	**Highlights of the Harm Reduction Masterclass** Jane Dicka & Brit Chapman, Harm Reduction Victoria	**Q and A session about withdrawal and treatment from the hospital to the community** Dr Tony Bolton, Austin Health Jo Colvin, Nurse Practitioner, LCHS Patricia Green, Nurse Practitioner RMH, VAHS	**Stronger Sisters & Bunjilwarra Koori Youth AOD Healing Service: developing agency and healing in a cultural context** Brooke Clifford, Stronger Sisters Camp co-designer | Camp Lead & Stronger Youth Family Violence Project Co-ordinator, Bunjilwarra Carla Lauch, Stronger Sisters Camp co-designer | Camp Cultural Lead & Care recovery worker, Bunjilwarra
Trialling a "shared care" pharmacotherapy model with local GPs and pharmacists Kirsty Morgan, AOD Educator/ AOD Project Coordinator Dr Ali Cheetham, Research Fellow, Clinical & Social Research Team, Turning Point & Monash University			**Client-centred practice: challenges and directions** Tye Hammersley, Support Worker Galiamble Men's Recovery Centre Dr Greg Smith, Narrative Practitioner

BREAKOUT SESSION 2

Clinical Excellence MC: Gillian Clarke Celtic Hall + Online*	Harm Reduction Excellence MC: Nadia Gavin Dining Room A	Clinical Excellence MC: Scott Drummond Dining Room B	Access & Equity MC: Esther Toomey Dining Room C
llicit drug dependence, abuse and treatment relating to GHB, novel opioids, ketamine and nitrous oxide Dr David Jacka, Addiction Medicine, Monash Health	**Peer Work - This is why! Practice for improving service accessibility** Christian Vega & Amelia Berg, Harm Reduction Victoria	**Young people returning to alcohol and other drug services; new goals and incremental gains** Gabriel Caluzzi & Sarah Maclean, La Trobe University	**Bicultural Workers - Building bridges with multicultural communities** Jasmine Phillips, Bi-Cultural Program Lead, cohealth, Vanbawi Thawng, Bicultural Worker, cohealth

vaada



Contemporary Treatment Research | Breakout Session 1

Evaluation of an online relationship program to enhance outcomes for people in residential AOD treatment

Stefan Gruenert | Odyssey House
Prof Gery Karantzas | Deakin University

Contemporary Treatment Research | Breakout Session 1

Trialling a “shared care” pharmacotherapy model with local GPs and pharmacists

Kirsty Morgan | Turning Point and Monash University
Dr Ali Cheetham | Turning Point and Monash University

Evaluation of an online relationship program to enhance outcomes for people in residential AOD treatment

Stefan Gruenert and Gery Karantzas

VAADA Service Providers Conference June 2024

Acknowledgements

- **Funding:**
  - Alcohol & Drug Research Innovation Agenda (ADRIA) Grant - VAADA and the Victorian State Government
  - Odyssey House Victoria
- **Conflicts to declare:** Nil
- **Project Team Deakin University:** Professor Gery Karantzas, A/Professor Petra Staiger, Professor Peter Miller, Professor John Toumbourou, Dr Ashlee Curtis,
- **Project Staff:** Courtney Bruscella, Daniel Romano, Ellie Mullins, Robin Zhou, Hannah Portogallo, Kimberley Marshall, Lucy Chen
- **Project Team Odyssey House Victoria:** Adjunct A/Prof Stefan Gruenert, Neos Zavrou, Caroline Long
- **Group Facilitators/Staff:** Tim Flora, Adam Turvey, Vickie Doherty, Jo McDonald, Jen Rollings, Douglas Shaw, Kate Souter, Lisa Butcher, Jacqui Porter, Ashlee Morgan, Danielle Cooper, Gaby Innes, Barb Dowthwaite, Matthew Palaia
- **US Team:** Professor Brian Doss (University of Miami) and Professor Andrew Christensen (UCLA)

Project Rationale

- There are often high levels of intimate partner conflict, aggression & violence when one or both partners have AOD problems
- Residential treatment provides a stable and supportive environment to build relationship skills, although it is generally focussed on peer relationships rather than intimate partner relationships
- ADRIA supported the evaluation of an evidence-based, intimate partner relationship program across multiple residential AOD sites

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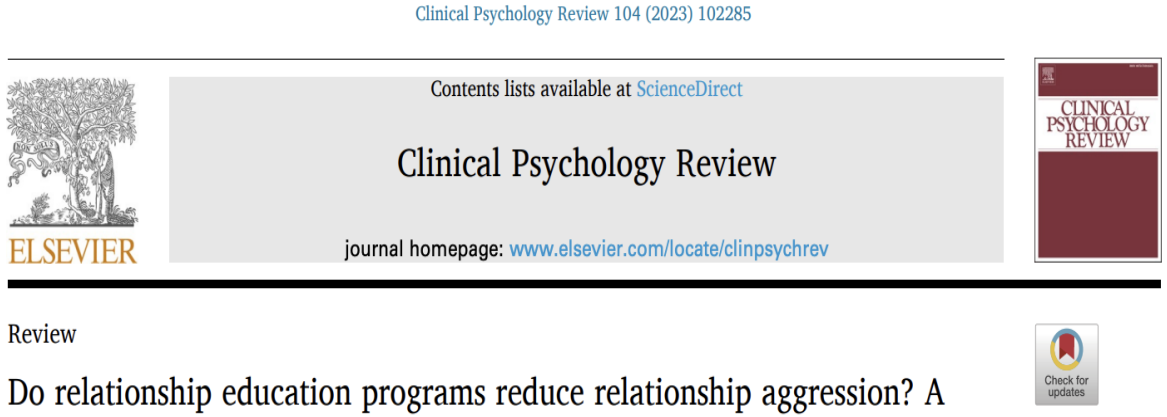
Relationship Education (RE) Meta-analysis

- 31 samples included, 25,527 participants in total
- For those experiencing moderate to severe relationship aggression on program entry (compared to low relationship aggression):
  - 230% reduction in physical relationship aggression
  - 368% reduction in psychological relationship aggression
  - 106% reduction in conflict behaviour
  - 40% reduction in controlling behaviour



Clinical Psychology Review 104 (2023) 102285

Contents lists available at ScienceDirect

Clinical Psychology Review

journal homepage: www.elsevier.com/locate/clinpsychrev

Review

Do relationship education programs reduce relationship aggression? A meta-analytic study

Gery C. Karantzas[a,1,*], Ashlee Curtis[a,1], Laura Knox[a], Petra K. Staiger[a], Travis Head[a], John W. Toumbourou[a], Stefan Gruenert[b], Daniel A. Romano[a], Peter G. Miller[a]

OurRelationship Program

OurRelationship is an evidence-based online program developed in the US (Doss et al., 2016; 2020)

Teaches the skills to help individuals or couples to better manage relationship conflict/problems

Draws on Integrative Behavioral Couples Therapy (Christensen et al., 2020)

Has a strong evidence base – (50+ studies, trialed with 5,000+ couples)

Assists participants to gain a new and more accurate understanding of their core relationship issue

Involves three phases: Observe, Understand and Respond

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Our Relationship Program

Participants report focus on their current relationship and a significant relationship problem of their choice

Engage in interactive and reflective activities, including watching videos of couples

Receive personalised feedback from the program

Adapted the program for a group setting over 12 hours, co-facilitated by Deakin and TC staff members

Could focus on current or past relationship

Watch videos and engage in group discussions

Residents of Odyssey, Windana, and Salvation Army AOD residential programs participated
Includes AOD and relationship measures at baseline, post-program, and at 3 and 6* months

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What skills do participants learn in the program?

D **Differences and Similarities** between the person and their partner

E **Emotions** and how these are experienced and managed within the relationship

E **External Stressors** and how these impact the relationship

P **Patterns of Communication** and how these affect conflict management and relationship interactions

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Participants

130 completed baseline assessment

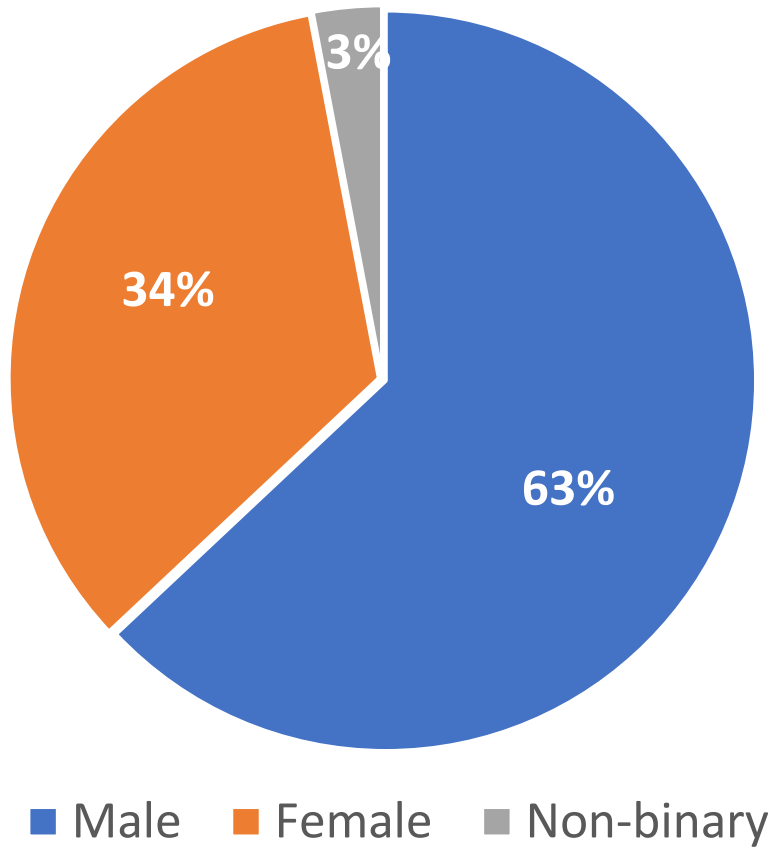
119 participants commenced

108 completed (91% retention)

Average age:
36 years

19 Aboriginal and Torres Strait Islander participants (14%)

92 participants (83%) not in a current relationship and focussed on a past significant relationship



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Relationship History

- Participants had significant levels of relationship conflict and previous use of, and experience of, intimate partner violence (FDV)
- Majority reported lacking the relationship skills to manage disagreements in their relationships
- Many of those not in a relationship reported feeling a lack of hope for ever being able to engage in a healthy relationship in the future

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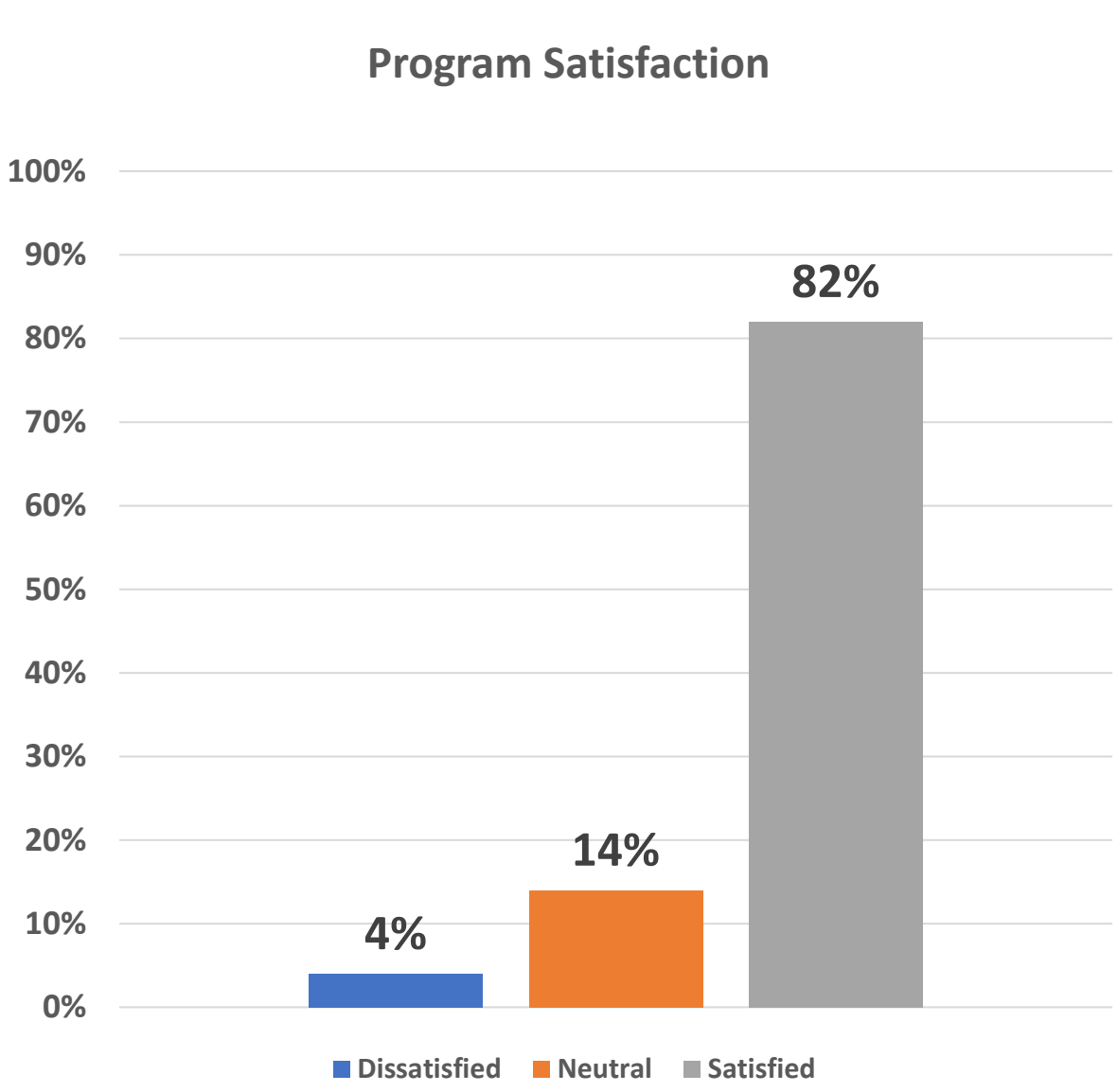
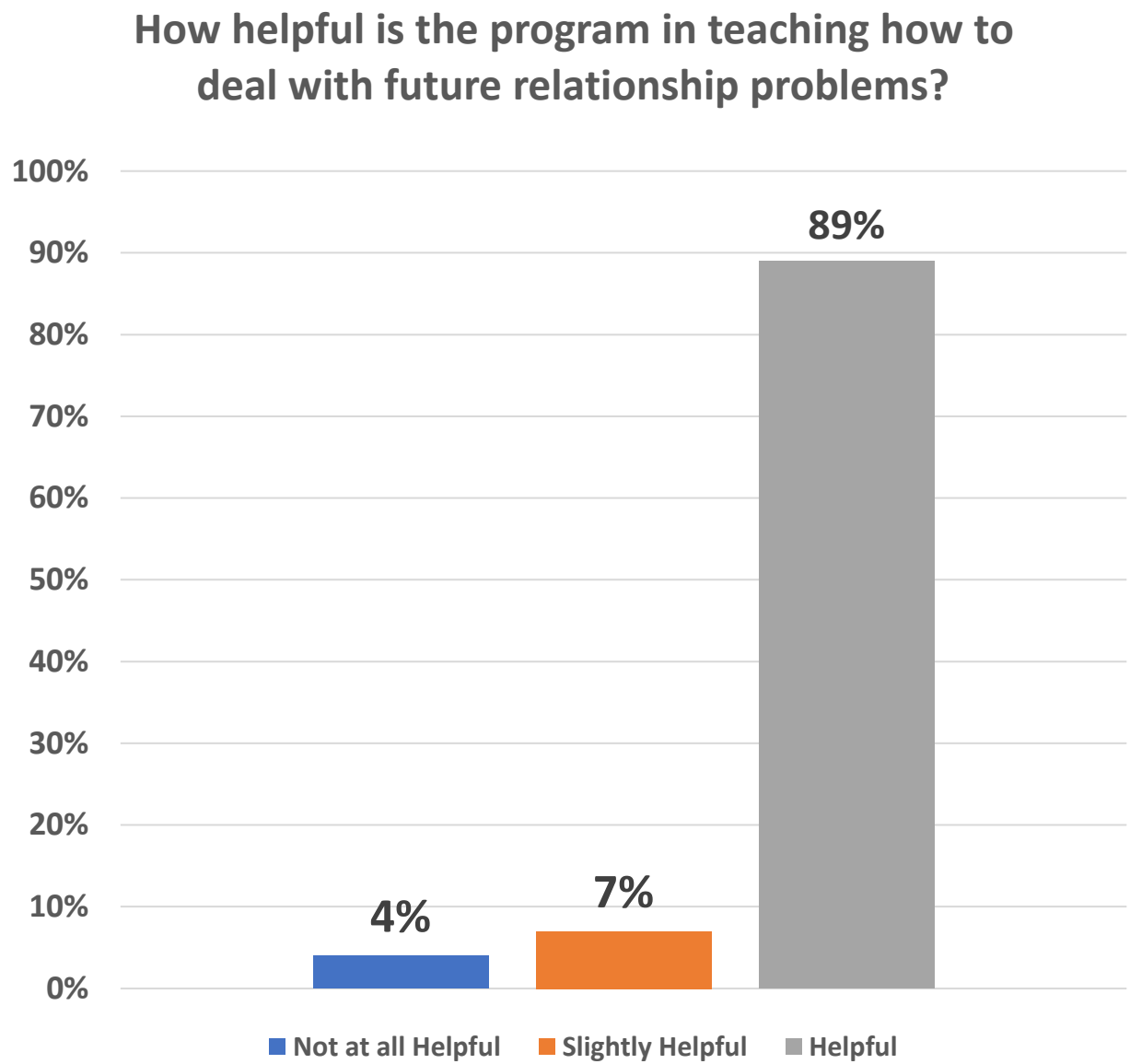
Provisional Outcomes

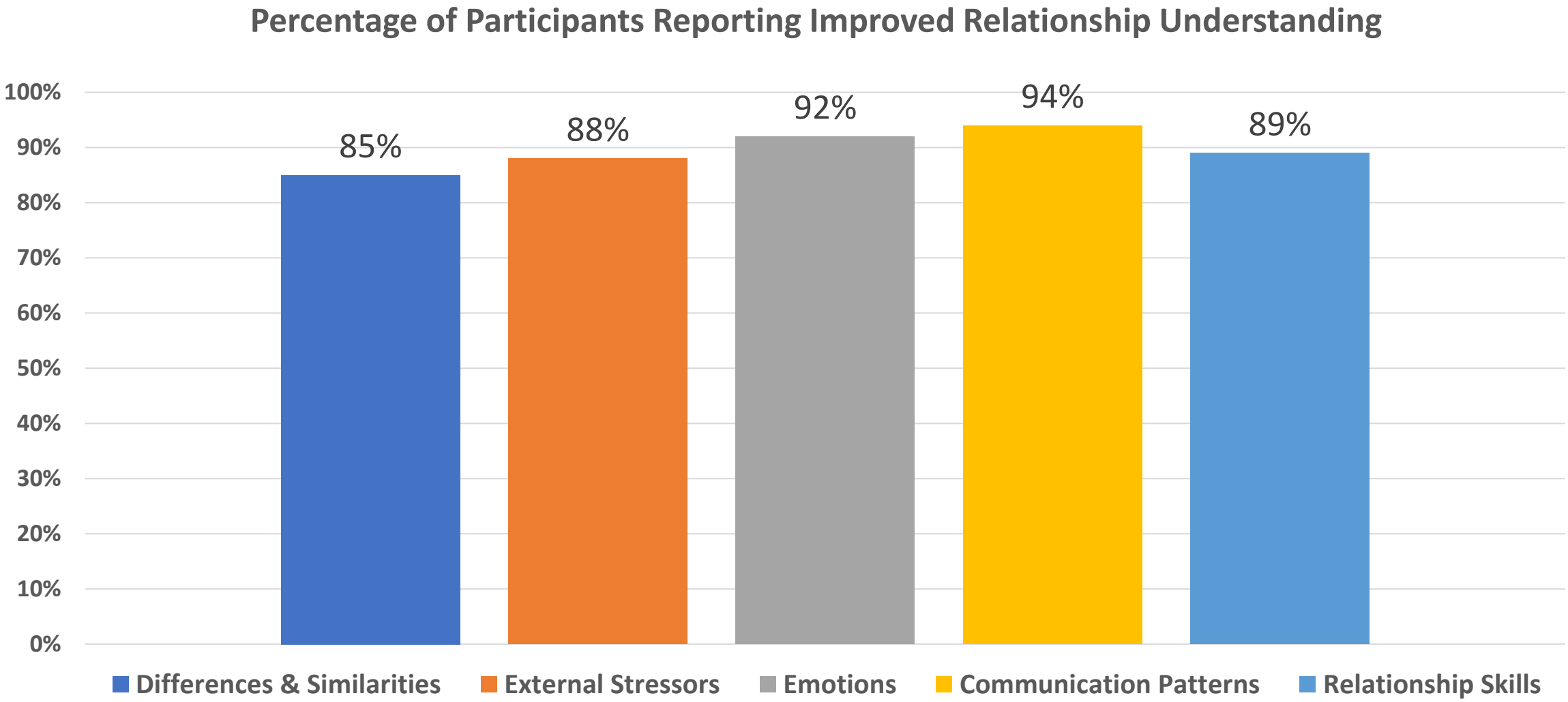
- Data presented on change between baseline and 3 month follow up
- 6 month follow up data being finalised now
- Not all outcomes due to the OR program – as they include the effect of AOD Residential Rehabilitation

Post Program Outcomes (Our Relationship Program)

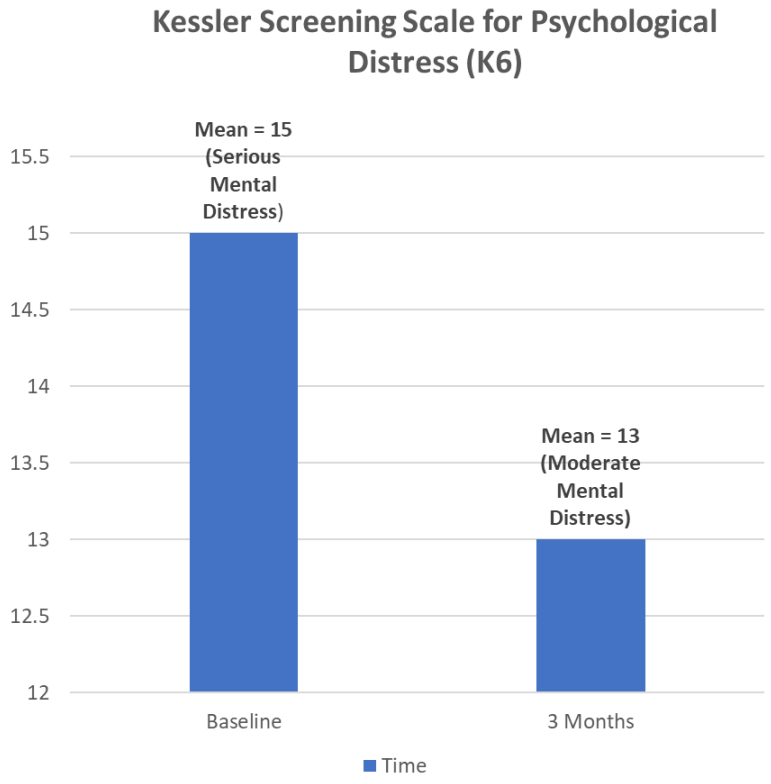


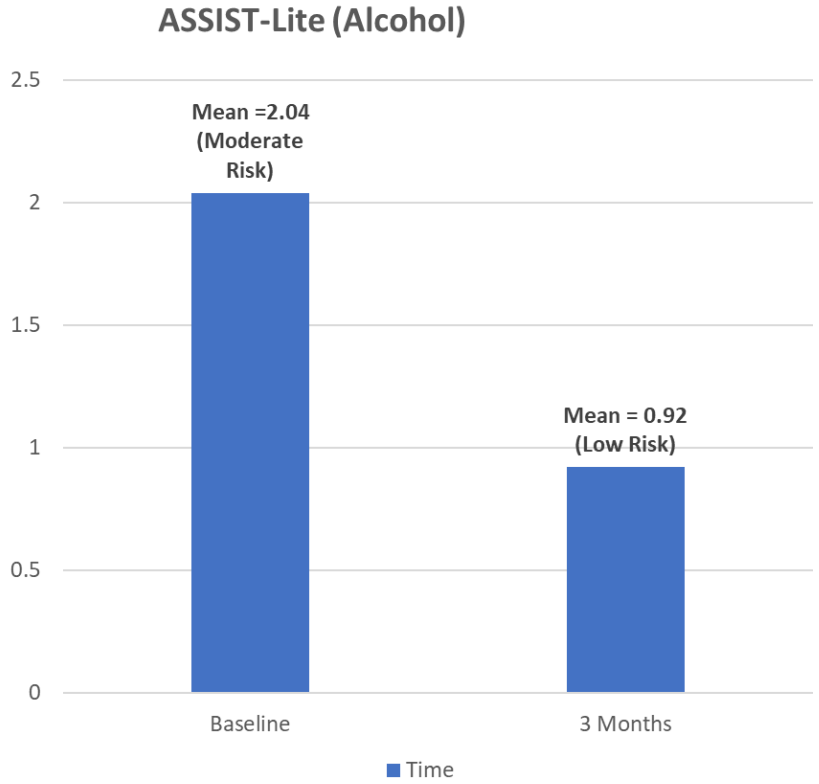


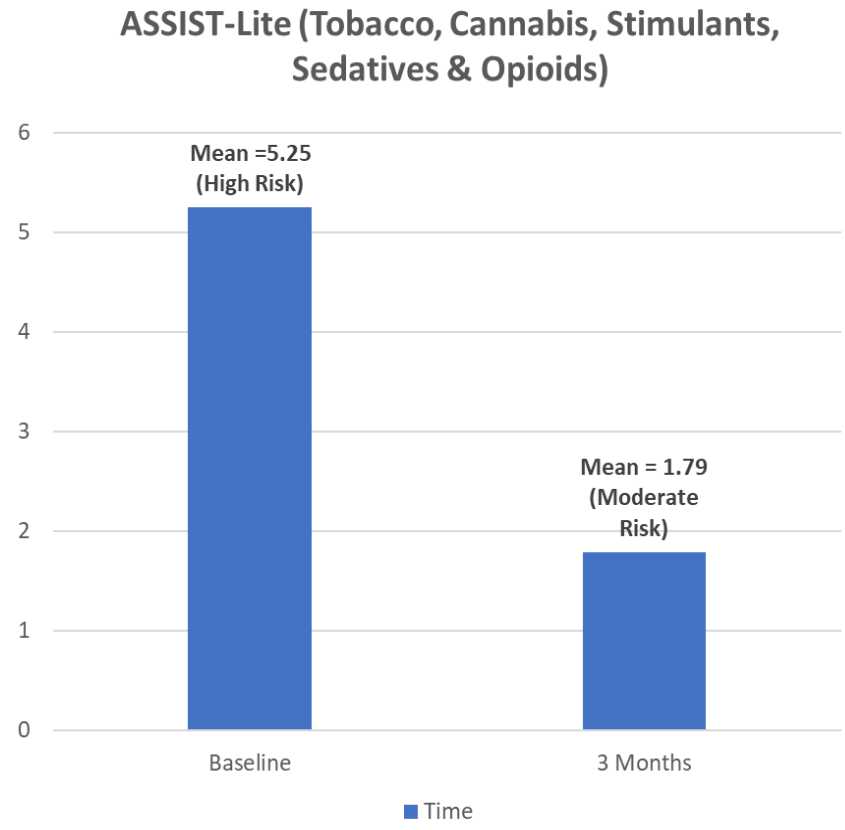
Post Program Outcomes (Our Relationship Program)



Mental Health & AOD - Baseline to 3 Months post







Average Psychological distress significantly reduced from being **serious** to **moderate**

$F = 6.88$ | $p = .01$

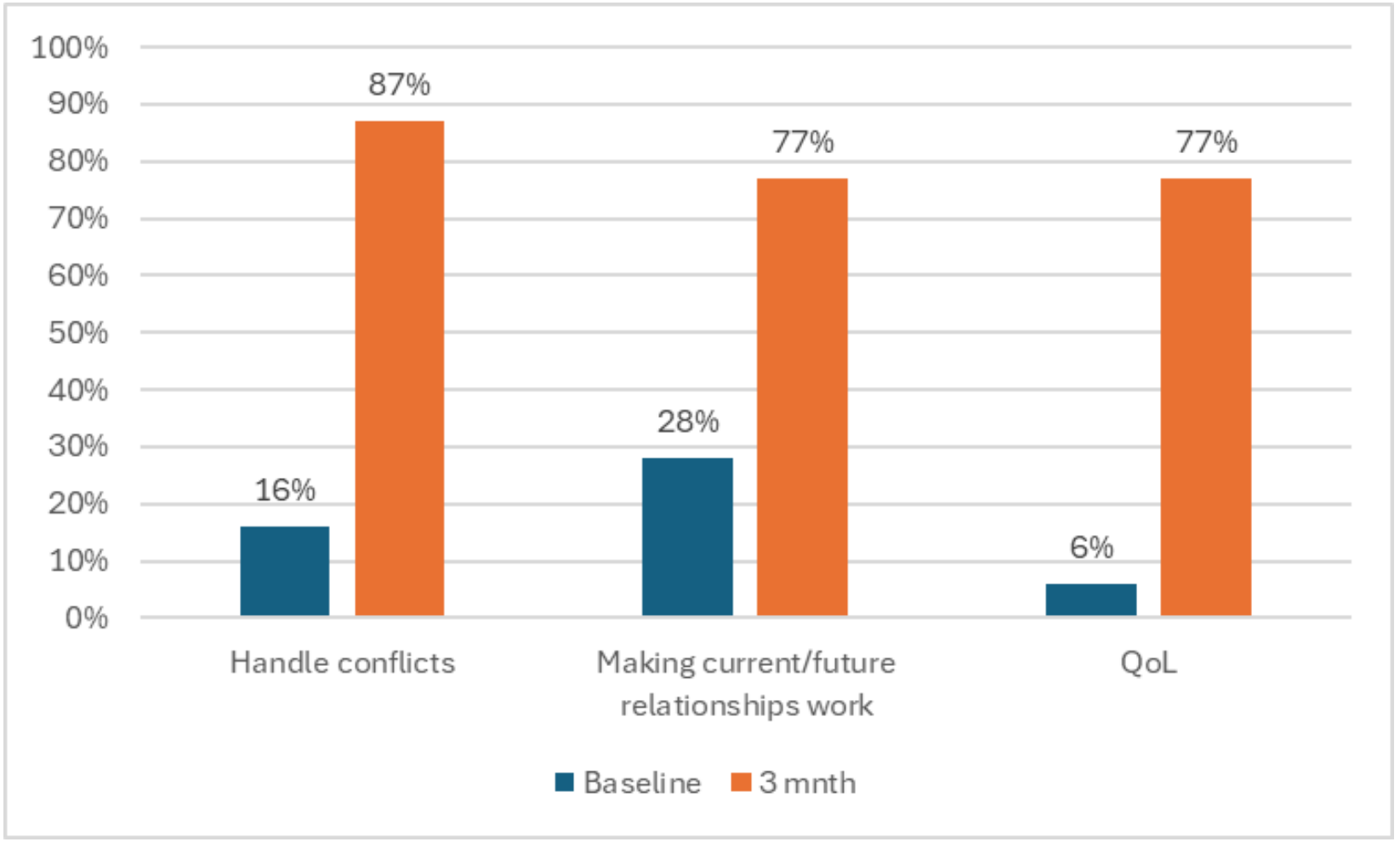
Risk of Alcohol Use Severity reduced from **Moderate** to **Low**

$F = 11.92$ | $p = .002$

Substance Use Severity reduced from **High Severity** to **Moderate Severity**

$F = 18.44$ | $p < .001$

Relationship & QoL – Baseline to 3 Months post



p < .001

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Participant Comments (from our Pilot Study with N=75)

Developed a better understanding of my relationship

- *"I learnt different things because it was actually about my past relationship. We don't really look at that here ... we'll work on friendships and living in the community together."*
- *"…avoidance was a big part on both sides… we avoided talking about our feelings, avoided getting into arguments, so when we did argue, it was the same response on both sides, and we would get heightened and we'd huff away, and never come back and actually talk about what was going on"*

Seeing the other person's perspective

- *"Seeing from the other person's perspective, especially in the video case studies – a few of those I actually saw myself and my ex in that scenario and it was so close to exactly how it played out that it was quite scary at times. Rather than me always thinking that she was just neurotic and argumentative, I can now see a lot of the other side of the coin"*

Greater awareness of what to look for in future partners

- *"Setting expectations from the beginning, so being clear about what I want and being clear about what the other person wants in the relationship. And also not letting things slide"*

Participant Comments (continued)

Learned new ways to manage conflict during an argument

- *"I could see how the fact that I reacted a certain way just antagonized the situation, and how I can do things differently, how I can change my reactions and the way I deal with things, is going to impact a massive amount on the way the situation flows"*
- *"Just listening and then saying what we heard from that person so that they know that I've got a good understanding of what they've spoken about, so they don't feel unheard and like I'm just… jumping in and just saying what I want to say"*

Learned new ways to recover after conflict

- *"…everybody's different with their speed of recovery. That's something I never noticed in the past and I think if I'd have known that, it would've saved me a lot of grief"*

Emotionally challenging and traumatic to reflect on difficult and conflictual past relationships

- *"The hard thing was probably taking my mind back to that time, because it was quite traumatic for me"*

Conclusion

- High levels of feasibility, satisfaction and acceptability of the OR program in later stages of a residential AOD treatment program - with some caveats to note when FDV and trauma more recent
- Significant reductions in substance use and psychological distress, and improvements in quality of life – expected in AOD residential programs
- Significant increase in confidence in intimate relationship skills and hope for future relationships – more likely impacted by the OR program
- Unique mixed groups and real opportunities to build foundational intimate partner relationship skills, whilst still applying a FV lens and holding boundaries and accountability for aggression and safety behaviours.

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Enhancing Pharmacist Involvement – Medication Assisted Treatment of Opioid use Disorder – results of the EPIC-MATOD implementation trial

Ali Cheetham - MARC
Kirsty Morgan – Peninsula Health

Acknowledgment of Country

Acknowledgements & Disclosures

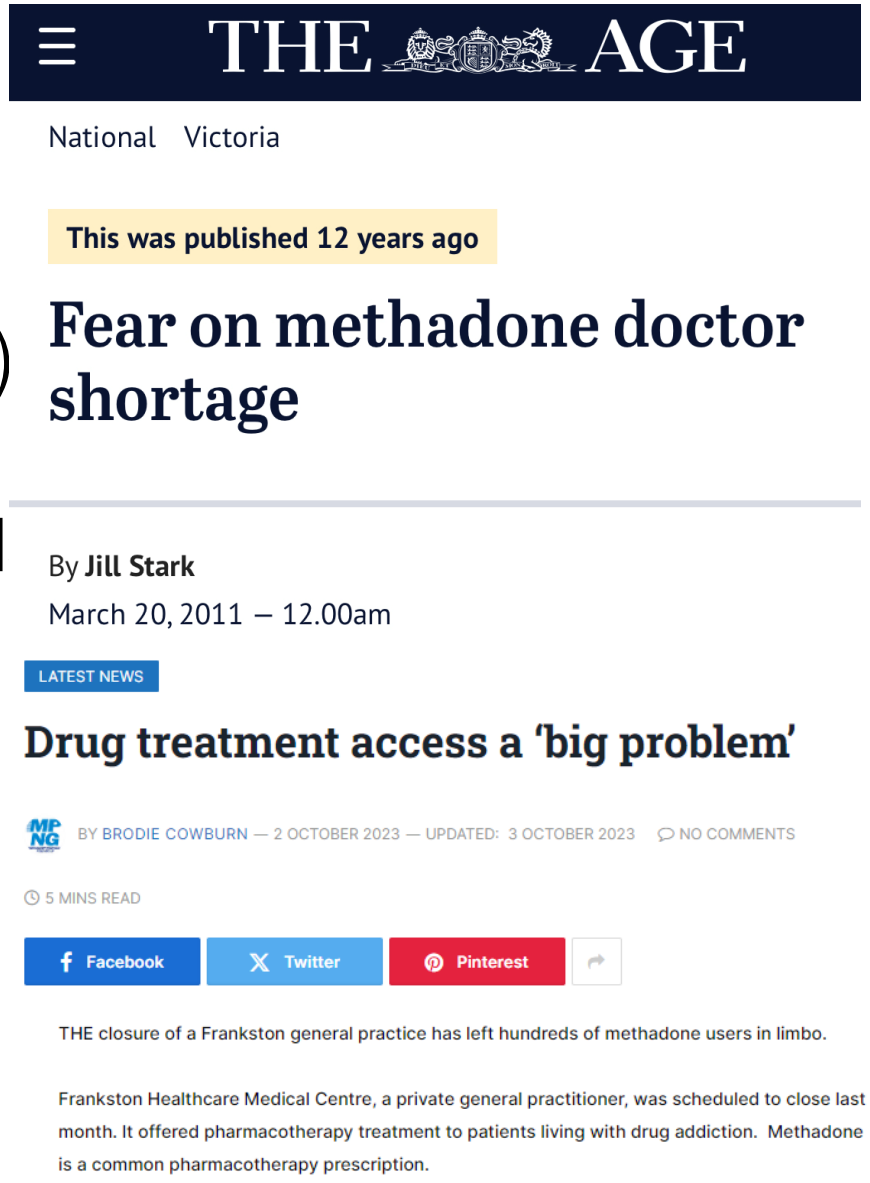
Acknowledgements: Suzanne Nielsen, Elizabeth Grist, Dennis Petrie, John Jackson, Sarah Lord, David Jacka, the EPIC-MATOD Steering Group and Clinical Reference Group

Funding: Alcohol and Drug Research Innovation Agenda (ADRIA) grant, a Victorian Government initiative. ADRIA is administered by the Victorian Alcohol and Drug Association (VAADA). SN was the recipient of an NHMRC Research Fellowship (#1169361).

Disclosures:

Background

- MATOD (including methadone & buprenorphine) the first-line treatment for opioid use disorder
- However, treatment demand in Australia exceed capacity (Ritter et al., 2019)
- In Victoria, only 1054 MATOD prescribers for 14,804 people in 2021
  - ↓ 386 prescribers in last 5 years



THE AGE

National Victoria

This was published 12 years ago

Fear on methadone doctor shortage

By **Jill Stark**

March 20, 2011 — 12.00am

LATEST NEWS

Drug treatment access a 'big problem'

BY BRODIE COWBURN — 2 OCTOBER 2023 — UPDATED: 3 OCTOBER 2023 NO COMMENTS

5 MINS READ

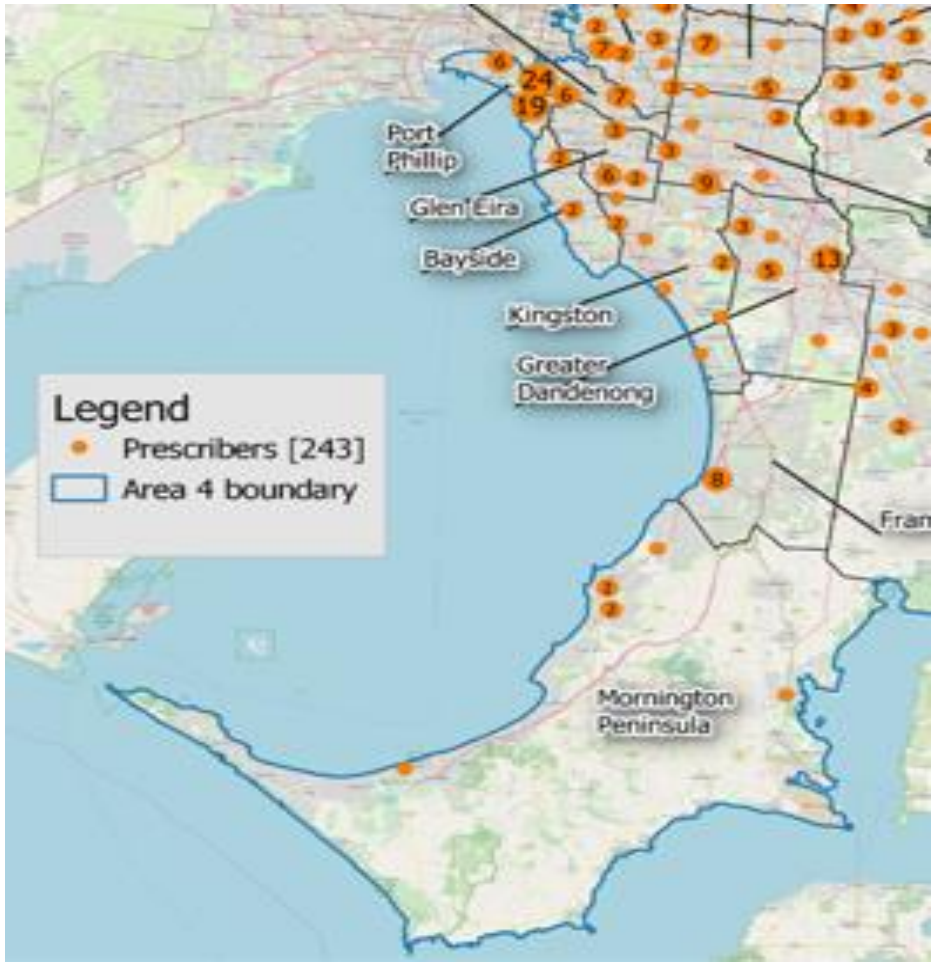
Facebook Twitter Pinterest

THE closure of a Frankston general practice has left hundreds of methadone users in limbo.

Frankston Healthcare Medical Centre, a private general practitioner, was scheduled to close last month. It offered pharmacotherapy treatment to patients living with drug addiction. Methadone is a common pharmacotherapy prescription.

Frankston& Mornington Peninsula

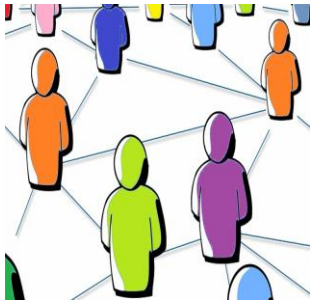
- High levels of opioid-related harm
- Some of the most disadvantaged suburbs in Australia
- Poor public transport (2 hrs to get to a prescriber)
- 10% of state's MATOD patients reside in FMP
- 2023: <2 EFT GPs in Frankston managing most MATOD patients (est. 1400 patient)
- Extensive efforts to ↑ prescribers have failed



Improving access to MATOD through community pharmacies

- 92% of MATOD supervised dosing in Victoria occurs in community pharmacies
- Opportunity to extend roles to use full scope of practice (Lagisetty et al 2017)
  - Pharmacist-prescriber collaborative care can improve treatment access/retention & reduce prescriber workload
  - Eight published models internationally since 2020 (Cheetham et al., 2024)

Overview of Collaborative Care Model



Co-designed Model **–** Project Steering group comprising peak doctor, pharmacists & MATOD consumers worked together to develop & design a collaborative model of care

Key features of Collaborative Care Model:

- Individualised treatment agreements
- Flexibility to delegate (or not delegate) specific tasks (dose adjustment, adjusting takeaway doses, and reinducing patients after missed doses), depending on patient needs and pharmacist relationship
- Standardised review process, validated tools, clear points for contacting the prescriber, structured reinduction protocol
- Extensively reviewed Clinical Practice Guidelines to support practice
- Training for pharmacist

Contents lists available at ScienceDirect

Research in Social and Administrative Pharmacy

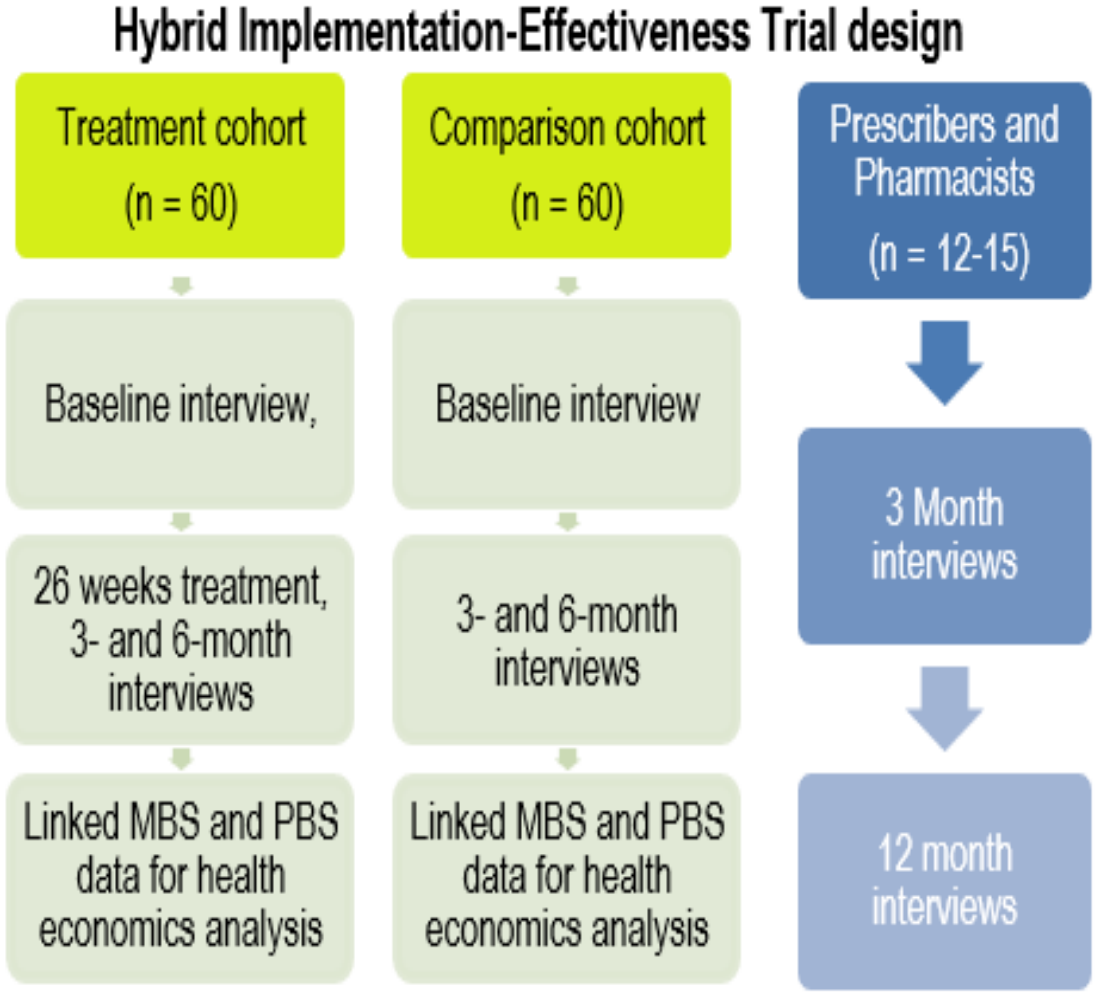
journal homepage: www.elsevier.com/locate/rsap

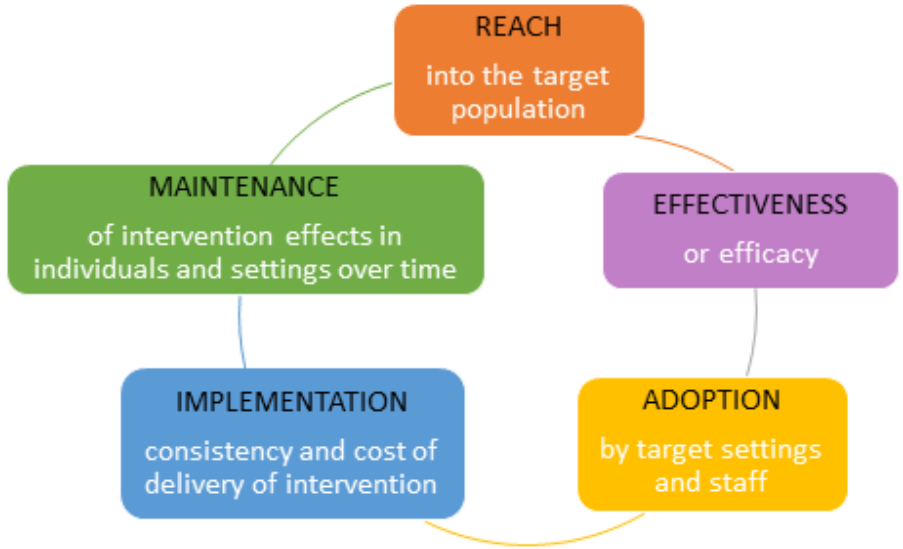
Informing a collaborative-care model for delivering medication assisted treatment for opioid dependence (MATOD): An analysis of pharmacist, prescriber and patient perceptions

Ali Cheetham [a,*], Kirsty Morgan [b], John Jackson [c], Sarah Lord [d], Suzanne Nielsen [a]

[a] Monash Addiction Research Centre, Eastern Health Clinical School, Monash University Peninsula Campus, Frankston, Victoria, Australia
[b] Frankston Mornington Peninsula Primary Care Partnership, Peninsula Health, Victoria, Australia
[c] Centre for Medicine Use and Safety (CMUS), Faculty of Pharmacy and Pharmaceutical Sciences, Monash University, Melbourne, Victoria, Australia
[d] Pharmacotherapy Mediation, Advocacy, and Support (PAMS), Harm Reduction Victoria, Australia

EPIC-MATOD Implementation study (ACTRN12621000871842)





RE-AIM Framework

Nielsen et al. (2022). A prospective, multisite implementation-efficacy trial of a collaborative prescriber-pharmacist model of care for Medication Assisted Treatment for Opioid Dependence: Protocol for the EPIC-MATOD study. *Research in Social and Administrative Pharmacy*, *18*(8), 3394-3401

Peninsula Health

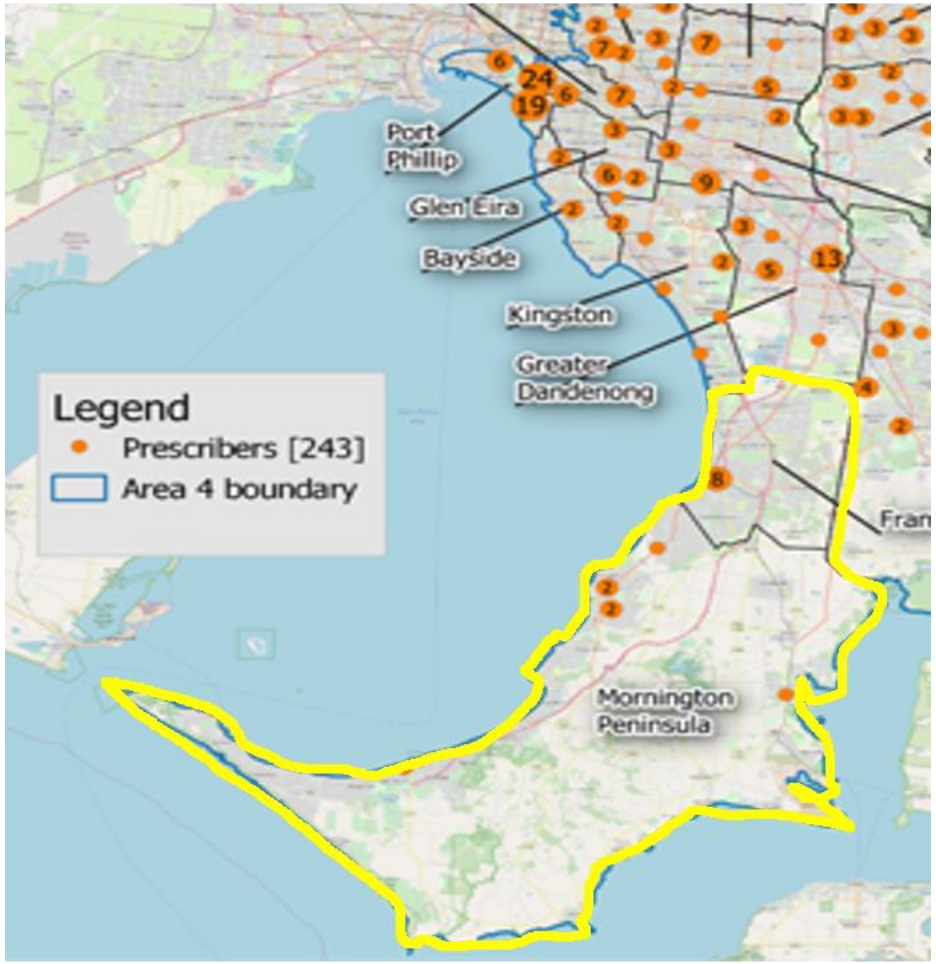
MONASH University

Outcomes (mapped to the RE-AIM framework)

Primary outcomes	• Treatment retention at 26 weeks • Prescriber time per patient as a measure of treatment capacity
Reach	• Number of pharmacists, prescribers, and patients recruited
Effectiveness	• 26-week retention; substance use, mental health, physical health, quality of life
Adoption	• Number, proportion, and geographical representativeness of pharmacists & prescribers; extent to which pharmacists & prescribers implement the model
Implementation	• Fidelity with protocol, time and costs to deliver model of care, treatment satisfaction and provider satisfaction, barriers to delivering the model of care
Maintenance	• Retention of pharmacists and prescribers in model of care

Recruitment

- March 2022 - October 2023
- Pharmacies in the FMP known to provide MATOD (n=30) contacted:
  - Agreed to participate: 9 (30.0%)
  - Interested but unable (time/staffing): 9 (30.0%)
  - Too few eligible patients (n=7), declined (n=3), unable to be contacted/not contacted at the request of the prescriber (n=2)
- Prescribers recruited from FMP: 1



Recruitment

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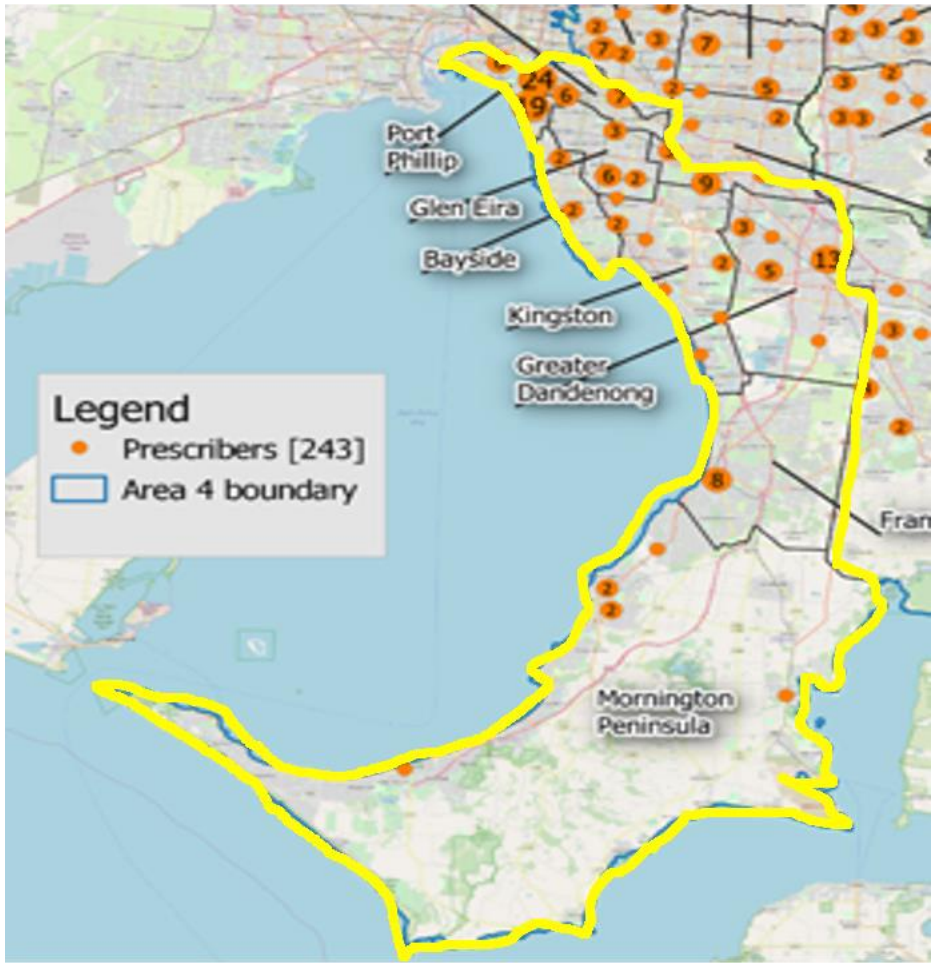
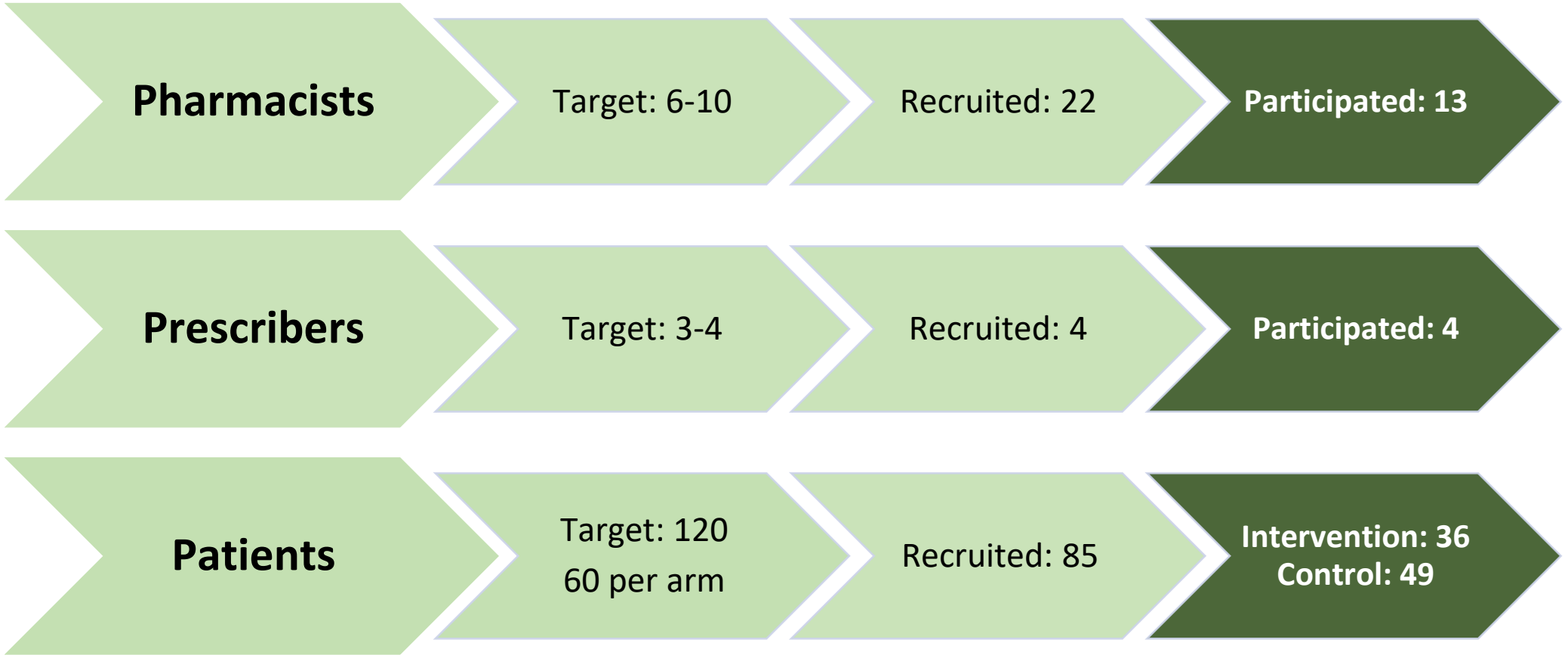
  - Agreed to participate: 9 (30.0%)
  - Interested but unable (time/staffing): 9 (30.0%)
  - Too few eligible patients (n=7), declined (n=3), unable to be contacted/not contacted at the request of the prescriber (n=2)
- Prescribers recruited from FMP: 1
- Prescribers recruited from Southeast Melb: 3
  - Additional pharmacists recruited at recommendation of prescriber in South East Melb: 11 (from 9 pharmacies)



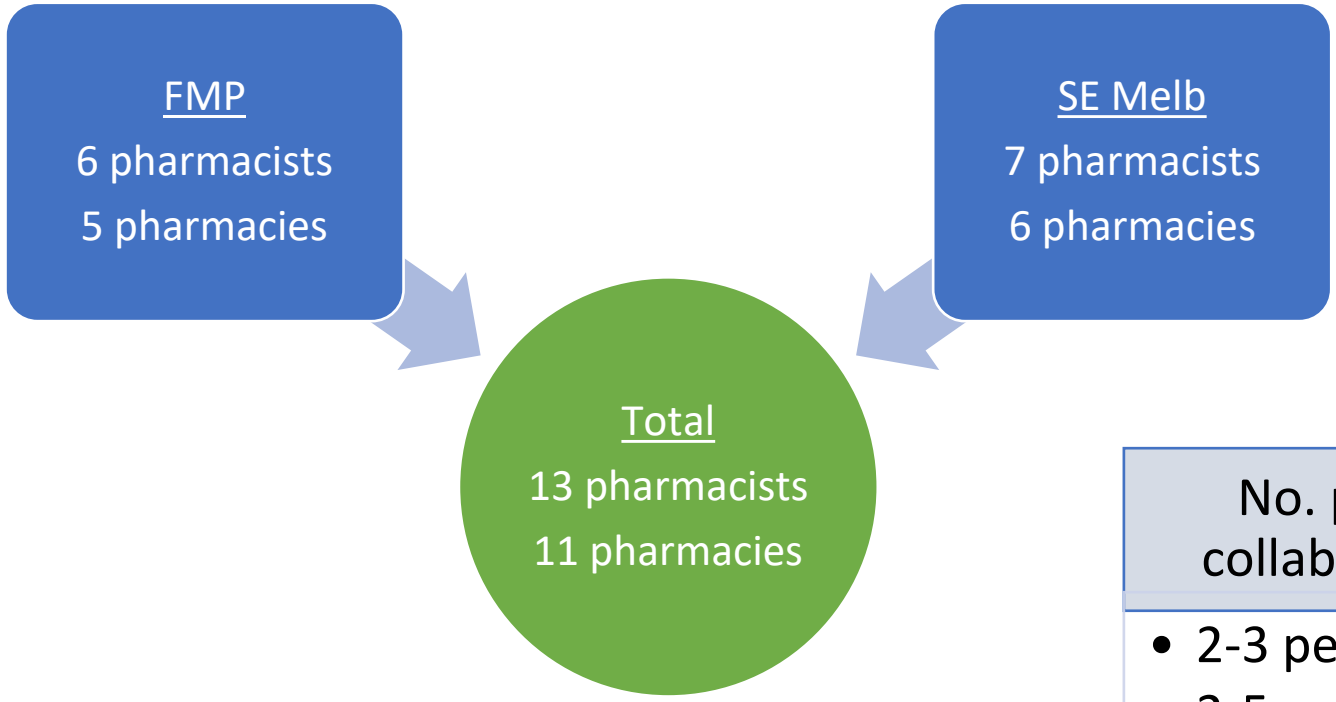
Reach

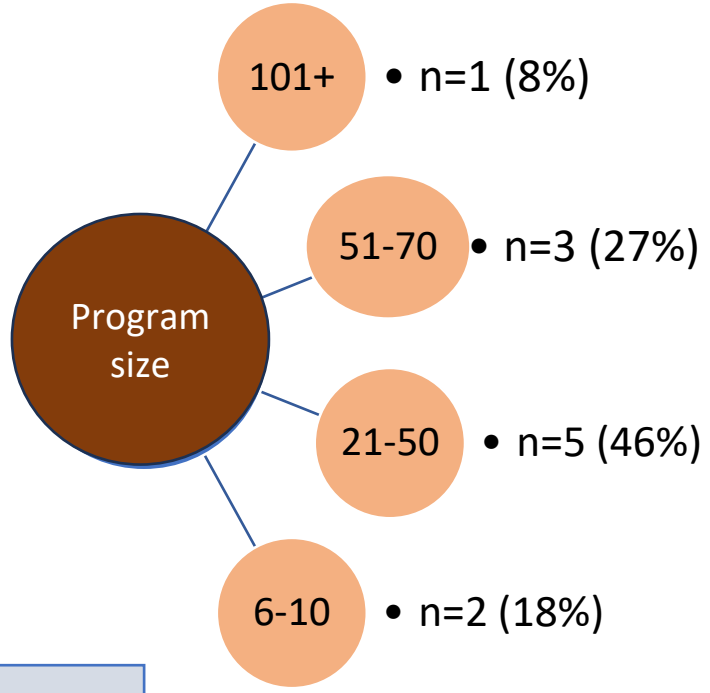
Number of pharmacists, prescribers, and patients recruited



Adoption

Number, proportion, and geographical representativeness of pharmacists & prescribers
Extent to which pharmacists & prescribers implement the model





No. patients receiving collaborative care (n=36)

- 2-3 per pharmacist
- 2-5 per pharmacy

Patient characteristics at baseline

Baseline	Collaborative care (n=36)	Control (n=49)	
Age in years (M, SD)	46.2 (9.5)	44.0 (10.2)	44.9 (9.9)
Gender (Male, %)	19 (52.8%)	32 (65.3%)	51 (60%)
Medication (n, %)			
Methadone	26 (72.2%)	38 (77.6%)	64 (75.3%)
Buprenorphine*	10 (27.8%)*	11 (22.4%)	21 (24.7%)
Years in treatment (M, SD)	14.4 (8.7)	14.4 (9.8)	14.4 (9.3)
Distance from prescriber (M, SD)	21.7 (15.3)	18.1 (16.1)	19.6 (15.8)
Distance (range)	2-50	1-65	1-65
Travel time minutes (M, SD)	40.1 (28.6)	35.0 (28.1)	37.1 (28.2)
Travel time (range)	5-120	5-120	5-120

*Includes sublingual and injectable formulations; 3 patients receiving LAIB

Effectiveness

Treatment retention at 26 weeks

Primary outcomes	Intervention	Control	Sig.
Retention at 26-weeks	35 (97.2%)	44 (89.8%)	ns
Attendance (no. missed doses)	12.1 (SD=20.7)	15.2 (SD=31.2)	ns

- Equivalent rate of treatment retention
- Equivalent attendance

Effectiveness

Substance use, mental health, physical health, quality of life

	Baseline		3-month follow-up		6-month follow-up		
ATOP* outcomes	**Intervention (n=36)**	**Control (n=49)**	**Intervention**	**Control**	**Intervention**	**Control**	**Group x Time interaction**
Heroin, mg	0.73 (0.54)	1.66 (0.47)	0.49 (0.57)	1.83 (0.49)	0.51 (0.57)	1.94 (0.51)	ns
Benzodiazepines, mg**	187.75 (110.61)	363.21 (95.06)	172.61 (112.14)	316.57 (96.35)	149.42 (112.37)	355.59 (97.39)	ns
Mental health	6.90 (0.36)	5.83 (0.29)	6.59 (0.30)	5.71 (0.30)	5.64 (0.31)	5.64 (0.31)	ns
Physical health	6.95 (0.31)	5.88 (0.27)	6.55 (0.33)	5.56 (0.28)	6.63 (0.33)	5.75 (0.29)	ns
Quality of life	7.17 (0.32)	6.10 (0.28)	6.88 (0.39)	5.87 (0.29)	6.71 (0.34)	5.64 (0.30)	ns

Analyses adjusted for age, gender, pharmacotherapy type, duration of treatment, and time of recruitment

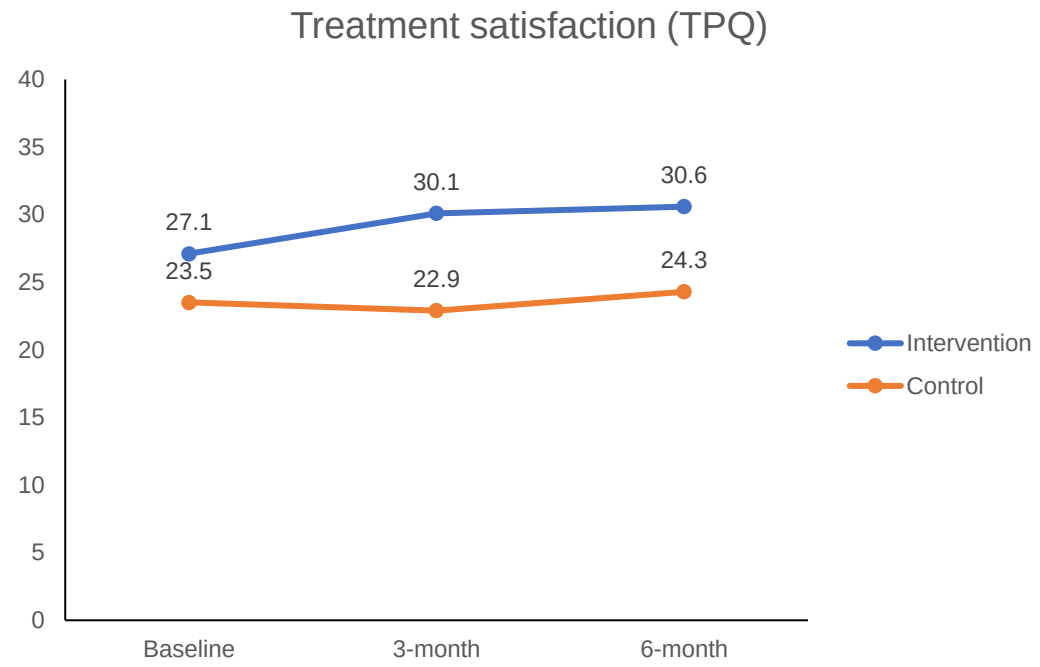
* Australian Treatment Outcomes Profile

**Diazepam equivalent

Treatment satisfaction

Treatment Perceptions Questionnaire (TPQ)

- Higher ratings of treatment satisfaction among collaborative care participants at 3 and 6 months



Provider satisfaction with model of care

- Pharmacist job satisfaction and professional development
- Prescriber reassurance

"There was an adjustment of the dose made by the pharmacy which was great because I'm pretty much booked out. Anything that takes the pressure from me is very acceptable"
[Prescriber #2]

"I'm able to know more about [patients'] other conditions and I'm able to help them…it's more than just doing pharmacotherapy"
[Pharmacist #10]

"Having that extra training … I found that really beneficial from my point of view as a care provider"
[Pharmacist #3a]

Quality of care

- Greater accessibility of pharmacist
- Benefits to patients reducing their dose
- Prompt identification of other health problems

"He was reducing at home…I was like, look, we can do it in a safer environment. And he's actually so appreciative and really happy that he's doing it well. Because he can see his progress... having structure and the ability to talk to us every week to see how he's going has been really helpful"
[Pharmacist #10]

""We see them a lot more than their doctors, so we have a more established relationship…[it] makes sense for the pharmacist to be more involved in their care. [You] see them so regularly. You can often pick up cues with how they're going"
[Pharmacist #5]

"The pharmacy has brought awareness to the fact that one of my patients was having some problems with their diabetes."
[Prescriber #4]

Patient perspectives

- Convenience & flexibility
- Improved outcomes
- Benefits of established relationship with pharmacist

"I'm in a much better place now than when I first started [in the trial]. Not only with my methadone, but also with my overall health and well-being"
[Patient #08]

"It's thirty minutes at high speed [to my prescriber], it's an 80K road, so it's not just time, it's mental state and arranging your calendar… [collaborative care] took a lot of pressure off
[Patient #30]

"It was easy for [pharmacist] to put me back on the program. [Seeing my prescriber] would have taken months…I probably would have smacked some heroin. It was a blessing"
[Patient #70, after pharmacist reinduction]

Barriers

- Pharmacist workload / limited capacity
- Lack of communication software
- Recruitment limited to patients of participating prescribers

"If there were other prescribers, then I might be able to increase [the number of patients receiving collaborative care]"
[Pharmacist #8b]

"We're coming to flu season…we only have 1-2 pharmacists. There's so much more we can do, but we get overwhelmed by the workload"
[Pharmacist 9a]

"If there was some way of automating communication with clinics…with pharmacies being very busy, if you don't [send the review] at the time, you often forget."
[Pharmacist #08a]

Implementation and maintenance

- Pharmacists need time to gain experience and build confidence
- Pharmacist remuneration essential
- Multiple pharmacists per pharmacy supported continuity of care

""These days, it tends to be there's so much more admin work behind the scenes. There's a lot of stuff that [pharmacists] have to do which we don't get reimbursed for…it takes our time, but we're not really paid for it."
[Pharmacist #05]

"Having to make certain decisions…feels quite high risk. So I suppose there's a lack of confidence in the decisions I made and the risks that come along with that"
[Pharmacist #1]

"[Having another pharmacist trained] would be good, nearly everybody comes in on my day off"
[Pharmacist #9]

Still to come…

- MBS/PBS data
- Health economics assessment
- Prescriber time as a measure of treatment capacity

Next steps

Extension/translation phase

- Updated protocols and CPG
- Training re-accreditation
- Pharmacist from A4PN continuing recruitment and providing ongoing support & oversight of clinical reviews
- Need for broader systems reform

PENINSULA HEALTH-MARC PARTNERSHIP

MATOD CHALLENGES & PRESSURES

TO SOLVE CHALLENGES WE NEED DH-SERVICE PROVIDER-CONSUMER-RESEARCH PARTNERSHIPS

BENEFITS:

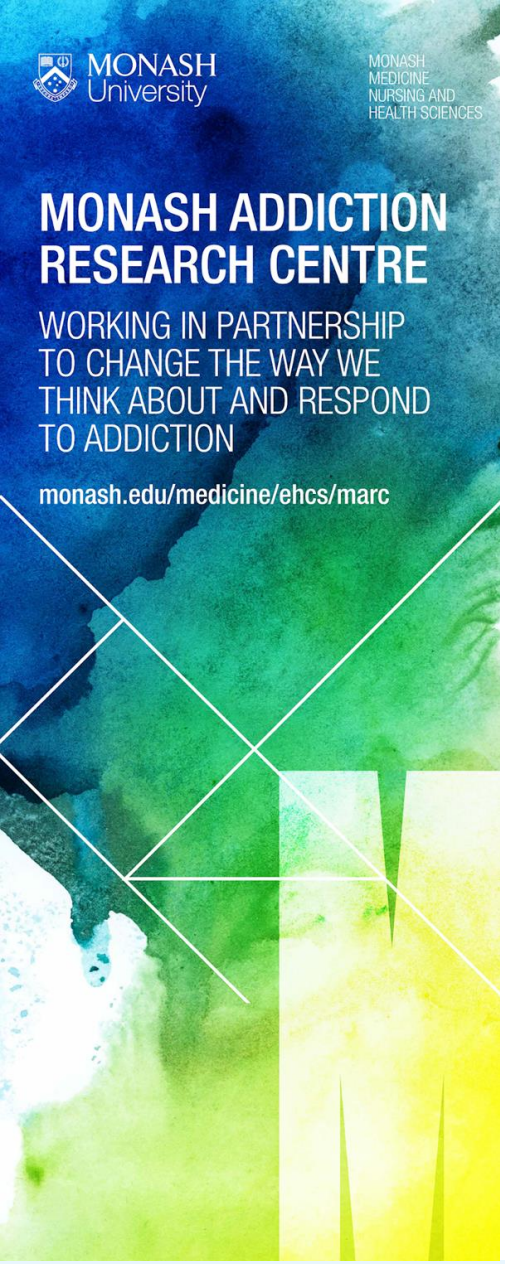
- Build research skills
- Harness research skills to respond to the concerns of consumers & the sector
- Innovate service designs
- Develop models that improve consumer experience
- Strengthen cross-sector & interdisciplinary collaboration

Published papers

Nielsen, S., Cheetham, A., Jackson, J., Lord, S., Petrie, D., Jacka, D., ... & Morgan, K. (2022). A prospective, multisite implementation-efficacy trial of a collaborative prescriber-pharmacist model of care for Medication Assisted Treatment for Opioid Dependence: Protocol for the EPIC-MATOD study. *Research in Social and Administrative Pharmacy*, *18*(8), 3394-3401.

Grist, E., Cheetham, A., Jackson, J., Wood, P., Lord, S., Pricolo, A., ... & Nielsen, S. (2024). Clinical effectiveness of pharmacist administration of long-acting injectable buprenorphine: Findings from the EPIC-MATOD study. *Drug and alcohol review*

Cheetham, A., Morgan, K., Jackson, J., Lord, S., & Nielsen, S. (2023). Informing a collaborative-care model for delivering medication assisted treatment for opioid dependence (MATOD): An analysis of pharmacist, prescriber and patient perceptions. *Research in Social and Administrative Pharmacy*, *19*(3), 526-534



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- Ali Cheetham
- Elizabeth Grist
- Dennis Petrie
- John Jackson
- Sarah Lord
- David Jacka
- The EPIC-MATOD Steering Group & Clinical Reference Group

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- Monash Addiction Research Centre (MARC)
- Peninsula Health
- Pharmaceutical Society of Australia
- Royal Australian College of General Practitioners
- Harm Reduction Victoria
- Pharmacy Guild
- Australian Medical Association
- Area 4 Pharmacotherapy Network
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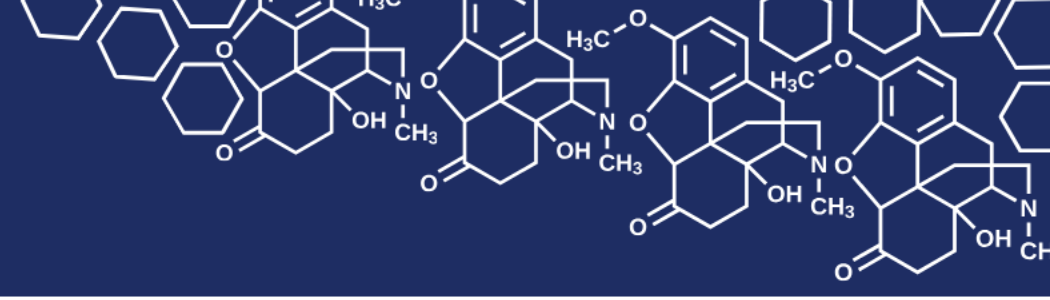
Peninsula Health

MONASH University



Clinical Excellence | Breakout Session 2

Illicit drug dependence, abuse and treatment relating to GHB, novel opioids, ketamine and nitrous oxide

Dr David Jacka | Monash Health

Emerging trends in Australia's unregulated drug market.
GHB, Opioids and others.

Dr David Jacka, Addiction Medicine Specialist, Drug and Alcohol Service

26/04/2024

Monash Health

Overview presentation

- GHB, Opioids, Ketamine and Nitrous Oxide
- Formulations, clinical pharmacology, safety & efficacy, clinical issues
- Clinical Guidance for treatment and training programs?
- Implications for General Practice and Emergency Departments

“GHB”: ‘G’, ‘1,4’, fantasy, (GBH), juice, liquid E, liquid X, soap, scoop, fishies.

GHB is an endogenous ‘neurotransmitter’ synthesized from glutamate with a high affinity for GHB-receptors, present on both on pre- and postsynaptic neurons, thereby inhibiting GABA release. In overdose, GHB acts both directly as a partial GABAb receptor agonist and indirectly through its metabolism to form GABA.

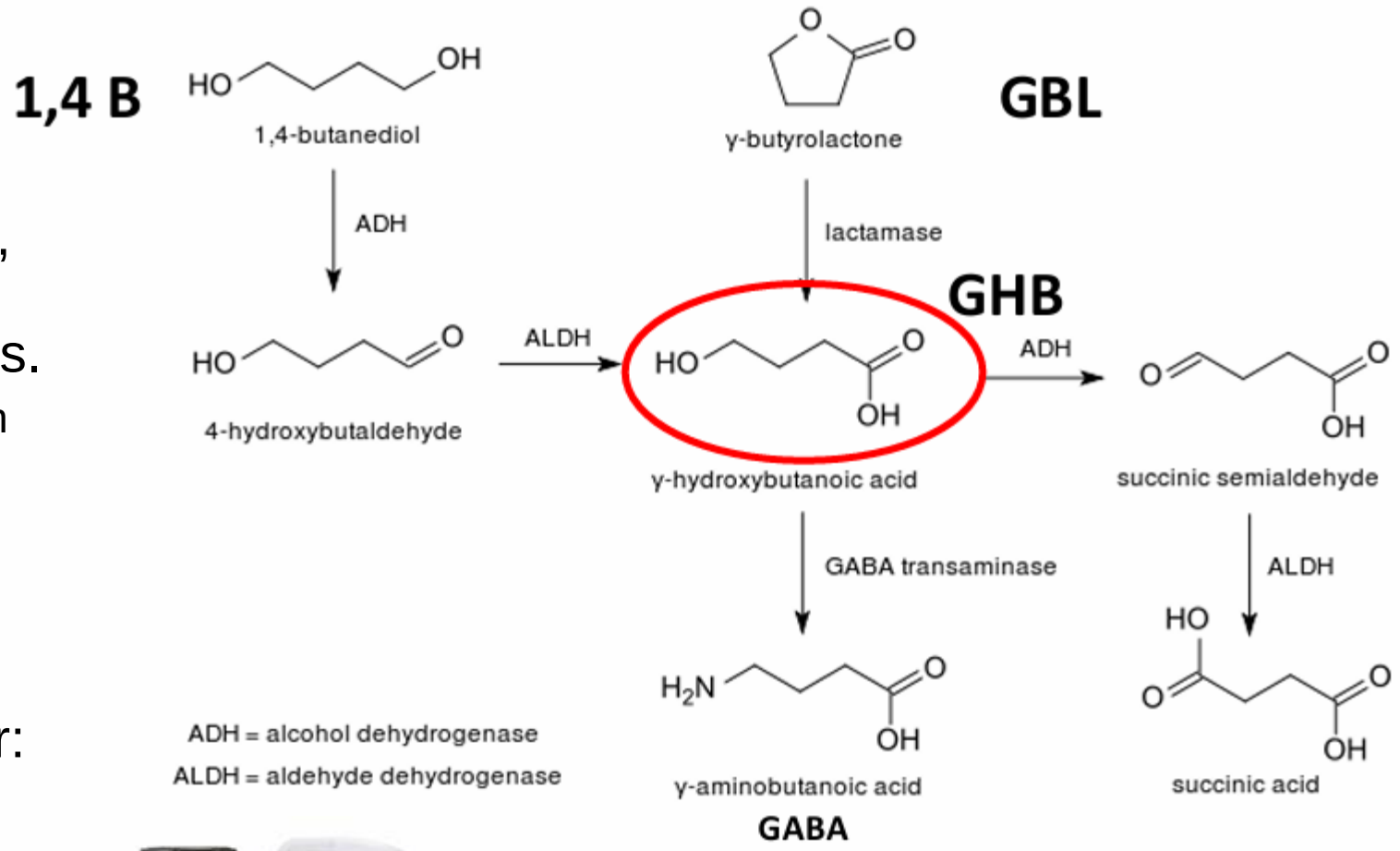
GBL (gamma butyrolactone) and 1,4-BD (1,4-butanediol) are converted to GHB

- GHB/GBL/1,4 BD usually come as colourless, odourless, bitter or salty liquids, often sold in small bottles or vials. (ADF)
- Approximately 1% of Australians have ever used ‘GHB’, and 0.1% report having used it in the past year.
- In Australia, GHB is commonly used within the dance and party scene, and by men who have sex with men (MSM). GHB may be used before or during sex to increase sexual pleasure (‘chemsex’) in combination with nitrates (poppers), Viagra, alcohol and stimulants; because of its relaxing, sexually-stimulating and euphoric effects at low doses. (AJGP)


Image: ADF

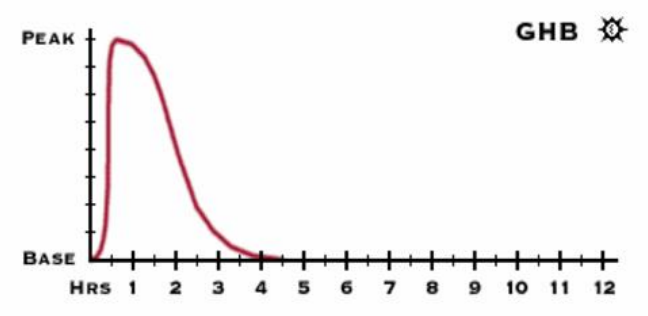
Metabolism

- 1,4 Butanediol: most common, industrial solvent, cleaning product, various industrial uses.
  - Slower onset, longer duration than GHB-two-step conversion
- GBL: less common, industrial solvent, cleaning product.
  - more potent, shorter duration
- Clinical effects are very similar:
  - euphoria and disinhibition, cardiorespiratory depression
- Neurotransmitter or neuro-modulator in the GABA-ergic system, especially via binding to the GABA-B receptor subtype

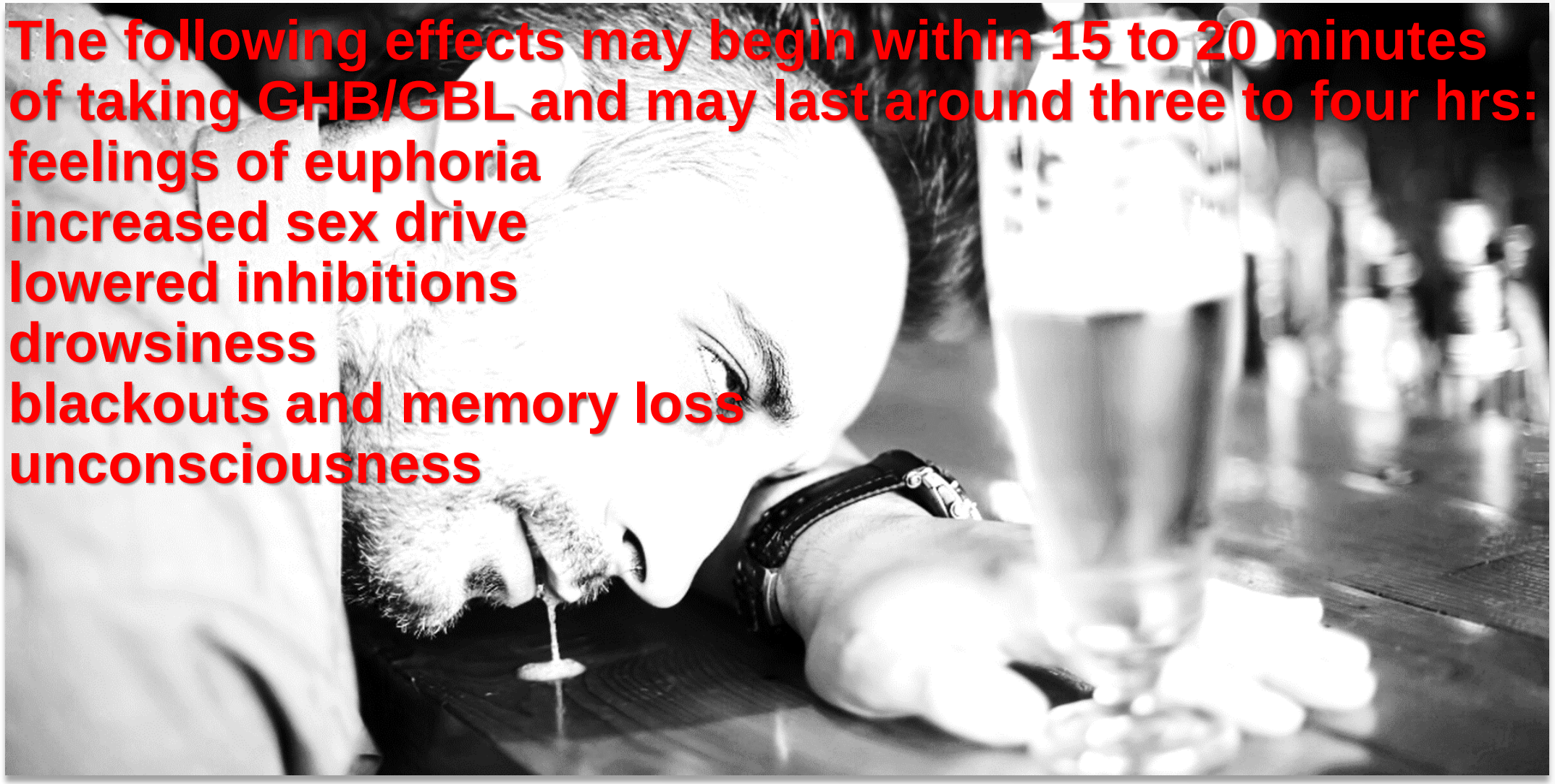


ChemNet China listed the price of butane-1,4-diol at between about US$1,350–2,800 per metric ton 2010

Pharmacokinetics



- GHB (GBL/1,4BD) is rapidly absorbed by the oral (or rectal) route with peak blood concentrations typically occurring within 1 hour.
- It has a relatively small volume of distribution and is rapidly distributed across the blood–brain barrier.
- GHB is metabolized primarily in the liver and is eliminated rapidly with a reported 20–60 minute half-life.
- The majority of a dose is eliminated completely within 4–8 hours.
- The related chemicals, 1,4-butanediol and gamma butyrolactone, are metabolized endogenously to GHB.
- Multi-dosing has a cumulative CNS effect.
- GHB is an endogenous substance and low concentrations are present in blood and urine from healthy individuals never exposed to GHB or its congeners.


The following effects may begin within 15 to 20 minutes of taking GHB/GBL and may last around three to four hrs:
feelings of euphoria
increased sex drive
lowered inhibitions
drowsiness
blackouts and memory loss
unconsciousness

Clinical picture

- Relaxation, disinhibition, feelings of inebriation, ataxia, disorientation, dizziness, euphoria, confusion, hallucinations, somnolence, slurred speech, nausea, miosis, hypothermia.
- In Australia large majority of regular users reported experiencing adverse effects (99%) at least once, with 52% becoming unconscious, 53% vomiting, 58% reporting profound sweating, and 8% said they had a fit or seizure.
- After recreational initial use of the drug, it is not uncommon for users to take an additional dose as the effect of the first dose begins to wane.
- They may then suddenly become incapacitated with reduced levels of consciousness (‘blow-out’), often requiring emergency hospital treatment.
- However, there are no effective antidotes that can reverse the sedative effects of a GHB overdose (however emerging NSAID treatment).
- The treatment is then essentially supportive because rapid recovery is the norm as the drug is metabolized and blood concentrations decrease.
- Intubation and respiratory support is less common – recovery position is often adequate – usually self-discharge from Resus or ICU.

GHB Dependence & withdrawal

- Dependence:
  - Escalating doses, every day use, frequency of dosing (2-3hrly or more) and nocturnal dosing
  - Usually > 50mls/day
- Withdrawal Syndrome:
  - Mild
    - Anxiety, agitation, sweating, restlessness, insomnia, mild hypertension
  - Moderate
    - + Tremour, tachycardia, nausea, vomiting, abdominal cramps, diarrhoea
  - Severe
    - + Hallucinations, delusions and paranoia, delirium, rhabdomyolysis and seizures.
- Treatment
  - Diazepam according to AWS, + baclofen 25mg TDS, + quetiapine IR 25-50mg TDS
  - Agitated patient protocol

- ? Maintenance relapse prevention with baclofen?

Polydrug use

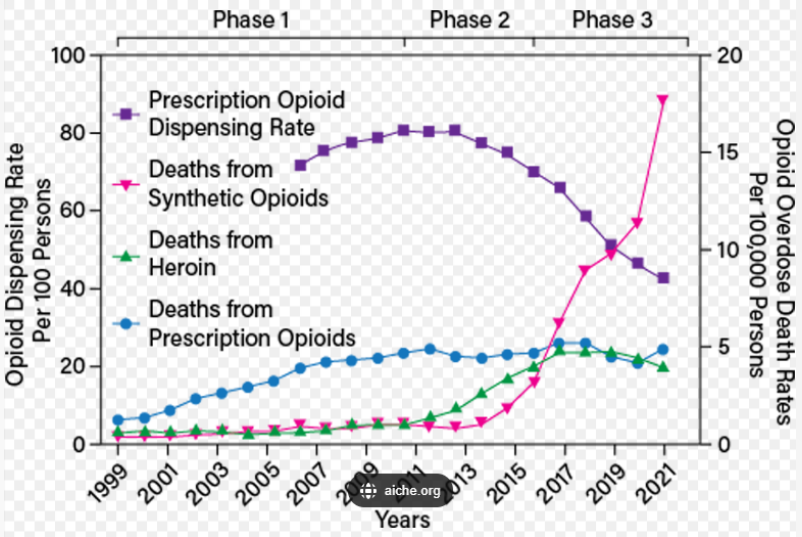
Mixing GHB/GBL with other drugs can have unpredictable effects and increase the risk of harm:

- GHB/GBL and MDMA/methamphetamine: risk of heart strain and respiratory arrest.
- GHB/GBL and nitrous oxide (nangs): can cause impaired coordination, memory loss, passing out.
- GHB/GBL and opioids/ketamine/benzodiazepines: can cause difficulty breathing, passing out, and possible death.
- Using GHB/GBL to help with the symptoms of the come down after using stimulants can lead to a dependence on both drugs.

Opioids

- HEROIN IS BACK (“best I've had since before COVID”)
- Plus the synthetics – Fentanyl and Nitazenes*
  - Excessively potent opioids – “elephant tranquilizers”
  - Everything you know about opioid dependence, overdose and treatment still applies
    - (but doses may need to be higher)
  - Our one overdose (in ICU after contaminated ketamine)
    - Protonitazene – he took days to wake up. His mate died.
    - Seems everything is possible to spike with these agents
  - Canada and USA also seeing solely fentanyl injectors
    - Advising double dose Nyxoid – four sprays. Carry four packs
    - Speed-balling (fentanyl and methamphetamines)
  - Nizatadenes too potent for medical use.
- In Australia, nitazenes have appeared in falsified pharmaceutical products (packaged to look like pharmaceutical pain medicines) and as contaminants in drugs such as heroin, methamphetamine, MDMA and ketamine. (The Conversation)
- We await developments

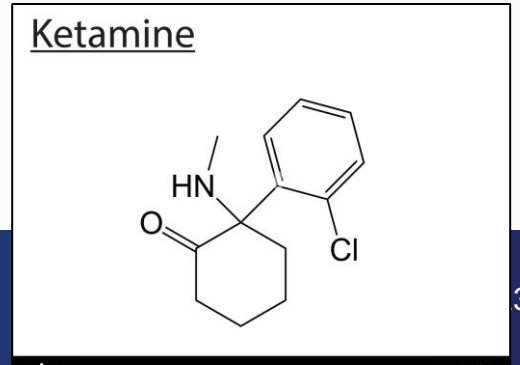
**Protonitazene, Metonitazene*



Qld DRUG WARNING: Fake Xanax containing a strong opioid

Ketamine

- K, vitamin K, special K, cat tranquilizer, jet
- Ketamine is a dissociative anesthetic used medically for induction and maintenance of anesthesia. It is also used as a treatment for depression and pain management.
- It is a novel compound that was derived from phencyclidine (phenylcyclohexyl piperidine (PCP)) in 1962 in pursuit of a safer anesthetic with fewer hallucinogenic effects. Snorted, swallowed or injected.
- Recreational and supratherapeutic abuse:
  - *The number of people who recently used ketamine doubled between 2016 and 2019 – from 0.4% to 0.9% of the population. People aged in their 20s are the group most likely to be using ketamine.*
  - *During the COVID-19 lockdowns in 2020-21, ketamine use by people who regularly use drugs rose by 21%.(ADF)*
- Doses <300mg/day appear safe, > 400mg/day have risk of longer term toxicity.
- Recreational or dependent doses >1000mg/day
  - Risk of cystitis, cholangitis,
  - Combination overdose



Acute ketamine intoxication

Produces euphoric and dissociative effects, which users have described as “out of body experiences” and feeling as if they’re “melting into their surroundings”.

Ketamine is a noncompetitive N-methyl-D-aspartate (NMDA) (glutamate) receptor antagonist

Physical effects of ketamine use can include:

- Sedation, Dizziness, Clumsiness or poor muscle control (i.e., ataxia).
- Slurred speech or difficulty speaking (i.e., dysarthria).
- Loss of consciousness, Unresponsiveness to stimuli, Dangerously slow breathing.
- Cardiovascular issues (e.g., high blood pressure, elevated heart rate, palpitations, irregular heart rhythm, chest pain).
- Nausea, vomiting.
- Lower urinary tract issues.
- Muscle stiffening.

Mental effects of ketamine use include:

- Diminished attention, Memory loss.
- Hallucinations, dreamlike states, Confusion, disorientation.
- Paranoia.
- Unease, anxiety.
- Induces psychotic symptoms and cognitive dysfunction resembling those observed in schizophrenia.

While people are under the influence of ketamine and other dissociative drugs, they may be less aware of their surroundings and potential hazards. As such, this may put them at risk for physical danger and sexual assault.

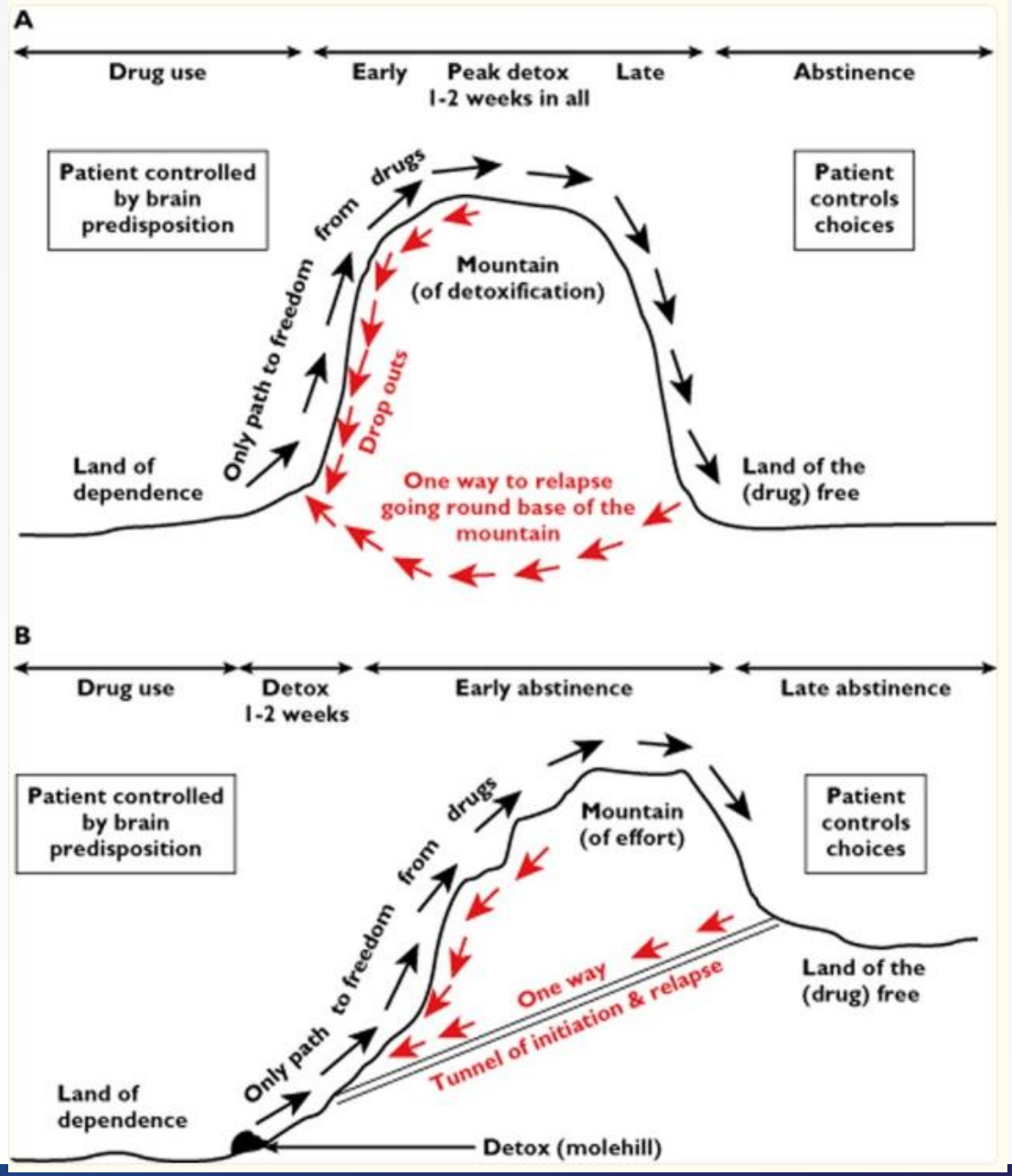
Drug Enforcement AgencyFact Sheet

Ketamine Dependence

- “Assessing craving or measuring the desire to use ketamine, is essential in clinical practice for individuals with ketamine use disorder” - characteristic
- No treatments available for relapse prevention
- Repeated ketamine exposure induces persistent spatial working memory impairments that are evident for a prolonged period after acute drug withdrawal (medial prefrontal cortex (PFC)).
- Chronic administration of both sub-anesthetic, analgesic and high doses of ketamine, induce impairments in spatial learning, memory, and sustained attention. It is thus difficult to appreciate and learn from the drug toxicity.
- Structural MRI studies that evaluated gray matter and white matter volumes, and cortical thickness in chronic ketamine users found widespread reductions in prefrontal, parietal, temporal, left isthmus cingulate cortex, fusiform cortex, and lateral occipital cortices.
- Incomplete recovery of all markers with abstinence.

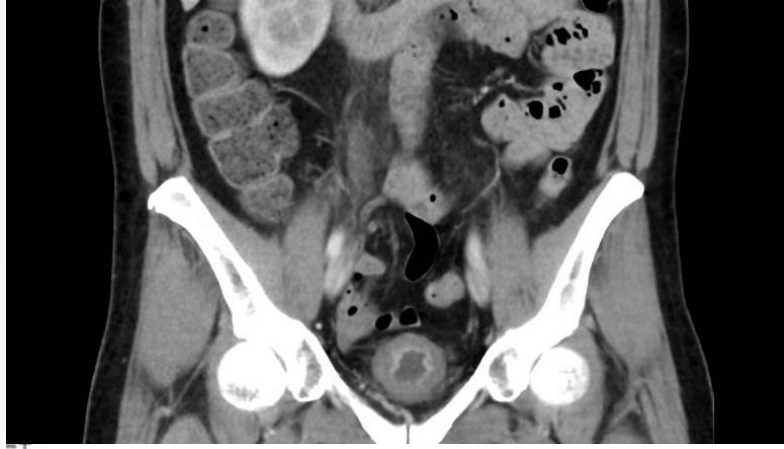
Ketamine treatment

- Avoidance of context and drug supply
- Treatment of co-morbid mental illness
- Treatment of ketamine tissue toxicity
- Psychosocial structural supports
  - Work
  - Peer groups
  - Family
  - Therapy
  - Recreation
- Preparation for relapse early intervention



Case Study 2023

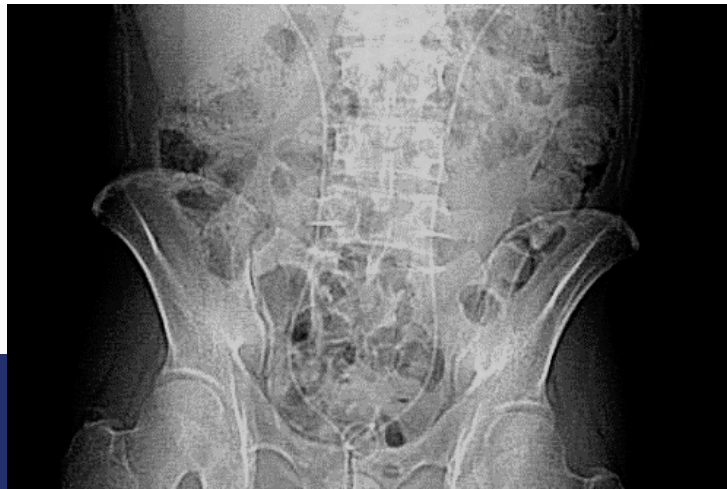
- 38 yr old plasterer / ‘student’ from SE Asia living in Melb 15 yrs
- Using powdered ketamine 1-3 gm/day for a number of years.
  - every few hours. Snorted.
  - presented with fever and abdominal pain – very unwell / septic
  - recently returned from SE Asia after having surgery for implantation bilateral ureteric stents
- Diagnosed multidrug resistant UTI (E. faecalis / MDR E. coli)
  - Stents requiring changes every month
  - Extremely thickened bladder wall
  - Abnormal LFTs and haematuria +++
- Treated with combination antibiotics
- Recurrent return from cigarette break, sedated, with powdered nostrils
  - Denied drug use to all but AMU, UDS neg except BZD.
  - Changed stents then self-discharged
- Returned to live with parents in SE Asia to get away from the ‘K’ supply



SERUM/PLASMA BIOCHEMISTRY

		Ref.Range	
Sodium :	141 mmol/L	(135-145)	
Potassium :	4.6 mmol/L	(3.5-5.2)	
Chloride :	99 mmol/L	(95-110)	
Bicarbonate :	29 mmol/L	(22-32)	
Urea :	5.3 mmol/L	(2.3-7.6)	
Est.GFR(mL/min) :	> 90 per 1.73sqm	(> 60)	
Creatinine :	51 umol/L	(40-90)	
Total Bilirubin :	9 umol/L	(< 20)	
Ala. Aminotransferase (ALT) :	258 U/L	(< 30)	***
Asp. Aminotransferase (AST) :	178 U/L	(< 30)	***
Alkaline Phosphatase (ALP) :	570 U/L	(30-110)	***
Gamma Glutamyl Trans. (GGT) :	1756 U/L	(< 35)	***
Total Protein :	69 g/L	(60-80)	
Albumin :	38 g/L	(36-49)	
Globulin :	31 g/L	(22-40)	

Requested Tests : QRY*, CRP, MBI, FBE, ESU

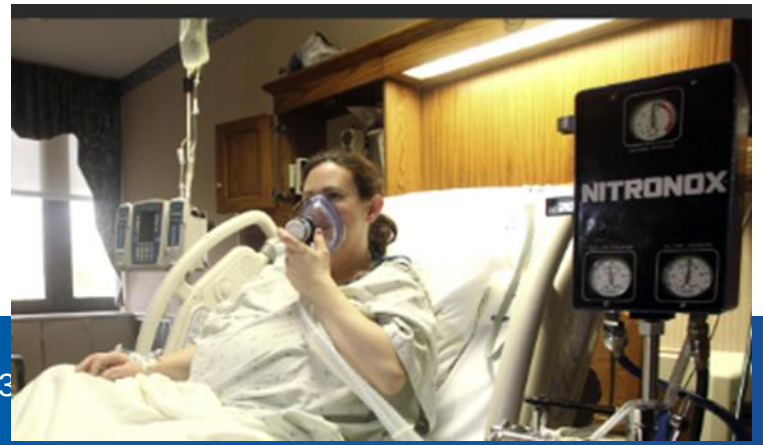


Nitrous Oxide inhalation

Nitrous oxide is a colourless, odourless gas that has been used in medicine for more than 150 years for its anaesthetic and analgesic properties.

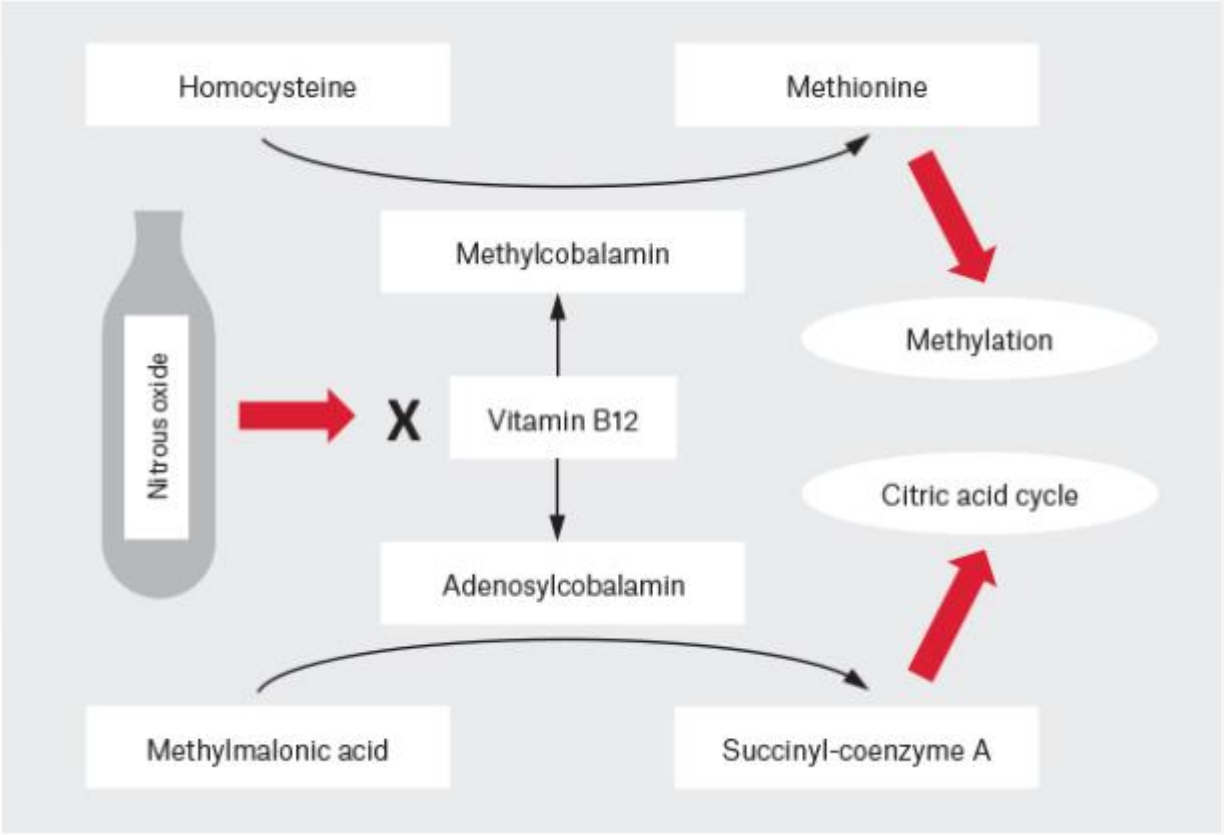
Its first recorded use as a recreational drug was in early 19th century Britain at 'laughing gas parties', where it was used to provide short-lived euphoria to the bored upper class.

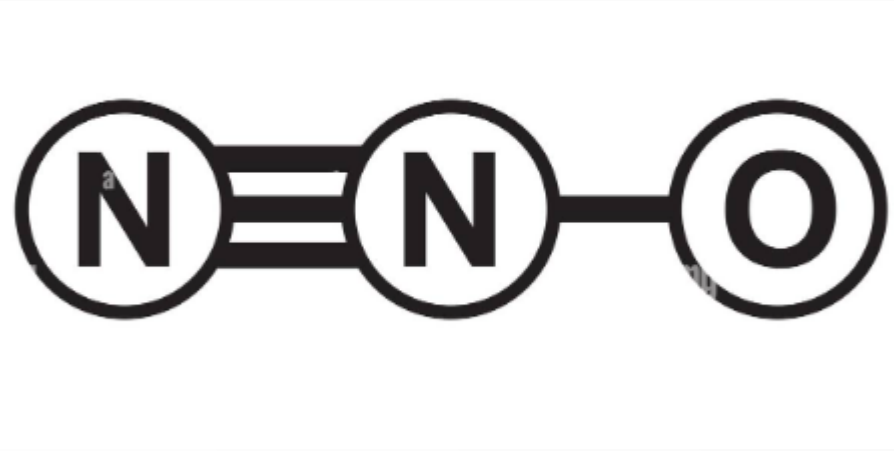
- It is now the second most used drug by 16-24 year olds in the UK, with more than half a million young people reporting taking the drug in 2019-20.
- It moderately blocks NMDAR and β2-subunit-containing nACh channels, weakly inhibits AMPA, kainate, GABAC and 5-HT3 receptors, and slightly potentiates GABAA and glycine receptors
- A recent resurgence of its abuse among Australian youth has led to marked neurological morbidity.



Toxicity

- Nitrous oxide causes oxidation of the cobalt ion in vitamin B_{12}, thereby rendering it inactive. This leads to functional vitamin B_{12} deficiency, even with normal stores.
- Features typical of chronic vitamin B_{12} deficiency may also be present such as glossitis and clinical features of anaemia.
- Psychiatric & Cognitive
  - Neuropsychiatric presentations including psychosis have also been reported. Sustained confusion, delirium and memory loss may take weeks to resolve.
- Neurologic
  - Without vitamin B_{12}, homocysteine cannot be converted to methionine, which prevents methylation of myelin proteins and leads to demyelination in the peripheral and central nervous systems.
  - The result is a combination of spasticity, sensory ataxia and weakness, peripheral neuropathy.
- Acute adverse events for which patients may also seek help include accidental injury, syncope and nausea.





Treatment

- Straightforward, if the history of high dose exposure to N_2O is revealed early on – in combination with neurological or cognitive symptoms.
- If severe neurological symptoms – “subacute combined degeneration” of the cord (posterior columns demyelinated) visible on MRI – “Inverted V”
  - Administer 1 mg vitamin B_{12} IM daily for 2 weeks, weekly for 4 weeks and monthly until maximal recovery(regardless of B_{12} level)
  - High doses of vitamin B_{12} via intra-muscular injection weekly leads to swifter resolution of toxicity and may improve recovery
  - Administer 1 g methionine oral TDS for 2 weeks
- Exclude the compounding effects of nitrous oxide abuse on pernicious anaemia, malabsorption, pancreatic insufficiency, malnutrition and various medications:
  - Cholestyramine, Clofibrate, Colchicine, Co-trimoxazole, Demeclocycline, Fluoroquinolones, Lansoprazole, Macrolides, Metformin, Methyldopa, Minocycline, Neomycin, Omeprazole, Oral contraceptives, Phenobarbital, Phenytoin, Potassium chloride, H2-receptor antagonists, Sulfonamides, Tetracyclines, Valproate.

Posterior column damage:

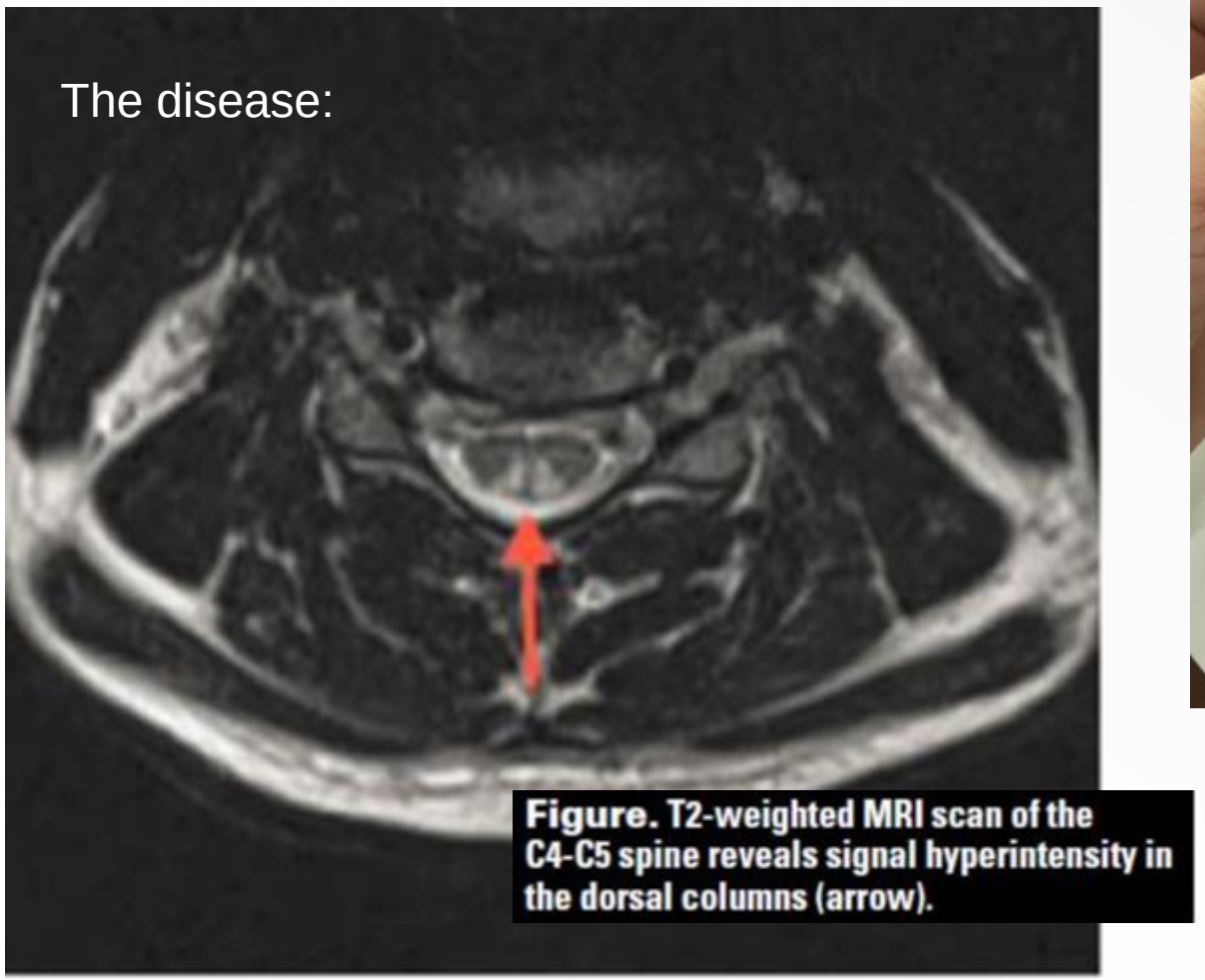
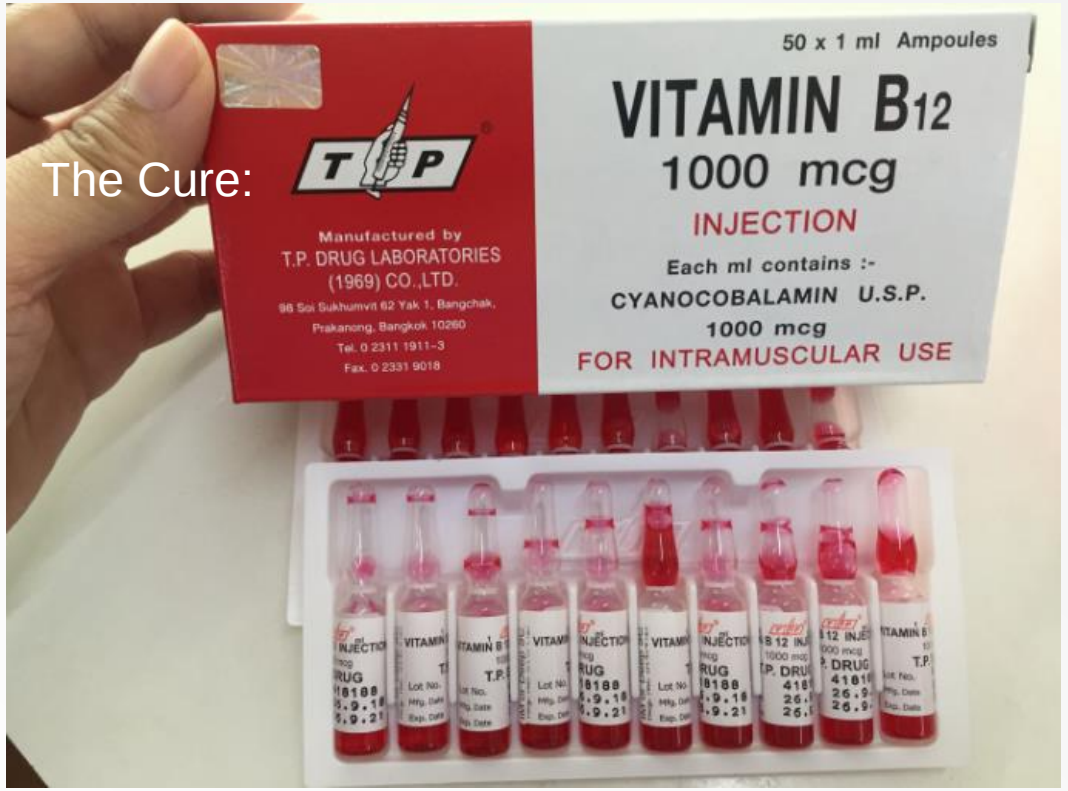


Figure. T2-weighted MRI scan of the C4-C5 spine reveals signal hyperintensity in the dorsal columns (arrow).



Long term treatment for Nitrous abuse

- Not legal for recreational use, but uniquely suitable for whipped cream!
- No known relapse prevention medications (?alcohol agents)
- Look for psychological drivers
  - Psychiatric illness
  - Trauma / PTSD
  - Personality Disorder
  - Depression
  - Anxiety
  - Subacute suicidality
- Most of our admissions relapse at least once.
  - Cognitive therapies and psychosocial interventions
  - Prophylactic daily B_{12}

Questions?

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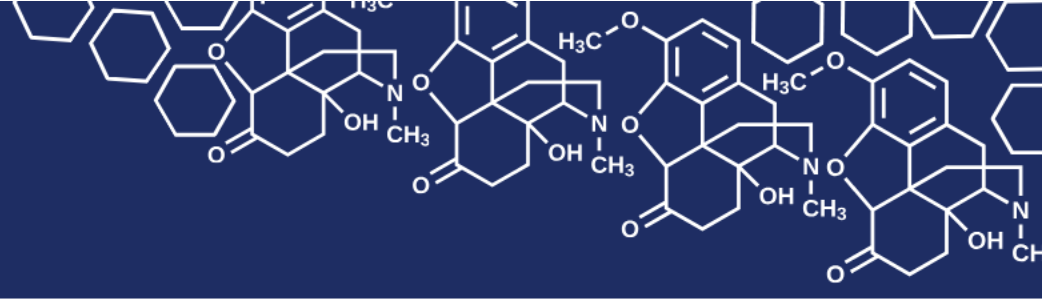
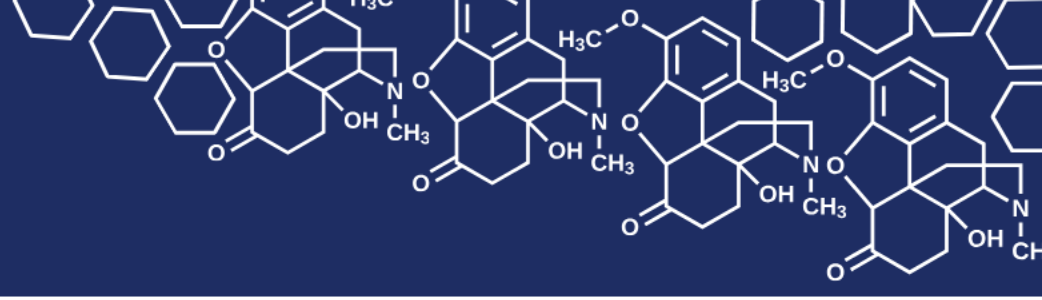


AOD Service Providers Conference 2024

Inspiring Change:
Excellence in AOD Treatment and Harm Reduction



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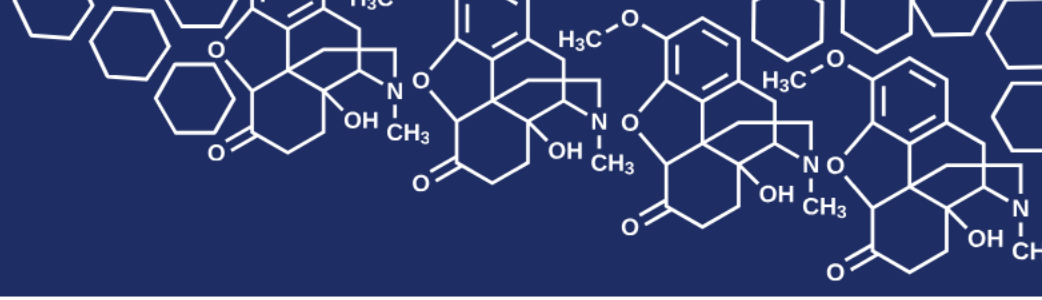
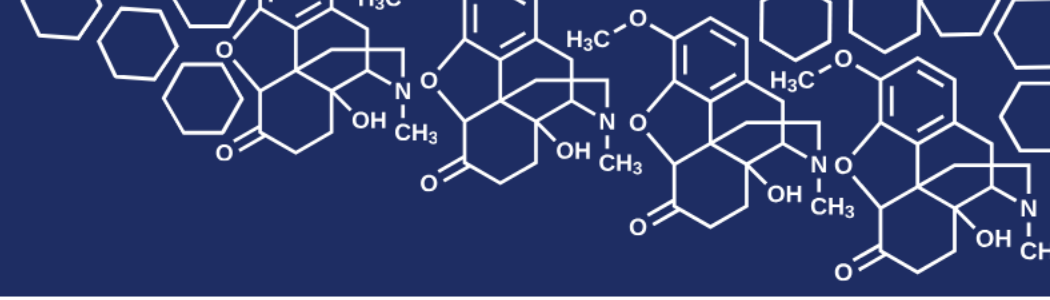


vaada
Victorian Alcohol & Drug Association

Sponsor of
WORLD CONGRESS
ON ALCOHOL AND ADDICTIONS
23-26 September

AND THE WINNER IS.....



The increasing prevalence and harms of new synthetic drugs

Dr Dimitri Gerostamoulos
Victorian Institute of Forensic Medicine

VICTORIAN INSTITUTE OF FORENSIC MEDICINE

THE INCREASING PREVALENCE AND HARMS OF NEW SYNTHETIC DRUGS

Dimitri Gerostamoulos | Head of Forensic Science & Chief Toxicologist

2024 Victorian AOD Service Providers Conference

MONASH University

ECSTASY (FAKE)

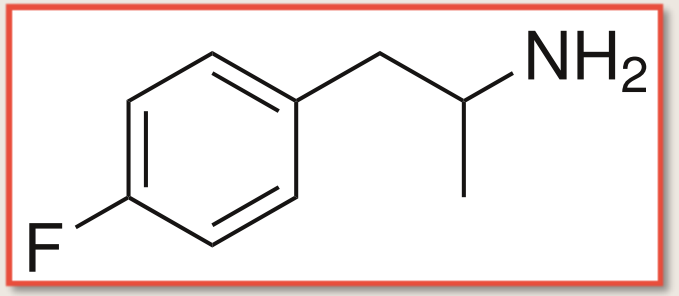
July 2016 - January 2017: 6 males aged 17 - 32 years

25C-NBOMe and 4-fluroamphetamine

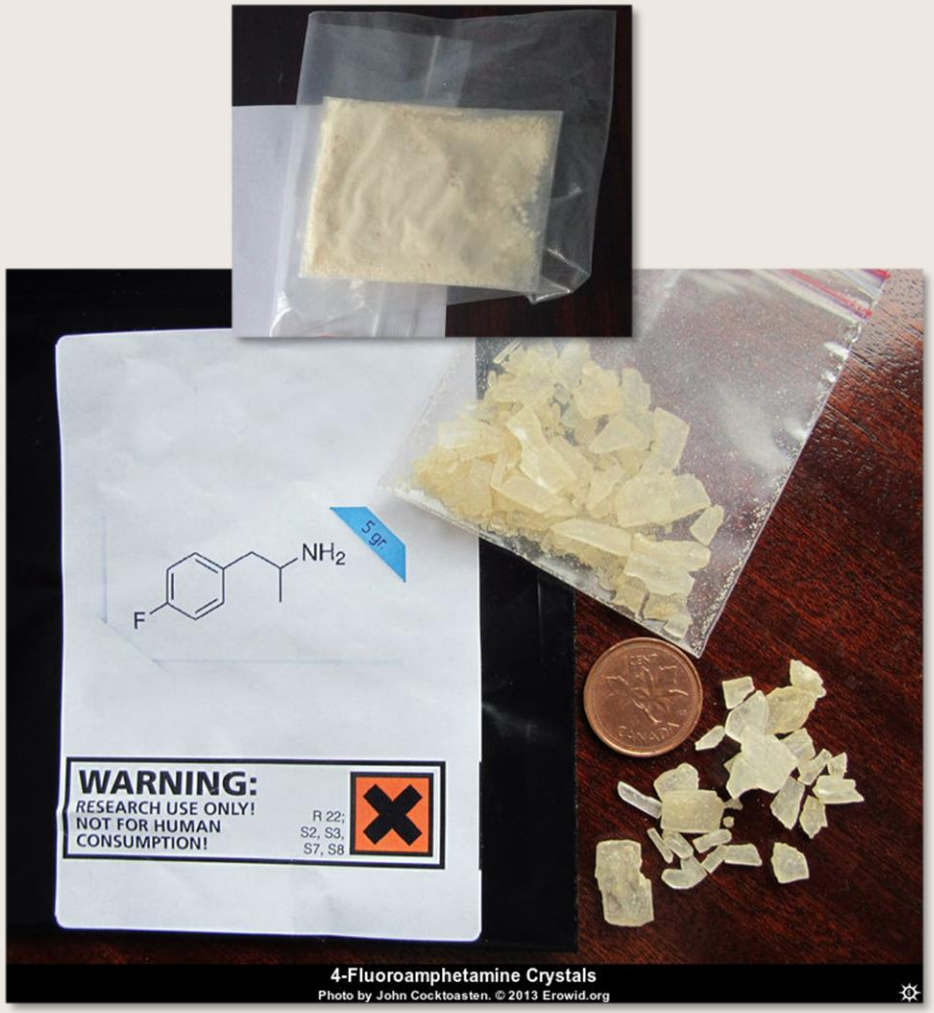
Photo by Maurício Mascaro: https://www.pexels.com/photo/people-dancing-inside-building-801863/

4-FLUOROAMPHETAMINE (4FA)

1-(4-FLUOROPHENYL)PROPAN-2-AMINE



- **Substituted phenethylamine (amphetamine)**
- **Synthesised in 1940s, detections from ~2007**
- **↑ dopamine, noradrenaline, 5HT / ~ MAO inhibitor**
  - Stimulant / euphoric, effects 4-6 h
- **MDMA alternative**
- **Powder / crystals / tablets**
  - Oral / insufflation
- **Reported Deaths**
  - Johansen & Hansen, *Int J Legal Med* (2012)
  - Rosano et al. *JAT* (2013)
  - Nugteren-Van Lonkhuyzen et al. *Clin Toxicol* (2017)



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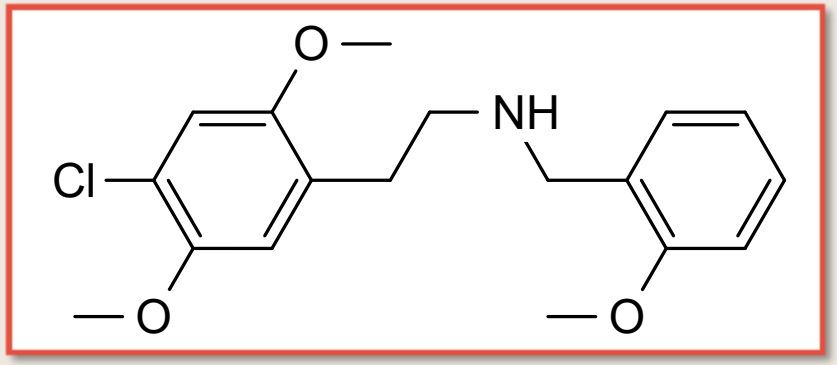
25C-NBOME (25C)

4-CHLORO-2,5-DIMETHOXY-N-(2-METHOXYBENZYL)PHENETHYLAMINE

- **Substituted phenethylamine (2C-C derivative)**
  - Ettrup et al. (2011), Zuba et al. (2013)
- **"Super-potent" 5-HT_{2A} partial agonist**
  - Stimulant / hallucinogen, effects ~4-8 h
- **LSD alternative**
- **Powder / blotters**
  - insufflation / sublingual
- **Reported Deaths**
  - Elliott (*unpublished*, 2014)
  - Andreasen et al. *FSI* (2015)



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REPORTED TOXIC EFFECTS

25C

- ↑ Body Temp, HR, BP
- Pupil dilation
- Loss of time perception
- Nausea
- Paranoia, fear
- Seizures

REPORTED TOXIC EFFECTS

25C

- ↑ Body Temp, HR, BP
- Pupil dilation
- Loss of time perception
- Nausea
- Paranoia, fear
- Seizures

4FA

- ↑ Body Temp, HR, BP
- Muscle contractions
- Stroke
- Cardio/cerebrovascular complications
  - Arrhythmia
  - Ventricular Systoles
  - Acute cardiac failure

REPORTED TOXIC EFFECTS

SEROTONIN SYNDROME / CARDIOVASCULAR TOXICITY

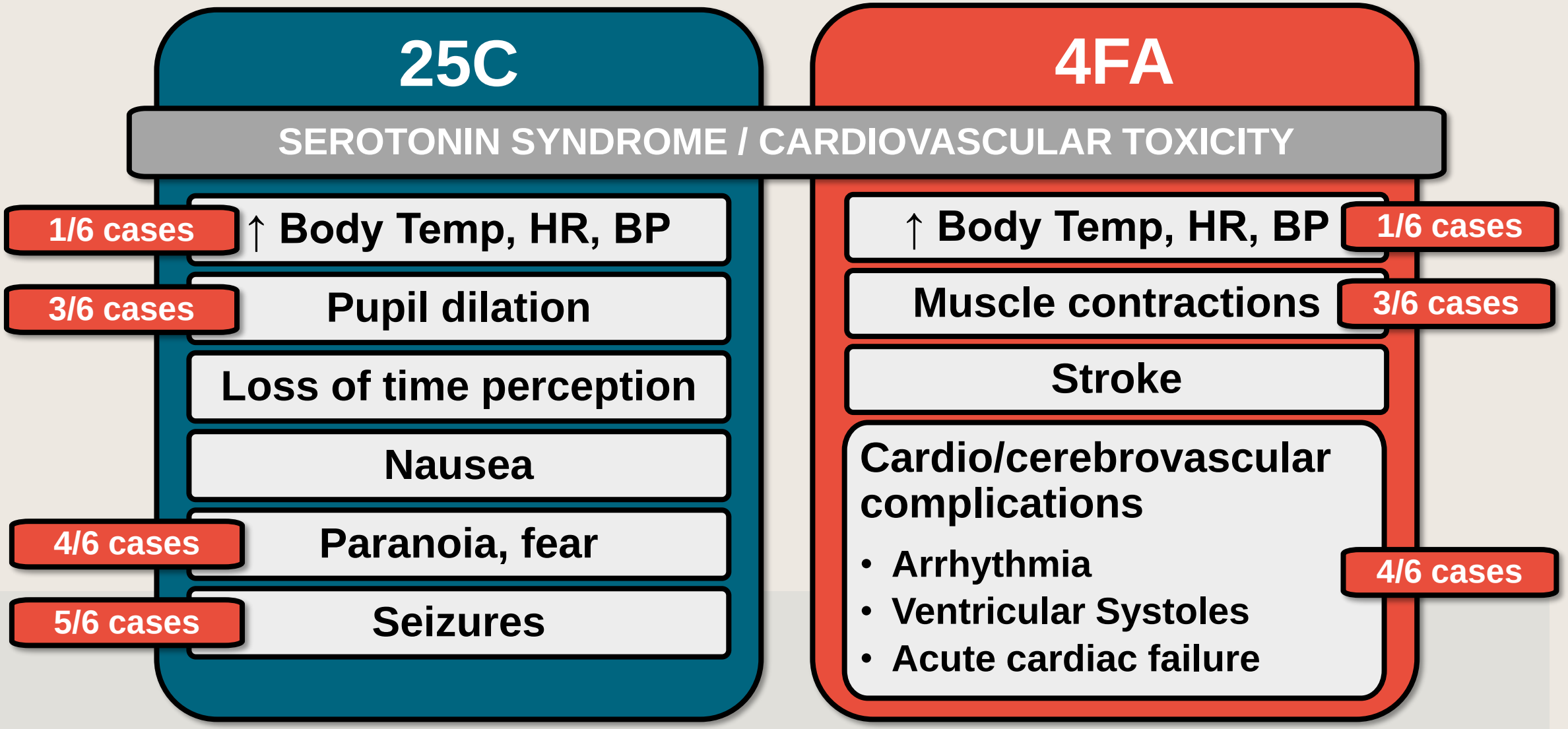
25C

- ↑ Body Temp, HR, BP
- Pupil dilation
- Loss of time perception
- Nausea
- Paranoia, fear
- Seizures

4FA

- ↑ Body Temp, HR, BP
- Muscle contractions
- Stroke
- Cardio/cerebrovascular complications
  - Arrhythmia
  - Ventricular Systoles
  - Acute cardiac failure

REPORTED TOXIC EFFECTS



CORONIAL INQUEST

Coroners Court of Victoria

1. These people died from taking a substance thought to be ecstasy;
2. Risk of not knowing what drugs are present in an illicit preparation;
3. Risks poorly understood in terms of potency, especially in combination with other drugs
4. Risk will continue if regulation or preparedness to use these remains the same

RECOMMENDATIONS

1. That the Department of Health, as the appropriate arm of the Victorian Government, implements a drug checking service in the State of Victoria as a matter of urgency, to reduce the number of preventable deaths (and other lesser harms) associated with the use of drugs obtained from unregulated drug markets.
2. That the Department of Health, as the appropriate arm of the Victorian Government, implements a drug early warning network in the State of Victoria as a matter of urgency, to reduce the number of preventable deaths (and other lesser harms) associated with the use of drugs obtained from unregulated drug markets.

https://www.coronerscourt.vic.gov.au/inquests-findings/findings

NOVEL PSYCHOACTIVE SUBSTANCES (NPS)

Substances of abuse, either in a pure form or a preparation, that are not controlled by the 1961 Single Convention on Narcotic Drugs or the 1971 Convention on Psychotropic Substances, but which may pose a public health threat.

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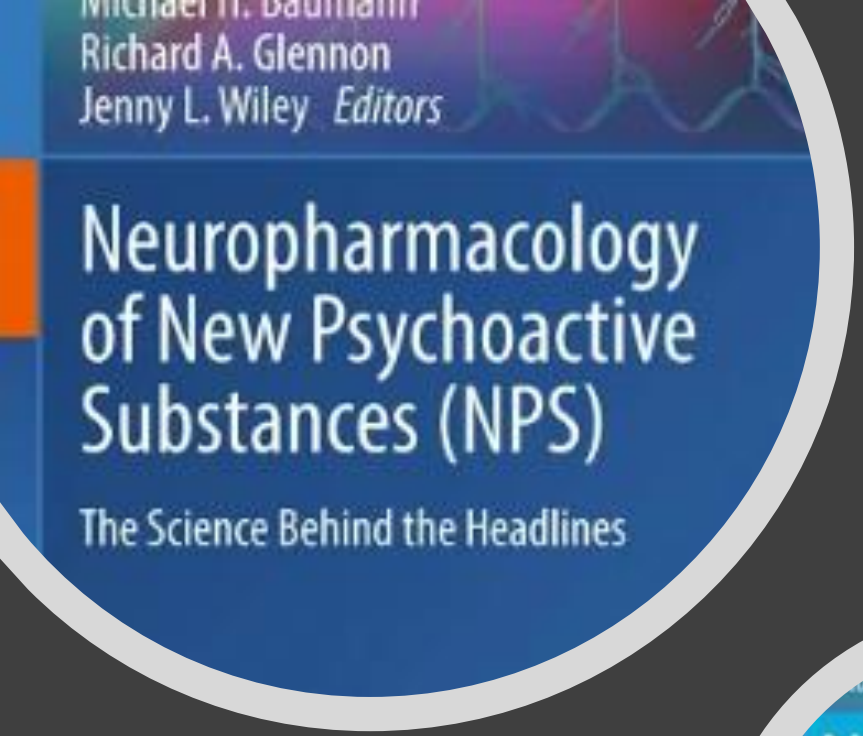
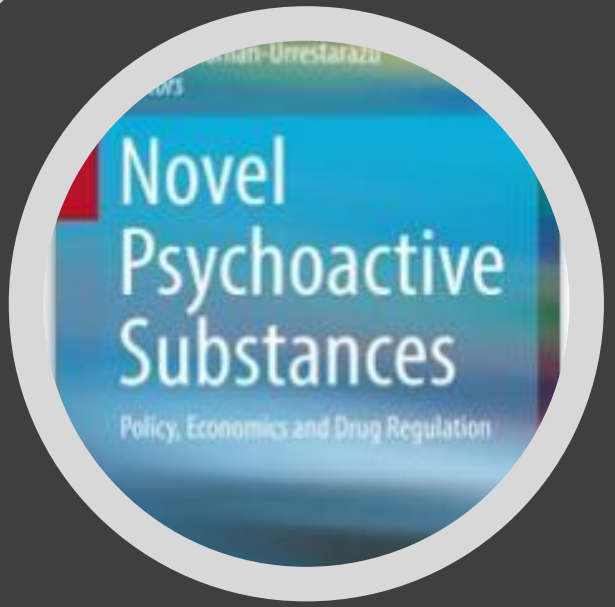
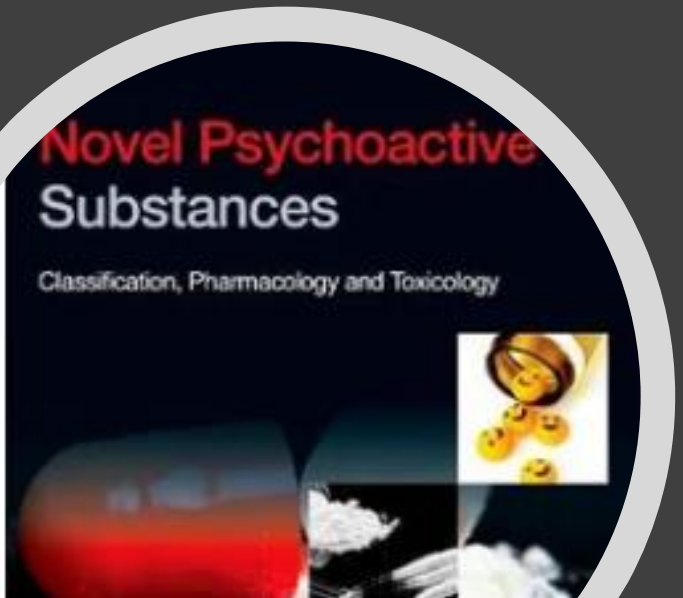
UNODC Early Warning Advisory on New Psychoactive Substances







NEW DRUGS = NOVEL PSYCHOACTIVE SUBSTANCES (NPS)

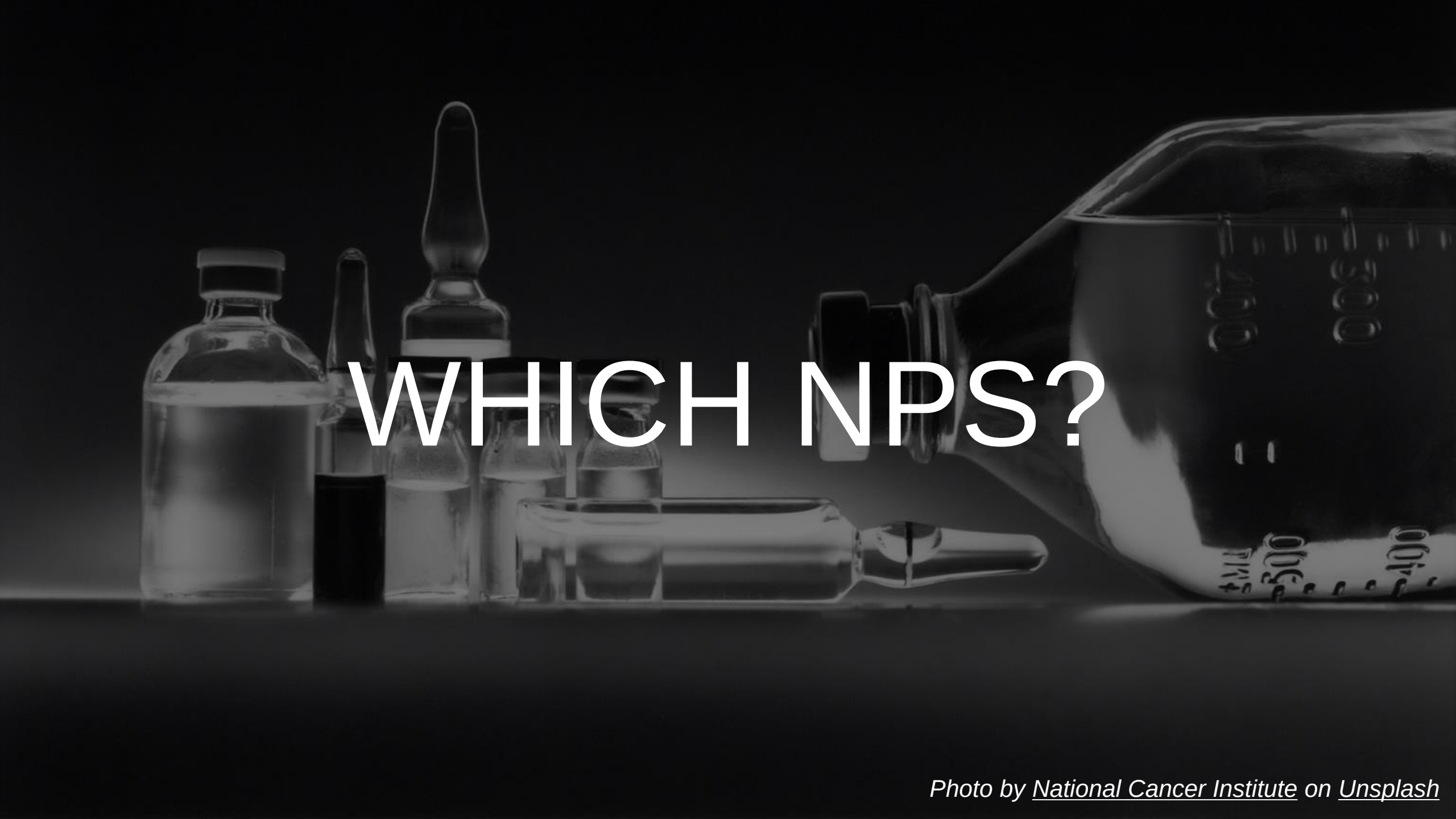
Legal highs, designer drugs, herbal highs, bath salts, spice etc

Some first designed in the 70's

Mimic the effects of illicit drugs and are produced by introducing slight modifications to the chemical structure of controlled substances

Complicated pharmacology/toxicology

>1200 compounds



WHICH NPS?

Photo by National Cancer Institute on Unsplash

UNODC Early Warning Advisory Summary Dashboard

Navigate to page: Main Page | Discover More

What are New Psychoactive Substances?

NPS are substances of abuse, either in a pure form or a preparation, that are not controlled under the Single Convention on Narcotic Drugs of 1961 or the 1971 Convention, but that may pose a public health threat. In this context, the term "new" does not necessarily refer to new inventions but to substances that have recently become available. NPS that have been placed under international control since 2014 continue to be included under the term NPS to enable times series analysis.

Effect Groups and Structural Groups

Within the UNODC EWA, NPS are classified based on the pharmacological effect that it exerts on the central nervous system - **Effect group classification** (eg. Stimulants, Classic hallucinogens, Dissociatives etc.), and based on similarities in chemical structure - **Structural group classification** (eg. Synthetic cathinones, Fentanyl analogues, Benzodiazepines etc.).

Note: Substances with similar chemical structures do not necessarily have similar pharmacological effects.

Total number of individual NPS reported (all years)

1182

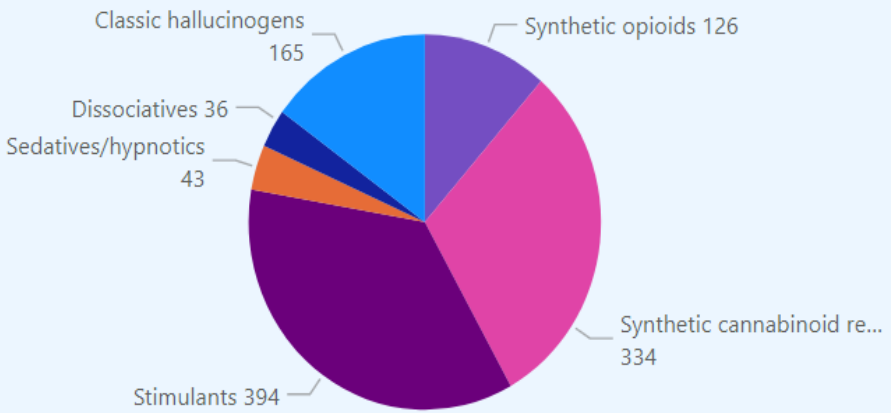
Number of Countries and Territories that reported NPS

141

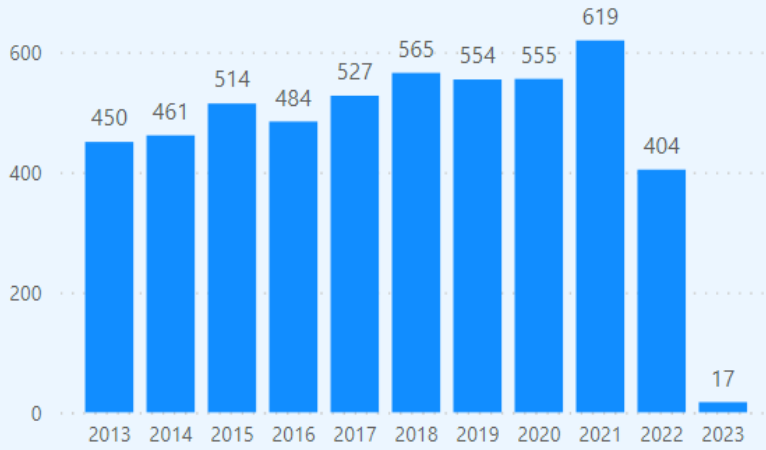
Region: All

2013 – 2023

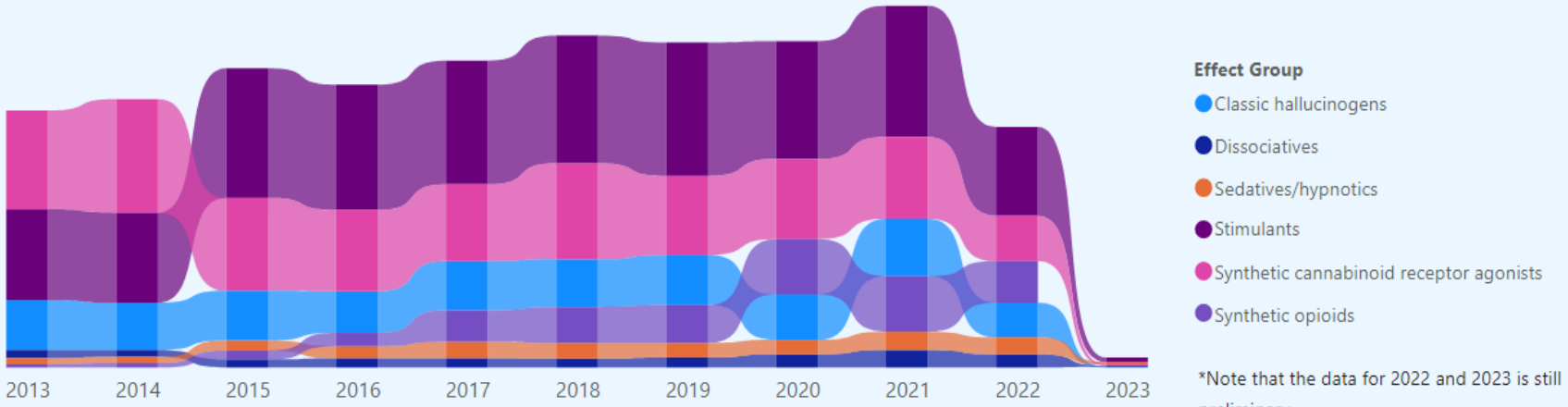
Distribution of NPS reported within each effect group



Total number of individual NPS reported each year



Overall trend in the number of individual NPS reported to UNODC EWA within each effect group



*Note that the data for 2022 and 2023 is still preliminary

NPS DETECTIONS AT VIFM

BENZODIAZEPINES
Etizolam
Flualprazolam
Flubromazolam
Diclazepam
Estazolam
Delorazepam
Bromazolam
Desalkylflurazepam
Clonazolam
Desalkylflurazepam
Delorazepam
Phenazepam
Clobromazolam

CATHINONES
Ethylone
Eutylone
4-Fluromethcathinone
N-Ethylpentylone
Methylone
Butylone
Dibutylone
MMTMP
Pentylone
4-Chloromethcathinone

SCRAs
5F-Cumyl-PINACA
ADB-BUTINACA
Cumyl-PeGACLONE
5C-APINACA
MDMB-4en-PINACA

STIMULANTS & HALLUCINOGENS
PMMA
Mitragynine
25B-NBOH
Ethylphenidate
Methoxetamine
Dimethyltryptamine
3-hydroxy-PCP
Deschloro-N-Ethyl ketamine
Deschloroketamine

OPIOIDS
Beta-U10
Etodesnitazene
2-methyl AP-237
Butodesnitazene
Protonitazene

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DESIGNER BENZODIAZEPINES

? Counterfeit alprazolam

2019 - 12 cases

2020 - 37 cases

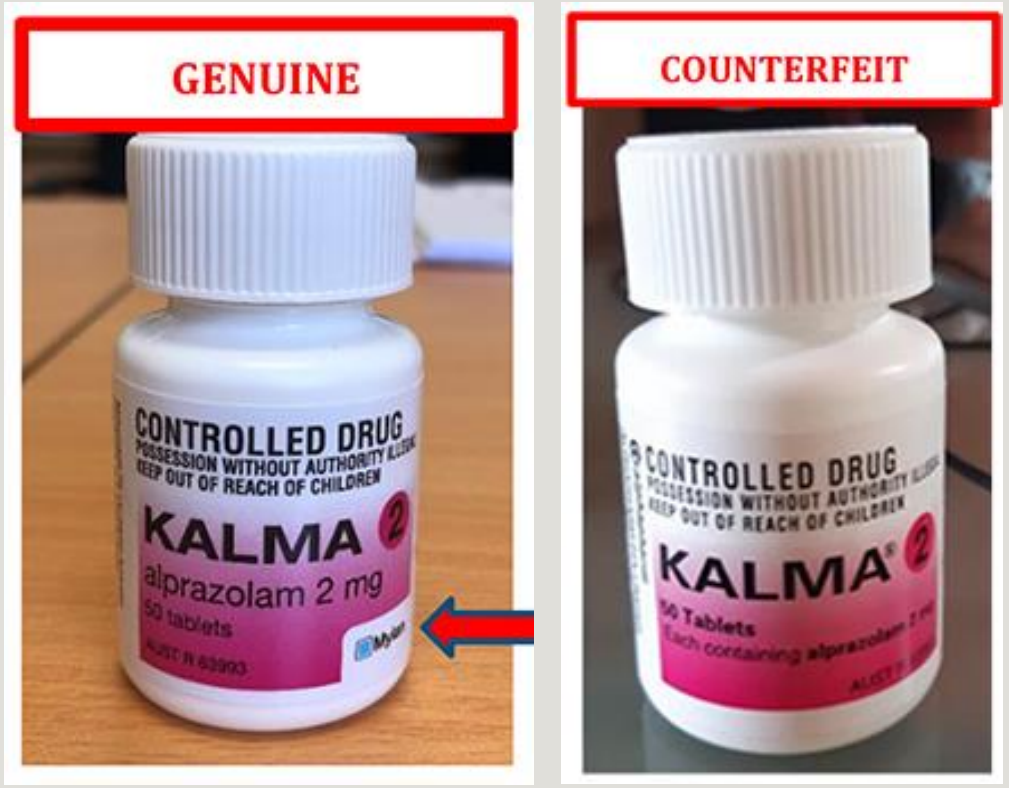
Found to contain one or more of:

Etizolam

Fluaprazolam

Flubromazepam

Clonazolam



https://www.tga.gov.au/alert/counterfeit-alprazolam-2mg-and-kalma-2-tablets

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EDNA – EMERGING DRUGS NETWORK OF AUSTRALIA

https://www.ted.com/talks/jessamine_soderstrom_harm_minimisation_and_the_power_of_shared_data_to_saves

EDNA

Collaboration between hospital emergency depts, forensic laboratories and national poisons network

National register

- Surveillance and early warning system

EMERGING DRUGS NETWORK AUSTRALIA VIC (EDNAV)

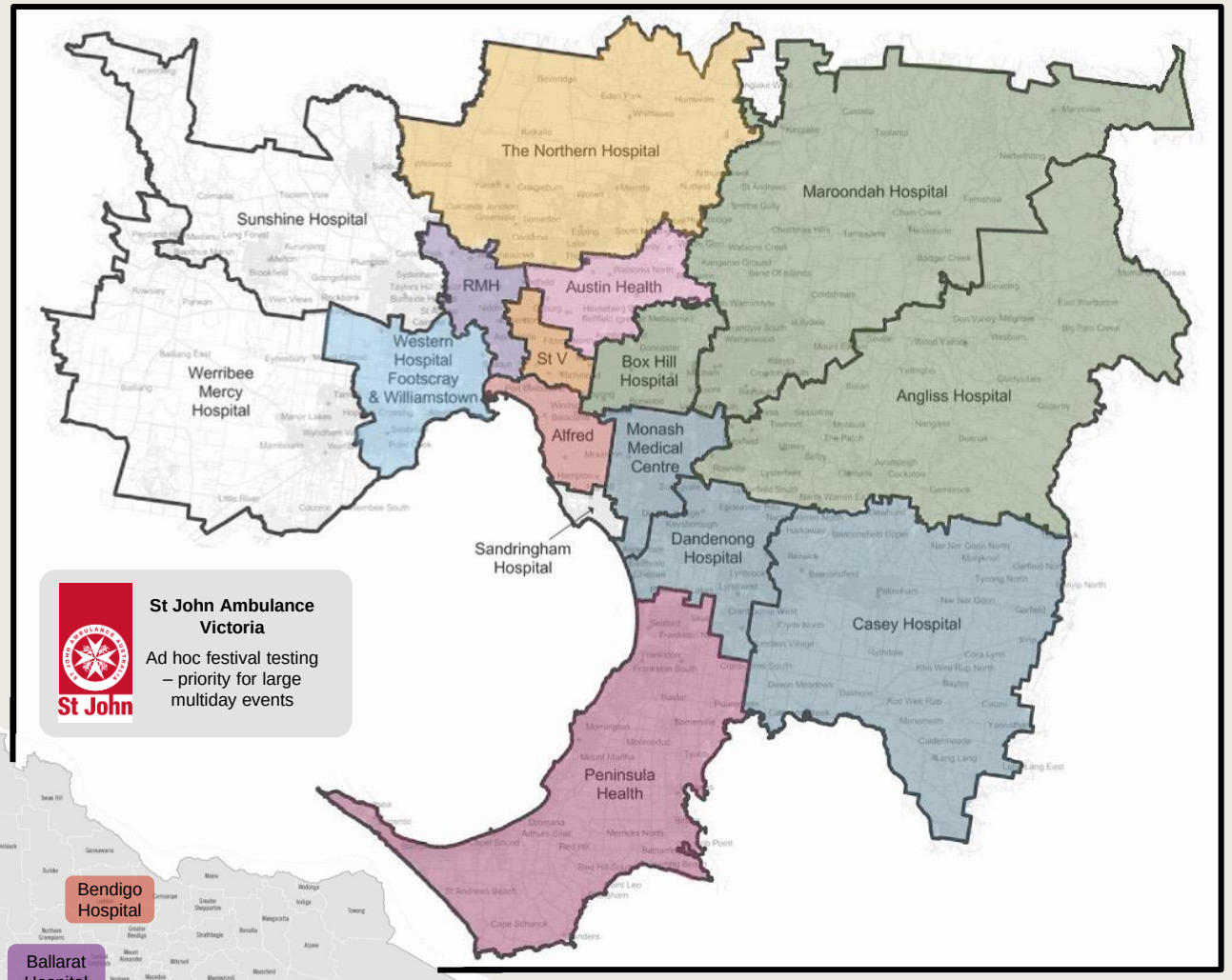
EMERGING DRUGS NETWORK AUSTRALIA VIC (EDNAV)

- Collection of biofluid samples (ED illicit substance presentations)
- Timely analysis and data interpretation
- Provision of data to relevant stakeholders

- Toxico-surveillance
- Correlation of clinical toxicity with analytical findings

EDNAV METHODOLOGY

Hospital emergency departments



Austin Health
The Royal Melbourne Hospital
theAlfred
St Vincent's Hospital Melbourne
Monash Health
Northern Health
Eastern Health
Peninsula Health
Western Health
Bendigo Health
LRH Latrobe Regional Hospital
Barwon Health
Grampians Health Ballarat

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METHODOLOGY

Clinical Registry Inclusion:

Adult ED patients (≥ 16 years)

Suspected / reported illicit drug toxicity

Venipuncture as part of standard care

Photo by Piron Guillaume on Unsplash

METHODOLOGY

Analysis:

Victorian Institute of Forensic Medicine (VIFM)

High Performance Liquid Chromatography with tandem Mass Spectrometry

Approximately 500 illicit substances / pharmaceuticals

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VIFM

- Melbourne, Australia,
- ~7000 coronial cases for 6.5M people

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- Main autopsy area
- Can accommodate up-to 20 postmortems at a time

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- CT scanner, all bodies (<180 kg)
- Valuable information, autopsy rate now < 50% all cases

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- 47 toxicologists
- 21,500 Police Cases (drugs and driving), 6700 Coronial cases

- 14 LC/MS instruments,
- Rapid toxicology for forensic and clinical cases

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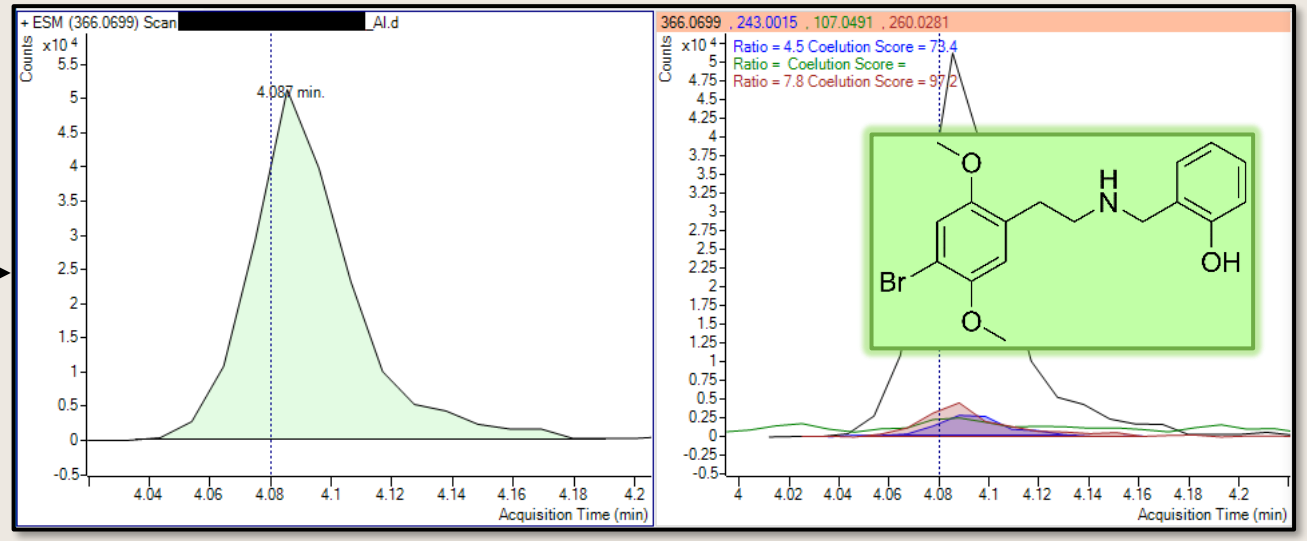
EDNAV IN ACTION



25B-NBOH is being sold in powder form as 'LSD' in Melbourne

25B-NBOH is a potent synthetic drug with psychedelic + stimulant properties

Not much is known about 25B-NBOH, but it's closely related to the 'novel phen
risk of very serious harm to health when consumed. This includes seizures, ex
(dangerously high body temperature) and death.

Deadly drug 25B-NBOH sold as powdered LSD in Melbourne, spike in Victorian hospitalisations

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PUBLIC HEALTH

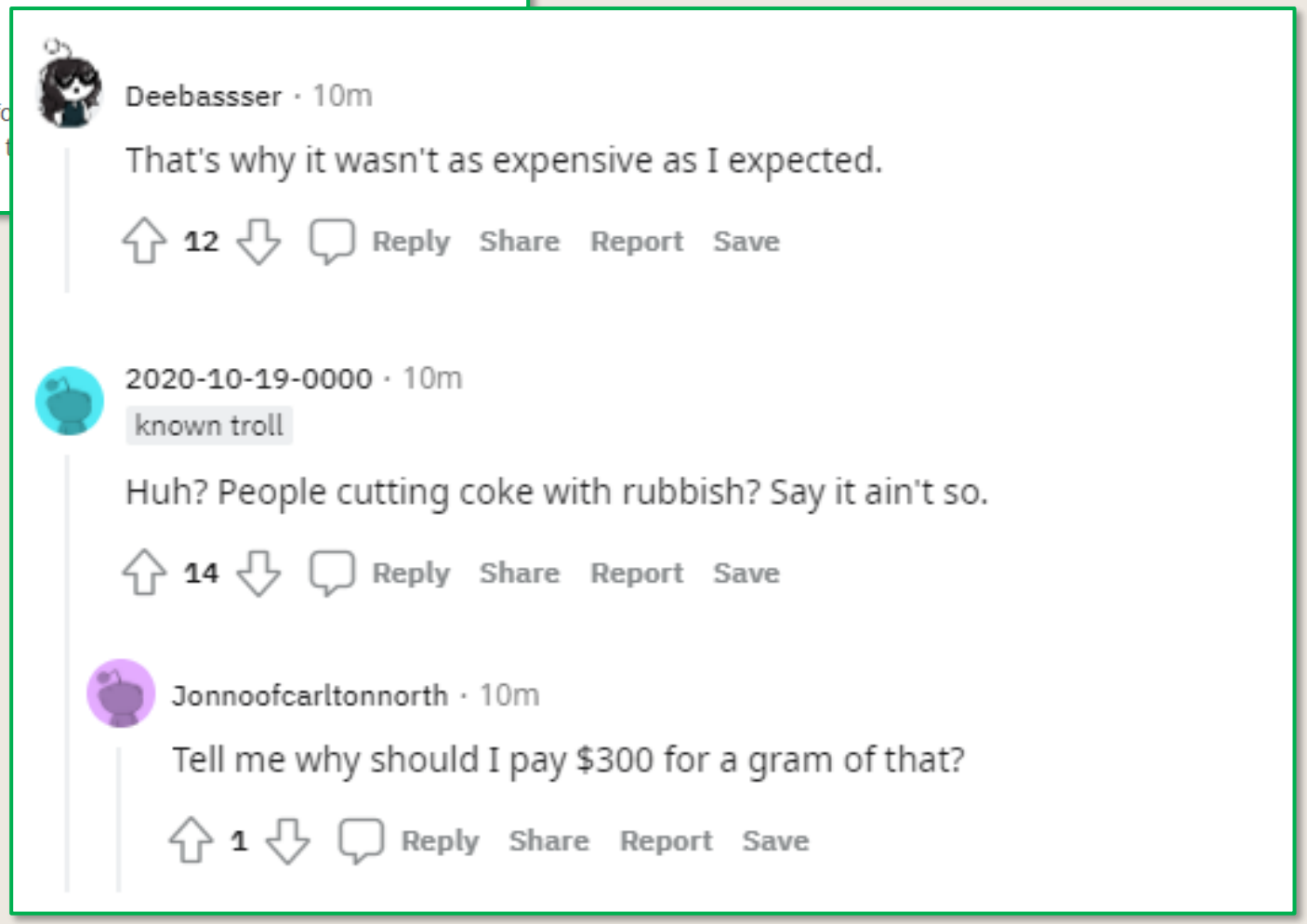
July 2021

EDNAV IN ACTION

N-ethylpentylone has recently been detected in cocaine in Melbourne.

N-ethylpentylone (NEP) is a synthetic stimulant

It is often white or off-white in colour, and can appear in powder, crystalline or tablet fo
other stimulants such as similar to t
without laboratory testing.



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PUBLIC HEALTH

December 2020

EDNAV IN ACTION

PMMA has been detected in MDMA (ecstasy) in Melbourne, presenting as broken up (crushed) yellow crystals

PMMA produces some similar effects to MDMA, but is more toxic, less euphoric, and take

Para-Methoxy
associated wi
serious harn
of breath nee

[redacted] Can't be any worse than the stuff people are lining up to get jabbed with!

1w · Edited

4

[redacted] Good to see you are advising the side effects of the tablets why not advertise the jab side affects with heart blood clots breathing issues that would be great for the mainstream media to show

2w · Edited

34

PMMA or 'Dr Death' drug found in MDMA around Melbourne

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Drug alerts

February 2024

- 25C-NBOMe and 4-FA sold as '2C-B' [issued 23 February 2024]

January 2024

- MDMA and other stimulants in hot environments [issued 12 January 2024]

August 2023

- Metonitazene sold as cocaine [issued 4 August 2023]

May 2023

- Novel stimulants sold as MDMA, cocaine or speed [issued 5 May 2023]

February 2023

- Pentylone in orange 'Nike tick' pills [issued 7 February 2023]

November 2022

- 3-Hydroxy-PCP sold as ketamine [issued 11 November 2022]

June 2022

- Protonitazene sold as ketamine [issued 20 June 2022]

May 2022

- High potency benzodiazepine tablets [issued 5 May 2022]

October 2021

- MDMA adulterated with PMMA [issued 14 October 2021]

July 2021

- 25B-NBOH sold as powdered 'LSD' [issued 30 July 2021]

December 2020

- N-ethylpentylone in cocaine [issued 23 December 2020]

March 2020

- Green 'UPS' pills containing N-ethylpentylone (no MDMA) [issued 5 March 2020]

Department of Health

Hospitals & health services | Primary & community health | Public health | Mental health | Alcohol & drugs | Ageing & aged care | About us | Search

Home > Alcohol & other drugs > Drug alerts

Drug alerts

Current dru

August 2023

- Metonitazene sc

May 2023

- Novel stimulants

February 20

- Pentylone in orc

November 2022

- 3-Hydroxy-PCP sold as ketamine [issued 11 November 2022]

) June 2022]

ued 5 May 2022]

October 2021]

July 2021

- 25B-NBOH sold as powdered 'LSD' [issued 30 July 2021]

Int J Drug Policy. 2023 Dec:122:104251. doi: 10.1016/j.drugpo.2023.104251. Epub 2023 Nov 11.

A risk-based approach to community illicit drug toxicosurveillance: operationalisation of the Emerging Drugs Network of Australia - Victoria (EDNAV) project

Rebekka Syrjanen [1], Jennifer L Schumann [2], Tom Lyons [3], Ginny McKinnon [3], Sarah E Hodgson [4], Rachelle Abouchedid [5], Dimitri Gerostamoulos [6], Zeff Koutsogiannis [7], John Fitzgerald [8], Shaun L Greene [9]; EDNAV project research group

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https://www.health.vic.gov.au/alcohol-and-drugs/drug-alerts

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EDNAV: NEW PSYCHOACTIVE SUBSTANCE (NPS) DETECTIONS

NPS benzodiazepine (18.5% of cases**)**

- Bromazolam
- Clobromazolam
- Clonazolam
- Desalkylflurazepam
- Deschloroetizolam
- Diclazepam
- Estazolam
- Etizolam
- Flualprazolam
- Flubromazepam
- Flubromazolam
- Flunitrazolam
- 3-Hydroxyflunitrazepam
- Phenazepam

NPS opioid (0.5% of cases)

- βU-10
- 2-methyl AP-237
- Butonitazene
- Etodesnitazene
- Metonitazene
- MT-45
- Protonitazene

Synthetic cathinone (3% of cases)

- Dibutylone / Butylone
- Dimethylone / Methylone
- Ethylone
- Eutylone
- N,N-Dimethylpentylone / Pentylone
- Mephedrone
- MMTMP
- N-cyclohexylmethylone
- N-ethylpentylone
- 3-methylmethcathinone
- 3,4-DMMC
- 4-Chloromethcathinone
- 4-Fluoromethylcathinone

SRCA (1% of cases)

- ADB-BUTINACA
- Cumyl-PeGACLONE
- MDMB-4en-PINACA
- 4-fluoro MDMB-BUTICA
- 5F-Cumyl-PINACA
- 5F-MDMB-PINACA
- 5C-APINACA

Stimulants (1% of cases**)**

- Ethylphenidate
- Mitragynine
- Ethylamphetamine
- PMMA
- 4-Fluoroamphetamine
- 4-fluoromethamphetamine
- 25B-NBOH

Hallucinogen (0.6% of cases)

- Dimethyltryptamine [DMT]
- 2C-B

Dissociatives (1% of cases)

- Deschloro-N-Ethyl ketamine
- Methoxetamine
- 2-fluoro-2-oxo-PCE [CanKET]
- 3-hydroxy-PCP
- 3-methoxyphencyclidine

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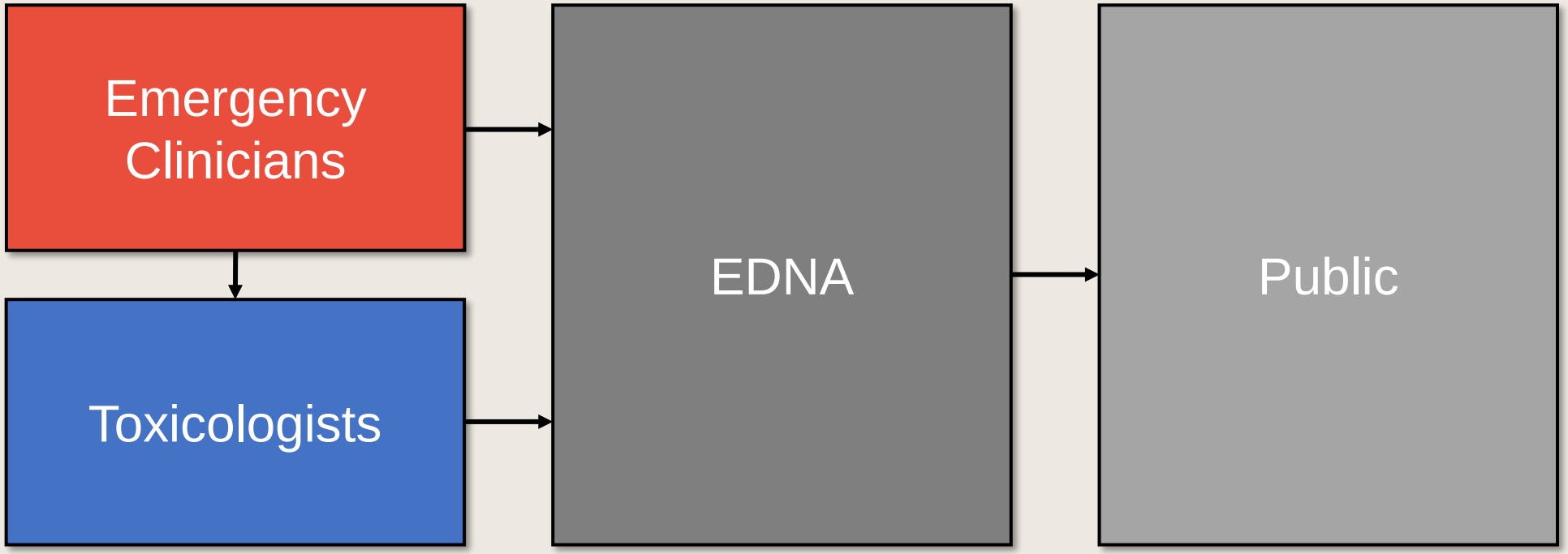
DELIVERABLES

STANDARDISED

- Laboratory testing protocols
- Information sharing approaches
- Data collection & surveillance
- Reporting of illicit drug ED presentations

- Detection of emerging drugs & epidemiological data surrounding their use
- Known clinical patterns of toxicity, patient outcomes, and resource burdens
- Establishment of an Early Warning System to inform health and harm reduction policy

SUMMARY



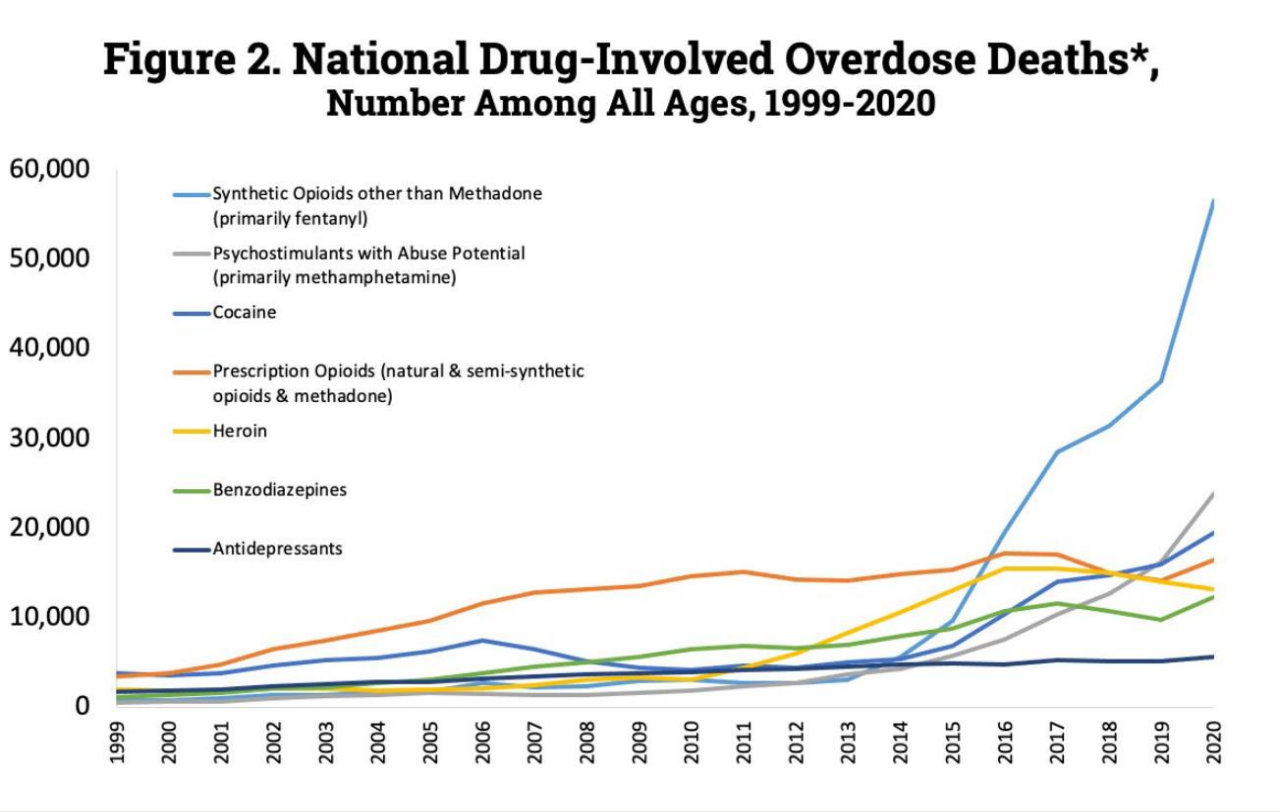
1. Identify emerging drugs involved in ED presentations.
2. Determine clinical patterns of toxicity and how these relate to outcomes.
3. Share information to inform public health and harm reduction policy.

Steady Rise of Opioid use

- Opioid usage steadily rising

- **US:** Opioid overdose ↑ 325% between 2010-20

- Synthetic usage rising:
- **AUS 2014-2019:** Deaths from illegal opioids ↑ 15%
- **US 2013-2019:** Synthetic opioid deaths ↑ 1040%



Drugs involved in overdose deaths USA 1999-2020

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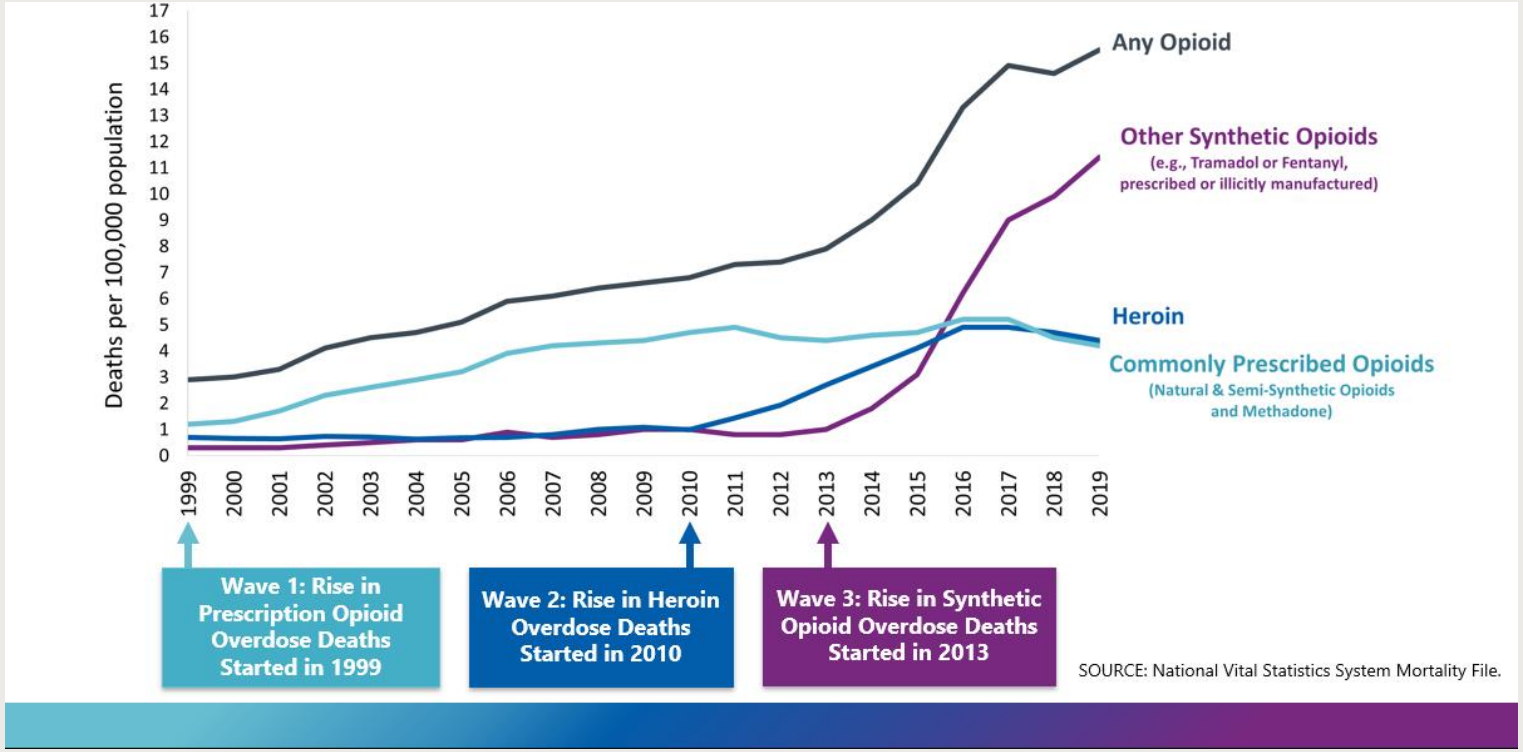
Change in the Opioid usage profile

- Shift to synthetic usage
- "3rd wave" of the opioid epidemic
- Accelerated by NSO development
- Predominantly:
  - **Fentanyl analogues** e.g. carfentanil, acetyl-fentanyl
  - **Non-Fentanyl Derived NSOs** e.g. U-47700, MT-45



Trend changes in opioid related overdose deaths (USA 1999-2019.)

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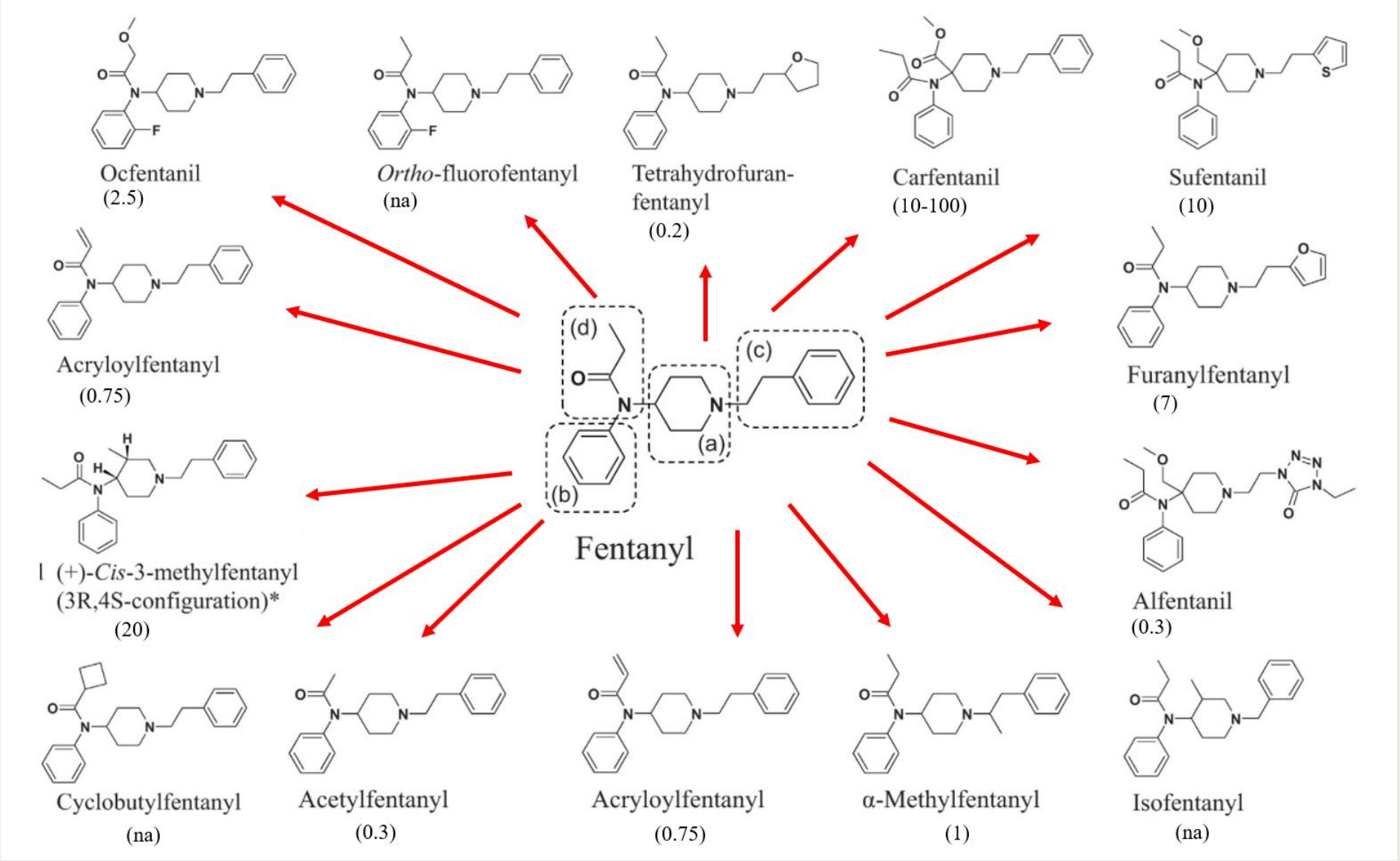
Enormous variability

- Huge potential for synthesis of new derivatives
- Potency of analogues varies substantially
- Highly potent substances



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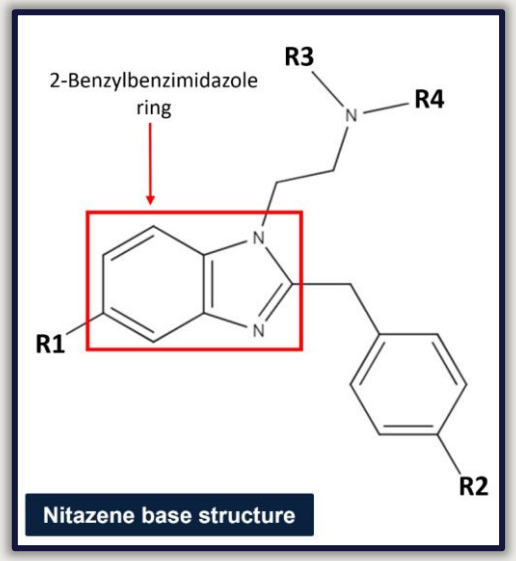
(x) = physiological potency relative to fentanyl

NITAZENES: An emerging NSO subclass



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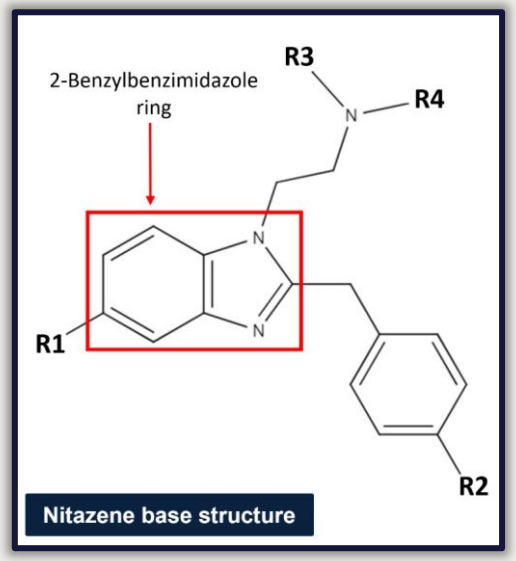
NITAZENES: An emerging NSO subclass



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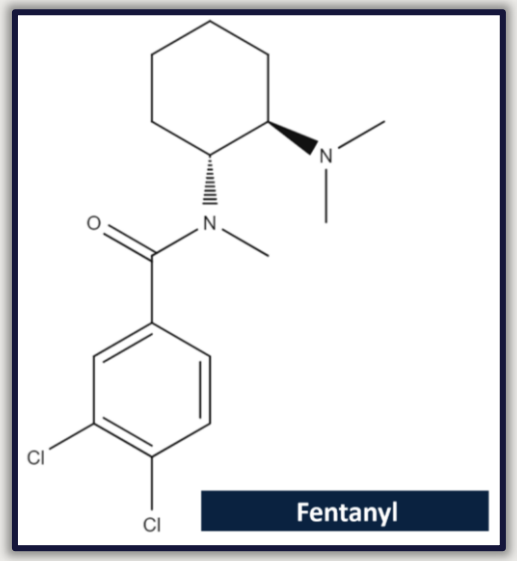

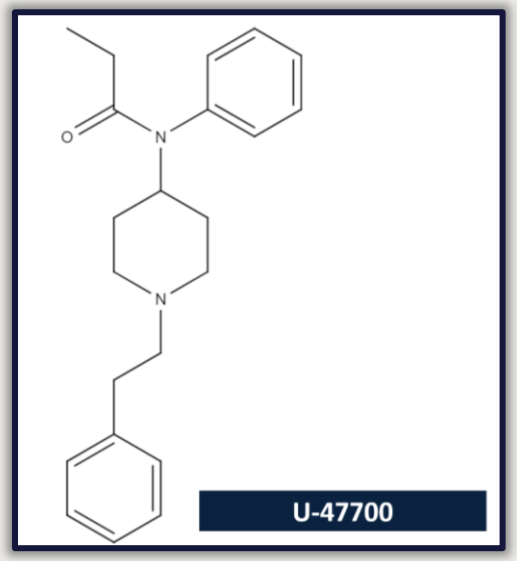

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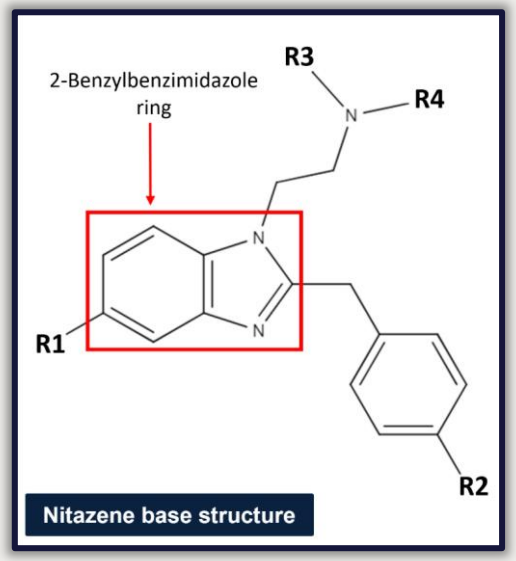
NITAZENES: An emerging NSO subclass



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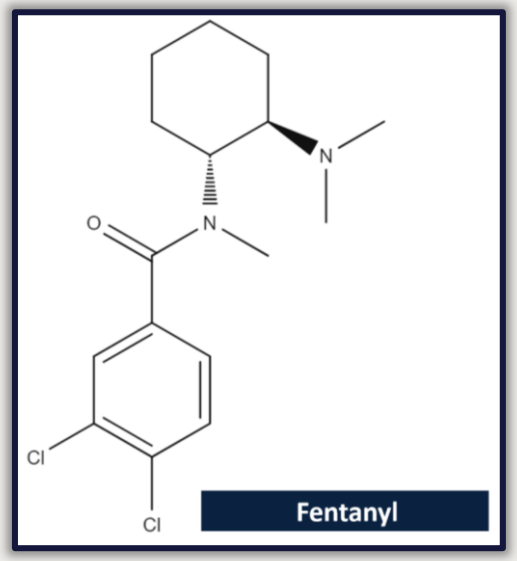

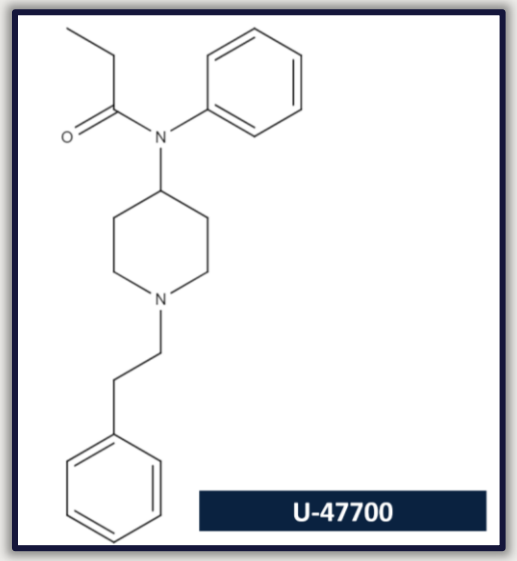

First Synthesised

1957

Discontinued due to risk of adverse effects

Late 1950s

Reemerged in forensic casework in Europe + US

2019

UNODC: 38% NSO emergence globally in 2023[2]

2023

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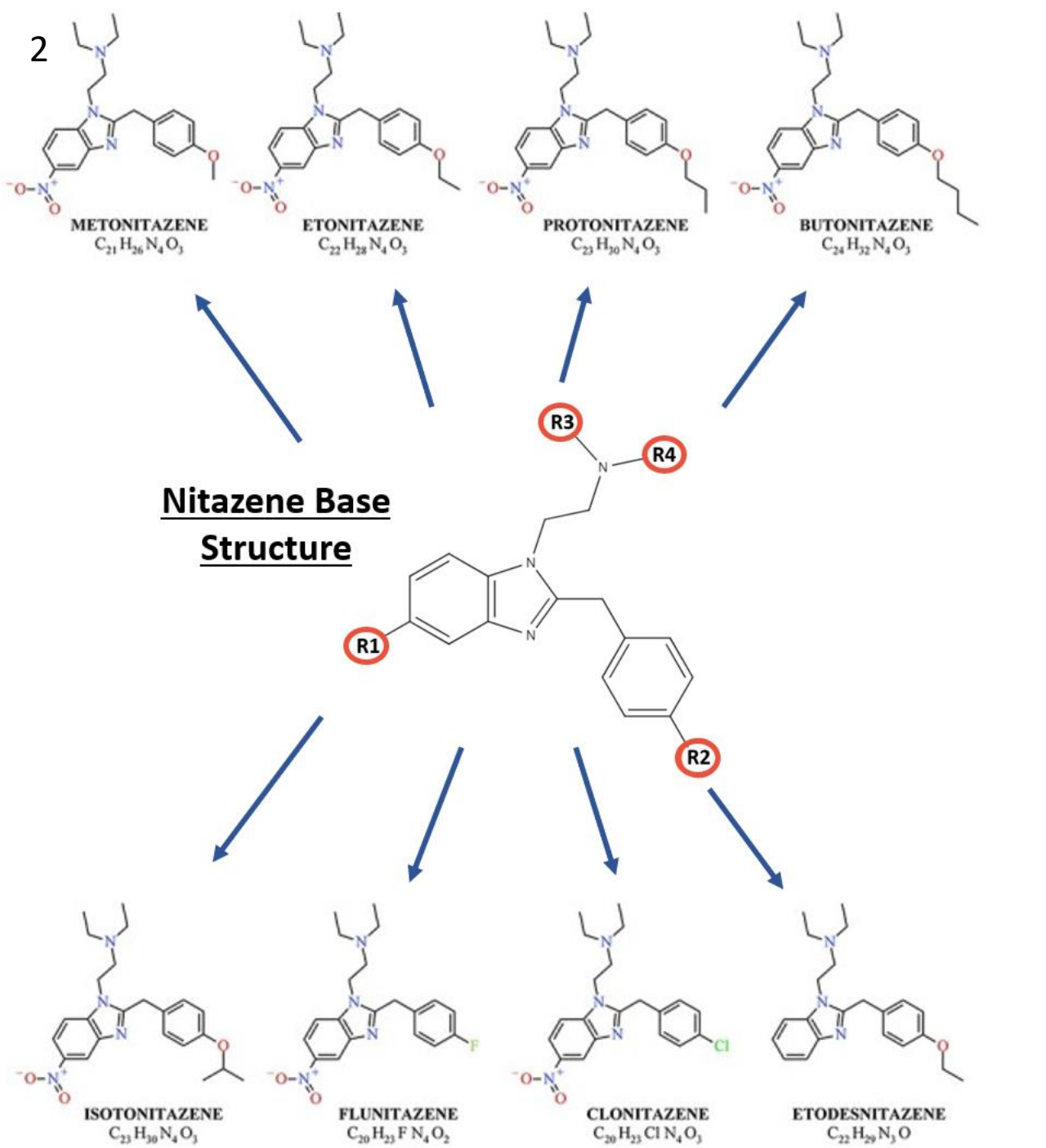
[1]WHO. (2020). [2]UNODC. (2024).

STRUCTURAL VARIATION

- Potential for structural variety
- New analogues emerging[2]
- Abused for relaxation, euphoria, analgesia, sedation, bradycardia[1]
- Potent Mμ receptor agonists[1]



[3]Adapted from Walton et al., *J Anal Toxicol*. (2022).

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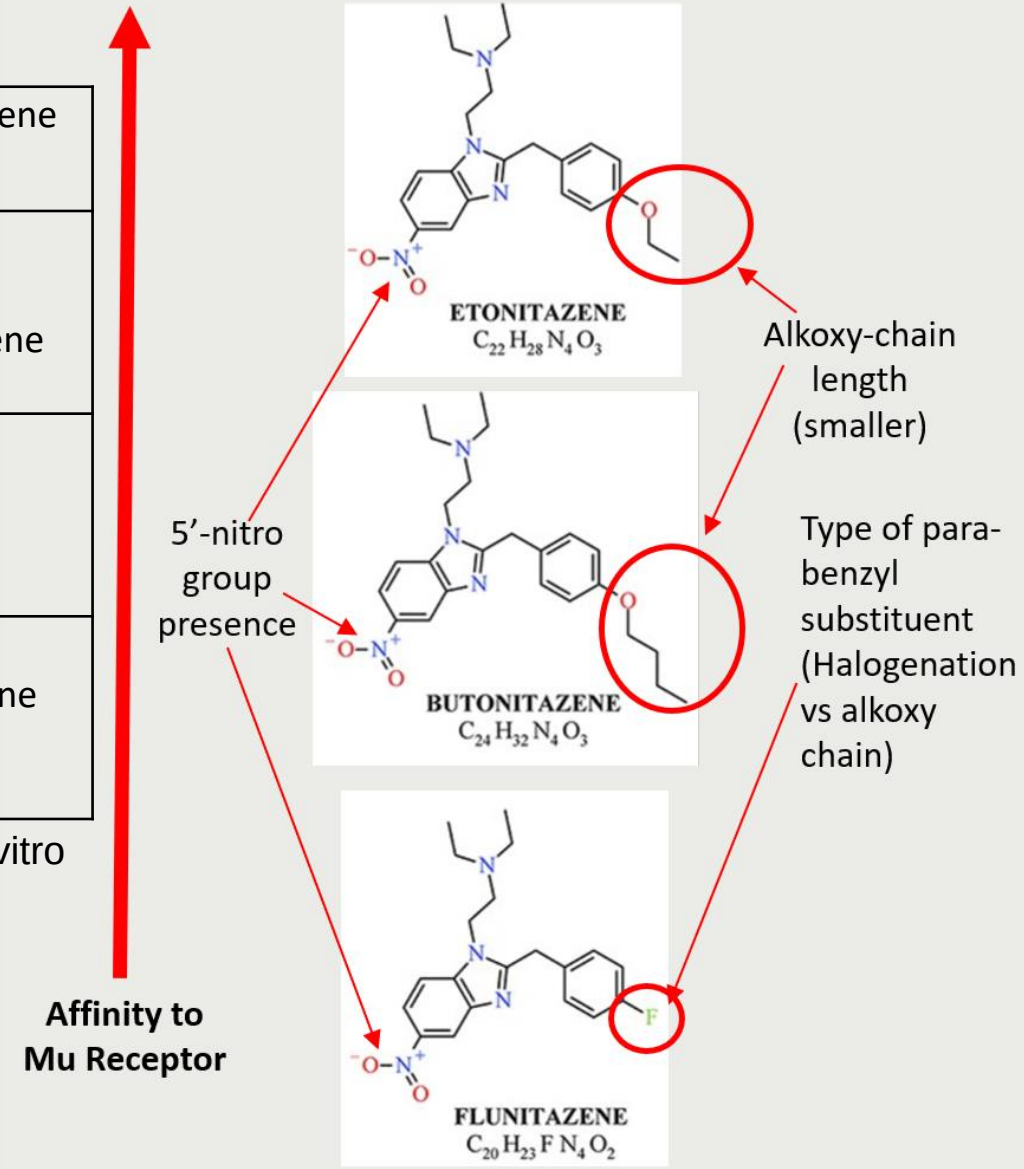
Nitazene Pharmacology

- Abused for relaxation, euphoria, analgesia, sedation, bradycardia
- Strong Mu receptor affinity (agonists)
- Highly potent
- Structure-function trends between structure and receptor affinity
- Influences binding affinity to mu receptor
- Alkoxy chain size contributes to receptor affinity

20 times higher	N-desethylisotonitazene Etonitazene
1.5-10 times higher	Isotonitazene Metonitazene N-desethyletonitazene Protonitazene
2-10 times lower	Butonitazene Clonitazene Isotodesnitazene Etodesnitazene
12-50 times lower	4'-OH-nitazene 5-aminoisotonitazene Flunitazene Metodesnitazene

Potency in relation to Fentanyl (in vitro human T-Cell bioassay)



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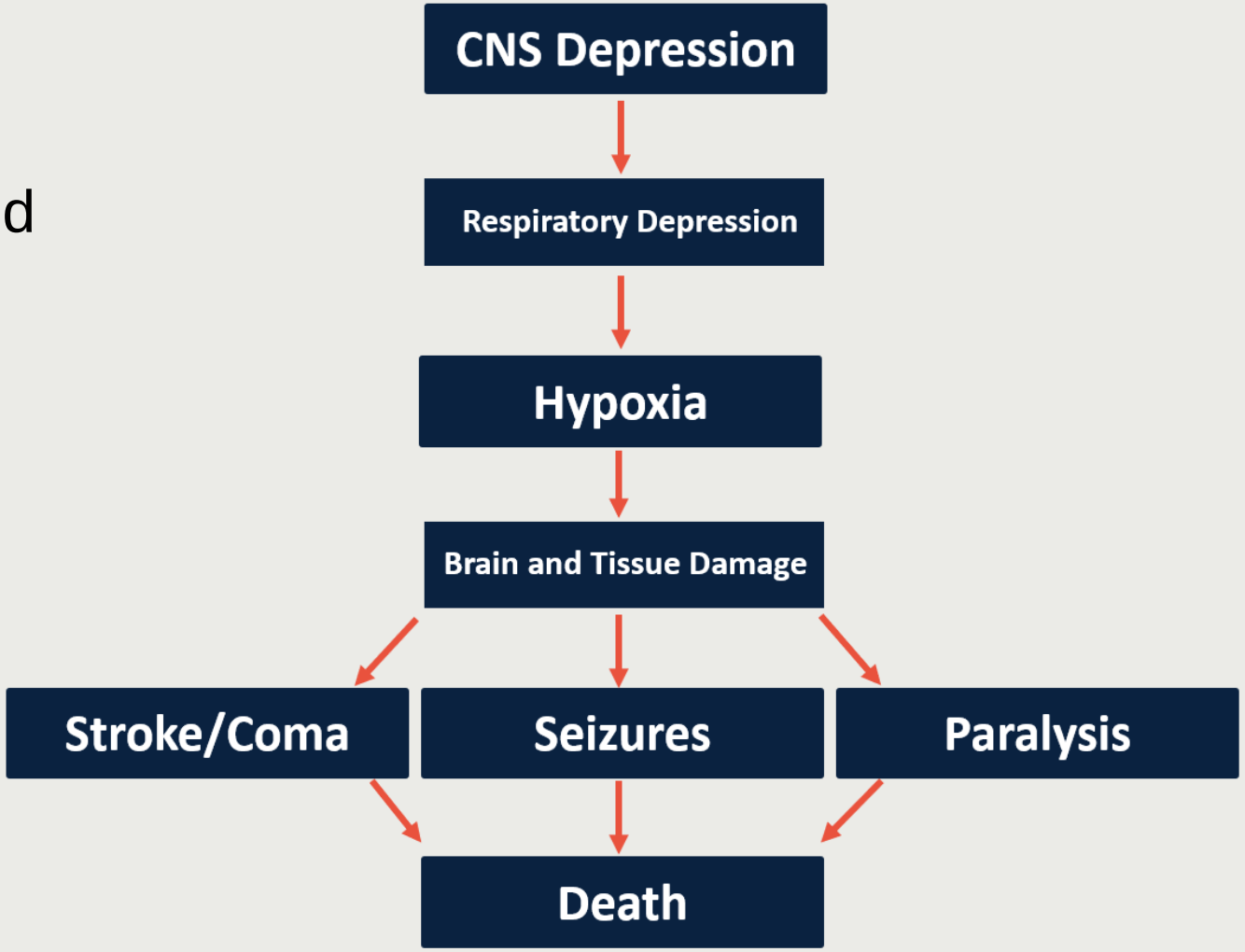
NITAZENE TOXICITY

- Intoxications align with clinical opioid overdose patterns
- Topical in recent news and media



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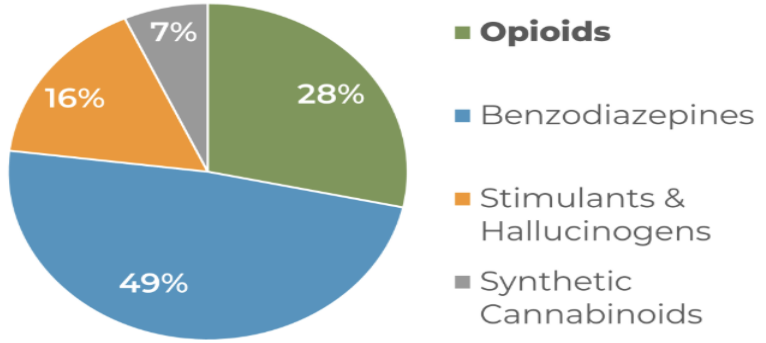
NPS Opioids in the United States

TREND REPORT | **Q1 2024**

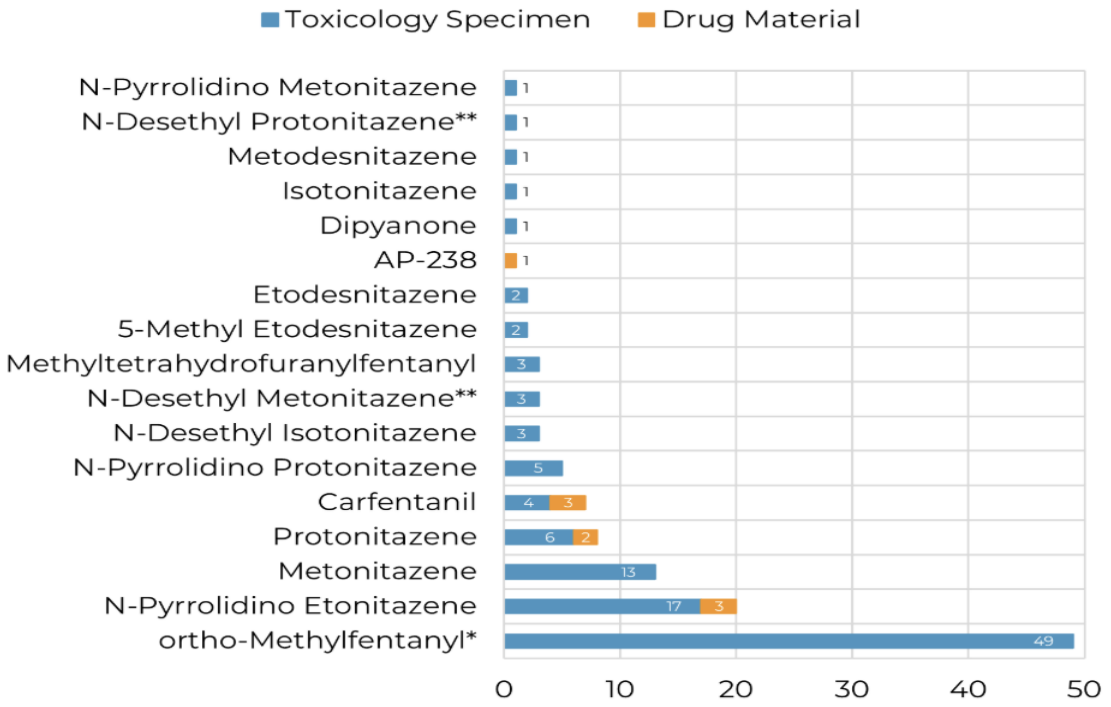
PURPOSE: This report provides up-to-date information regarding the status of NPS opioid prevalence and positivity in the United States.

OVERVIEW: Novel psychoactive substances (NPS), including NPS opioids, continue to pose great challenges for forensic scientists, clinicians, and public health and safety personnel. NPS opioids have been implicated in an increasing number of emergency room admissions, death investigations, and mass intoxication events, and often appear in combination with other illicit opioids (e.g. fentanyl, heroin). Maintaining a current scope of analysis can be challenging, requiring comprehensive analytical methodologies and reference materials for identification(s).

OBJECTIVE: Our laboratory utilizes novel approaches for the analysis of drugs in toxicology specimens and drug materials using comprehensive non-targeted data acquisition by gas chromatography mass spectrometry (GC-MS) and liquid chromatography quadrupole time-of-flight mass spectrometry (LC-QTOF-MS). The scope of analysis contains more than 1,200 drugs, including a vast majority of NPS and their metabolites. This approach allows for real-time identification of novel opioids and further data analysis of important trends. Cases and sample types linked to these results originate from recreational drug use, medicolegal death investigations, clinical intoxications, and/or driving under the influence of drugs investigations, among other circumstances. The results in this report represent the total number of NPS identifications at the CFSRE during this quarter, including those from sample-mining, data-mining, routine testing, and esoteric testing.



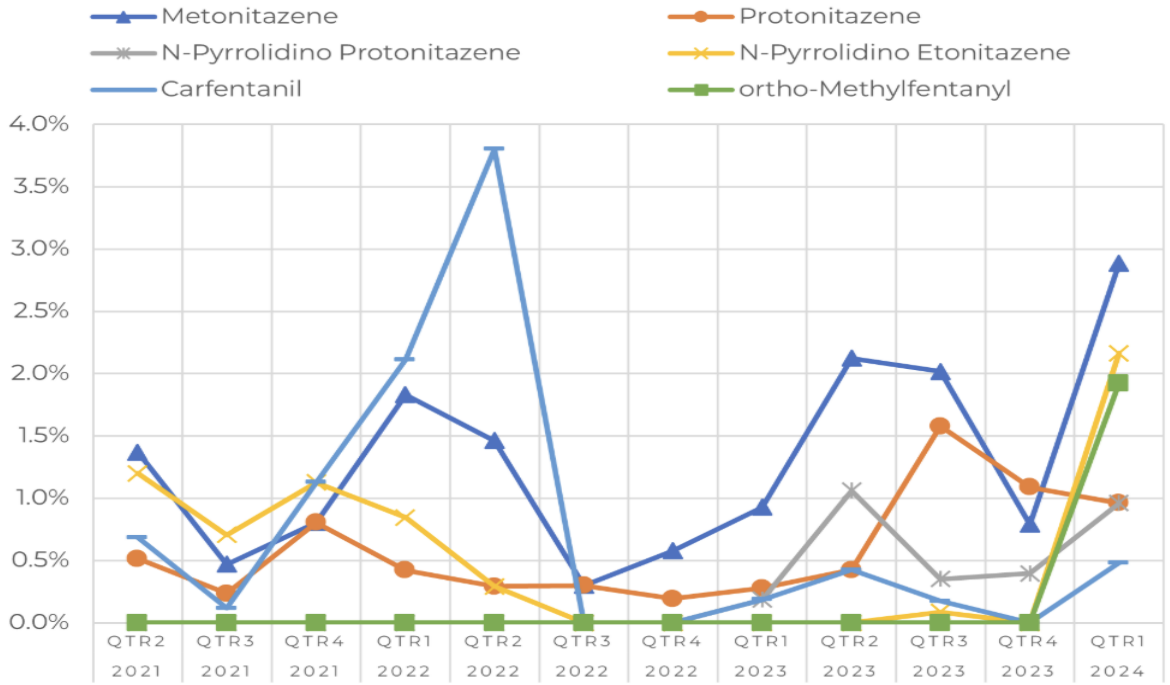
NPS OPIOIDS IDENTIFIED



***Detected only as metabolite to date. *Presumed primary isomer based on testing to date. — For Reference: Fluorofentanyl (n=330) & Fentanyl (n>400)*

SELECT POSITIVITY: Q2 2021 TO Q1 2024

Positivity plots are derived from a select toxicology data source that has been consistently monitored since 2018.



POST-MORTEM CONCENTRATIONS

	n	Mean (ng/mL)	Range (ng/mL)	Potency relative to Fentanyl[4,5]
N-pyrrolidino etonitazene	2	0.4	0.3-0.6	~43x
Isotonitazene	2	1.7	0.1-3.4	~9x
Protonitazene	6	1.0	0.3-1.7	~3.5x
Metonitazene	4	15.7	0.4-33.0	~2x
Etodesnitazene	1	32.2	32.2	~1/4 - 1/2x

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[4]Vandeputte M, et al. *ACS Chem. Neurosci.* (2021). [5]Vandeputte M, et al. *Arch. Toxicol.* (2022).

Locally in Victoria

- Recent public health alert in Victoria (20/6/22)
- Protonitazene sold as Ketamine

Protonitazene is a potent NSO that is not often seen in Australia. It's around three times more potent than fentanyl and can produce life-threatening toxic effects in very small amounts.

Be cautious about any powder with a yellow colour or tinge, especially if sold as ketamine – it may contain protonitazene

There have been serious recent hospitalisations associated with this powder. **The product appears to have strong and fast-acting effects**, leading to loss of consciousness and respiratory depression which may cause life-threatening hypoxia (insufficient oxygen for normal functioning).

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EDNAV ACKNOWLEDGMENTS

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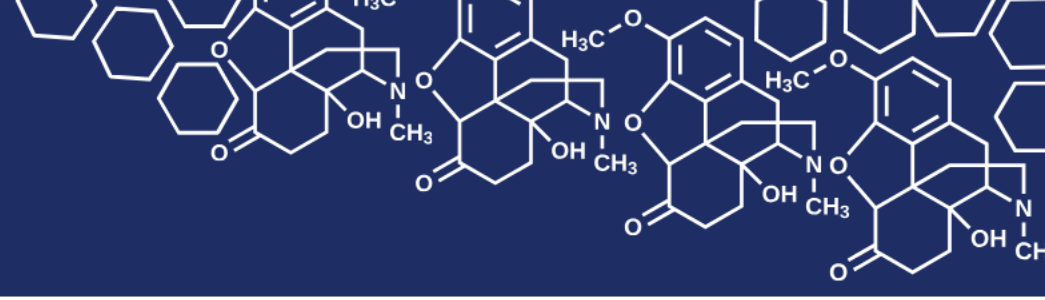
QUESTIONS?

MONASH University



thank you

for coming...