

The National

Methamphetamine Symposium

Making Research Work in Practice

12 May 2015 | Arts Centre, Melbourne

**Therapeutic Communities:
Methamphetamine clients
and treatment approaches**

Lynne Magor-Blatch

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Evolution of the TC - from UK and US beginnings to a uniquely Australasian model

- TCs in psychiatric hospitals pioneered by Maxwell Jones (mid-1940s) and others in UK and appeared around 15 years earlier than those in the US
- Maxwell Jones founded a community to provide structure and content for therapeutic change in the lives of individuals with long-standing mental disorders
- Treated difficult psychiatric cases considered beyond treatment, such as %chronic failures+and %troublemakers+
- Based his approach on the theory that a healthy group life would make healthy individuals
- *Therapeutic Community* described a place %organised as a community in which all are expected to contribute to the shared goals of creating a social organisation with healing properties+

Evolution of the TC - from UK and US beginnings to a uniquely Australasian model

- Synanon model commenced in 1958 in US, developing from self-help meetings held in the home of Charles (Chuck) Dederich home as AA meetings not comfortable with drug users attending meetings
 - Based on the notion of self responsibility
- American TCs largely staffed in the early days by ex-addict+ (recovered, other professional) staff
- UK model, growing out of psychiatric hospitals, largely staffed by professionals (nurses, psychologists, psychiatrists)
- In late 60s and early 70s the concepts of the self help tradition merged with the use of professional practices and staffing in UK began to include people who had been through programs and US programs started to include professionally trained staff

The Beginnings in Australia ...

- Therapeutic Communities for the treatment of alcohol and other drugs use have been in operation overseas since the 1940s and in Australia since 1972
- The therapeutic community movement was formalised in Australia in 1985 during the Premier's Conference, held in Melbourne, Victoria. This was the forerunner of the National Campaign Against Drug Abuse (NCADA) and ATCA established in 1986
- Australian TCs had as their traditions both the UK and US models, as well as a uniquely Australian foundation dating back to 1930s and 1940s



Australian TCs

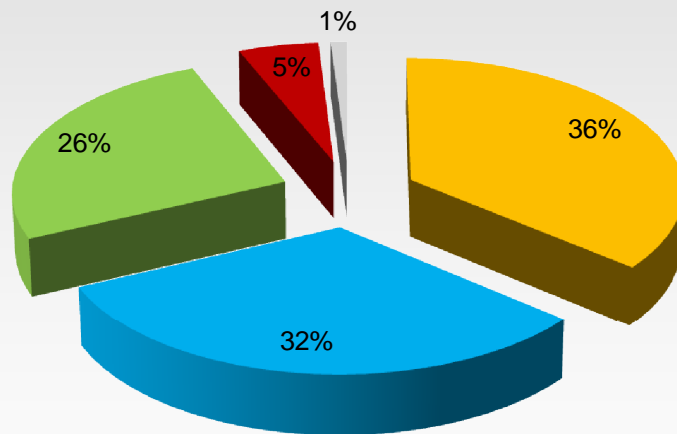
- Odyssey House, originating in the US, was founded by a psychiatrist and therefore from the start embraced concept of dual diagnosis . in common with the UK model
- Killara House, one of the earliest Australian TCs was established by graduate and former staff member of Ley Community, Oxford, UK
- Karralika in ACT established in 1976 by four doctors looking for another way of treating drug dependency
- Early days in US, UK and Australia TCs were concerned with treatment of alcohol and heroin dependencies



Changing presentations

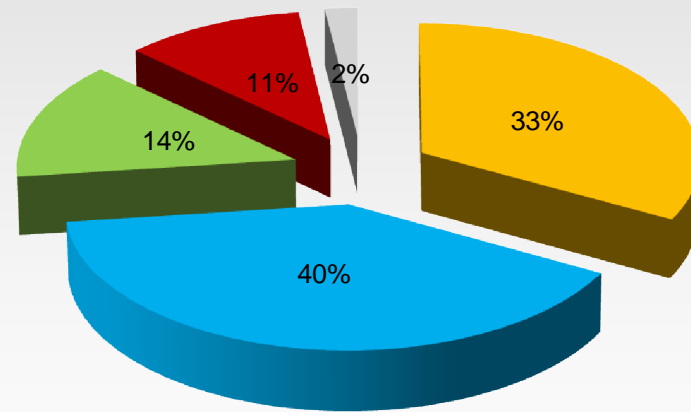
**Lives Lived Well:
2013-2014**

- Alcohol
- Cannabis
- MDMA/Ecstasy
- Meth/Amphet
- Heroin



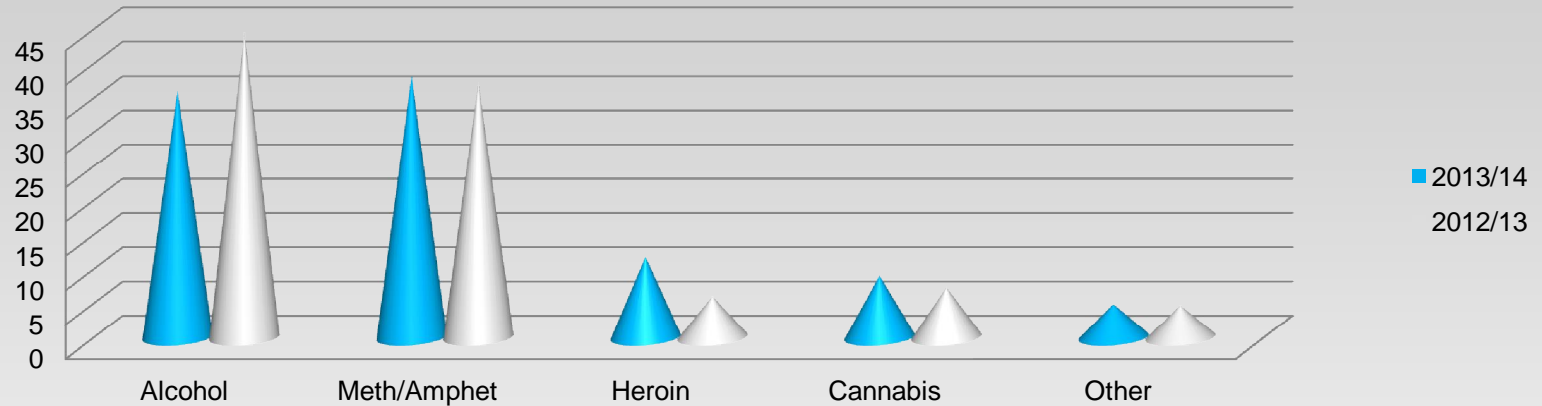
**Odyssey House NSW:
2013-2014**

- Alcohol
- Cannabis
- Other
- Meth/Amphet
- Opiates

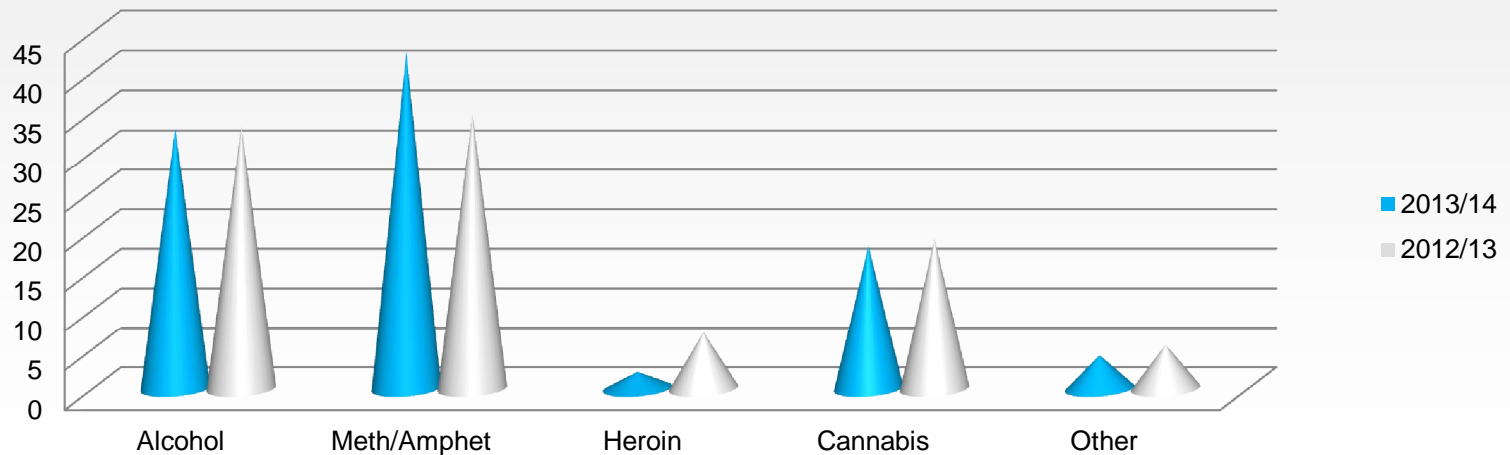


Changing presentations

Cyrenian House Rick Hammersley Centre



Saranna Women and Children's Program



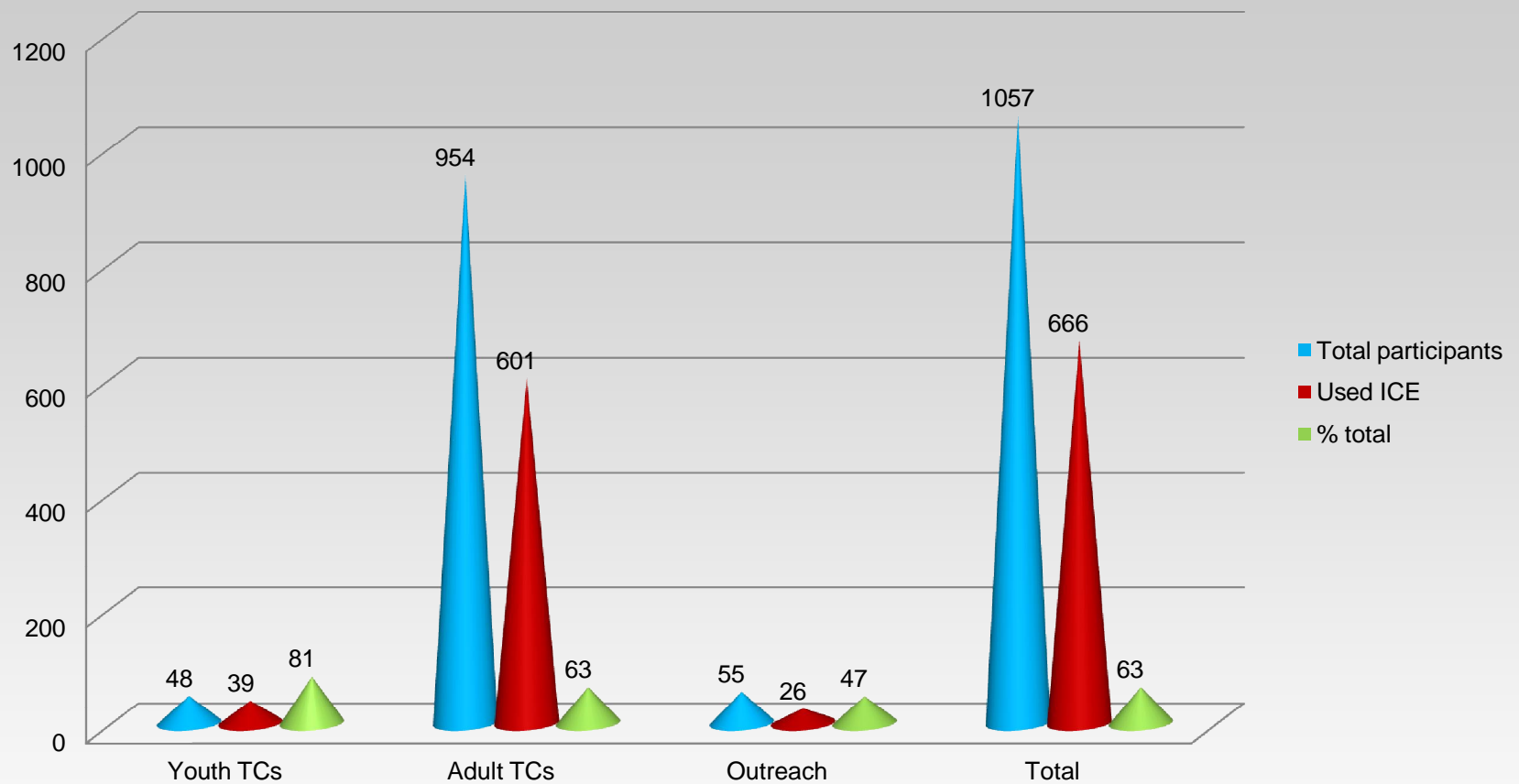
Current TC Methamphetamine presentations

- On May 2, 2015 all ATCA members were invited to participate in survey to provide a snapshot picture of how many residents, reporting the use of Ice, were in treatment at that time across Australian and New Zealand TCs.
- 22 member organisations (63%) participated, providing data for 35 TCs (57.4%) and 3 outreach programs. 2 of the programs provided data on withdrawal units. 1 of the TCs was in a custodial setting. Total services: 38.
- 3 TCs working with young people (14-24yrs), 32 TCs (inc. prison-based TC) with adult populations (18+ yrs).
- Across Australia and New Zealand: Victoria (4), NSW (15), Queensland (8), South Australia (2), Western Australia (2), ACT (3), Northern Territory (1), Tasmania (1), New Zealand (2)

Current TC Methamphetamine presentations

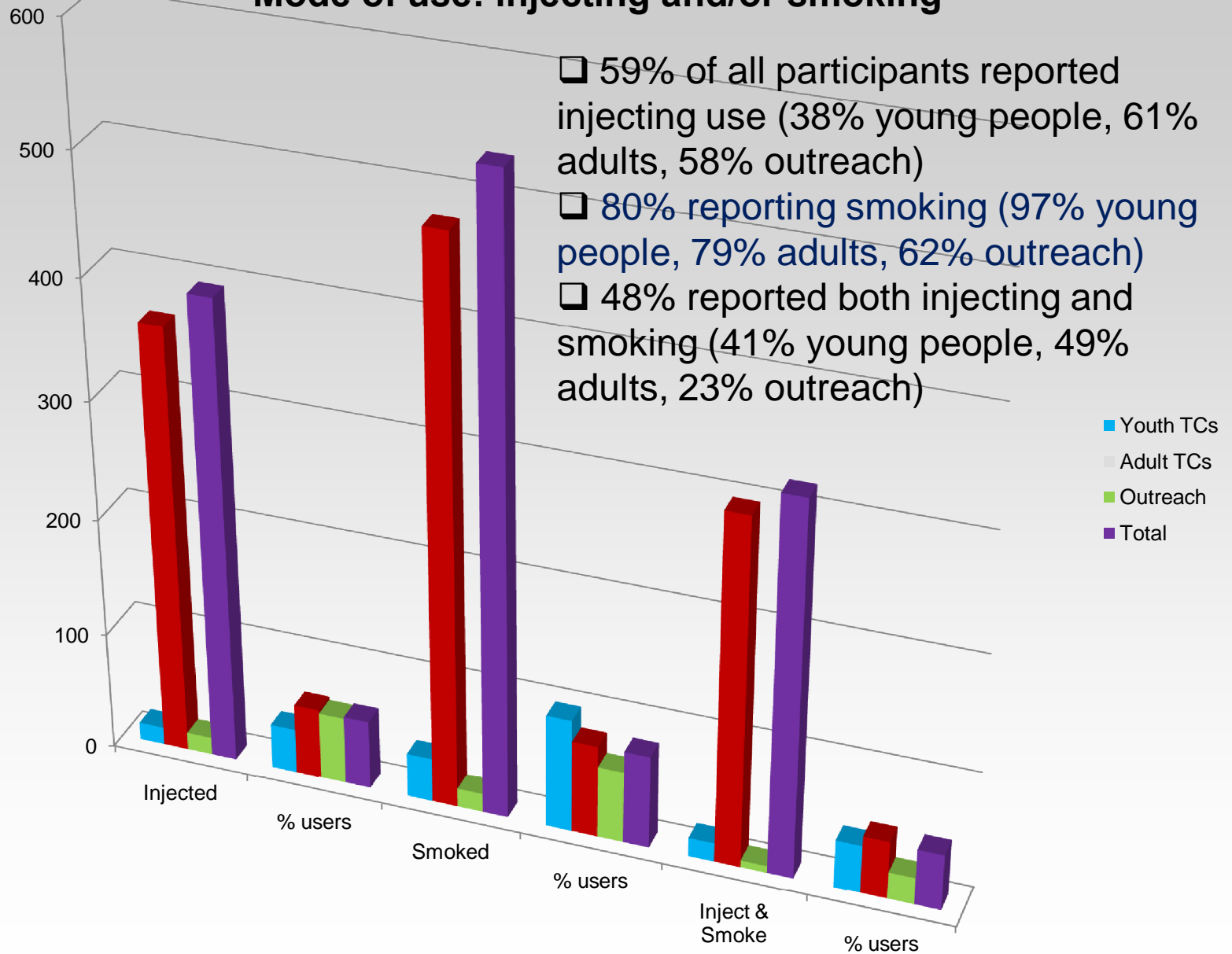
- Participation was voluntary and non-identified. Participants provided information on (1) if they had used Ice (2) mode of use (3) estimated daily cost of Ice usage (4) if they had taken part in an illegal activity to fund their usage (5) if they had used with friends, and (6) if they currently had friends who were still using.
- TCs working with young people reported the highest percentage of Ice users in treatment . overall 81% of clients in treatment on that day reporting Ice use . and 1 of the TCs reported 91% residents in treatment having used Ice.
- TCs working with adult populations reported overall 63% of residents in treatment were Ice users . with 12 of the 32 TCs (37.5%) reporting more than 80% of the current population as Ice users. 1 of the smaller ATCA members reported 100% of current population as Ice users.
- Outreach programs had lower numbers reporting use of Ice, with 47% of participants.

Youth and Adult TCs and Outreach: Numbers using Methamphetamine

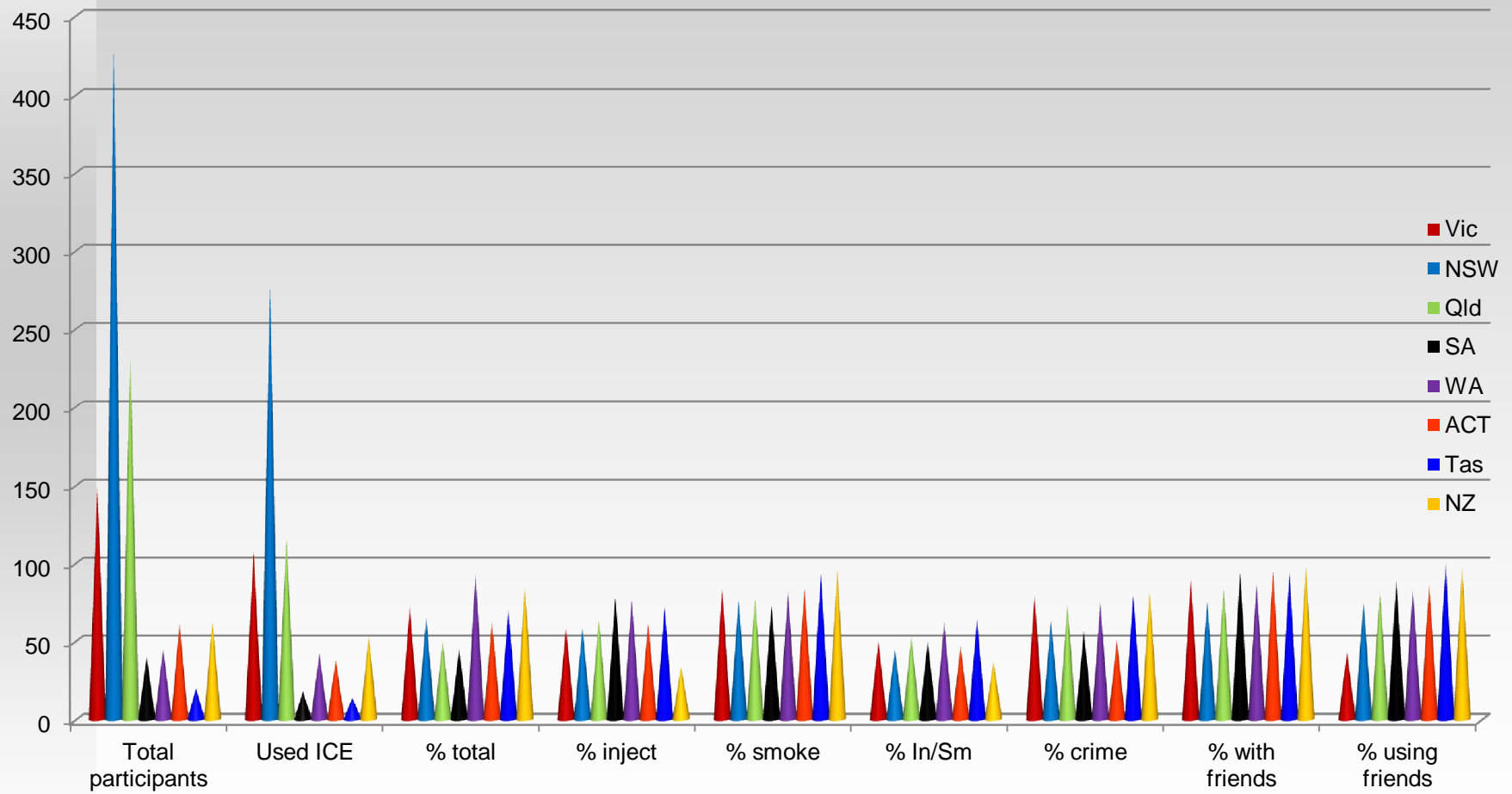


- ❑ Youth TCs . 48 participants: 39 (81%) using Ice
- ❑ Adult TCs . 954 participants: 601 (63%) using Ice
- ❑ Outreach . 55 participants: 26 (47%) Ice users
- ❑ Total participants: 1057 (1002 in residential treatment) - 666 (63%) Ice users

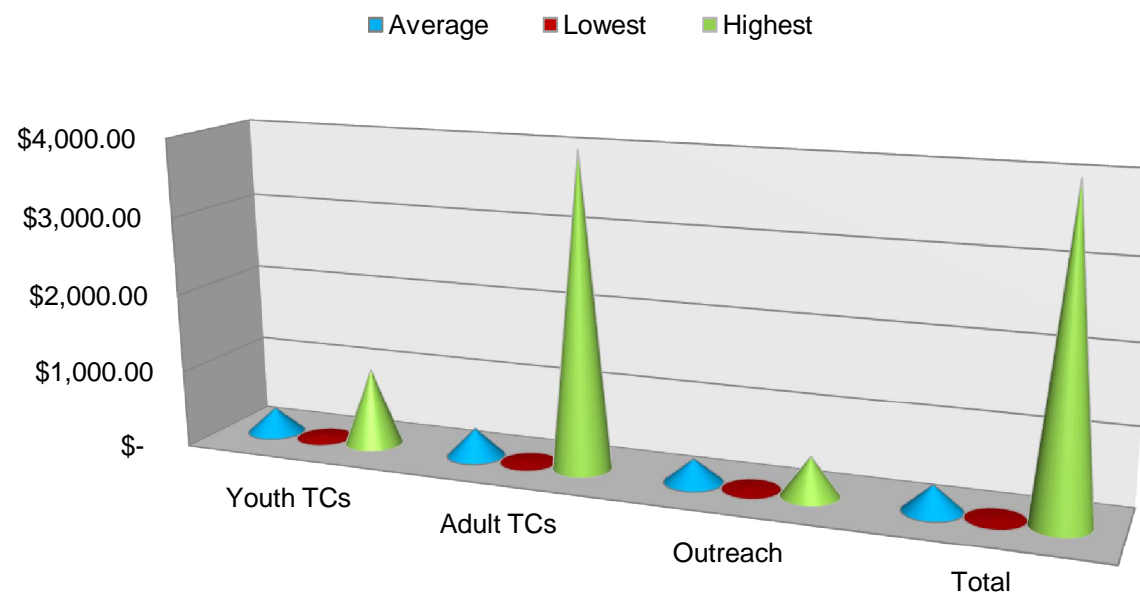
Mode of use: injecting and/or smoking



Results by jurisdiction

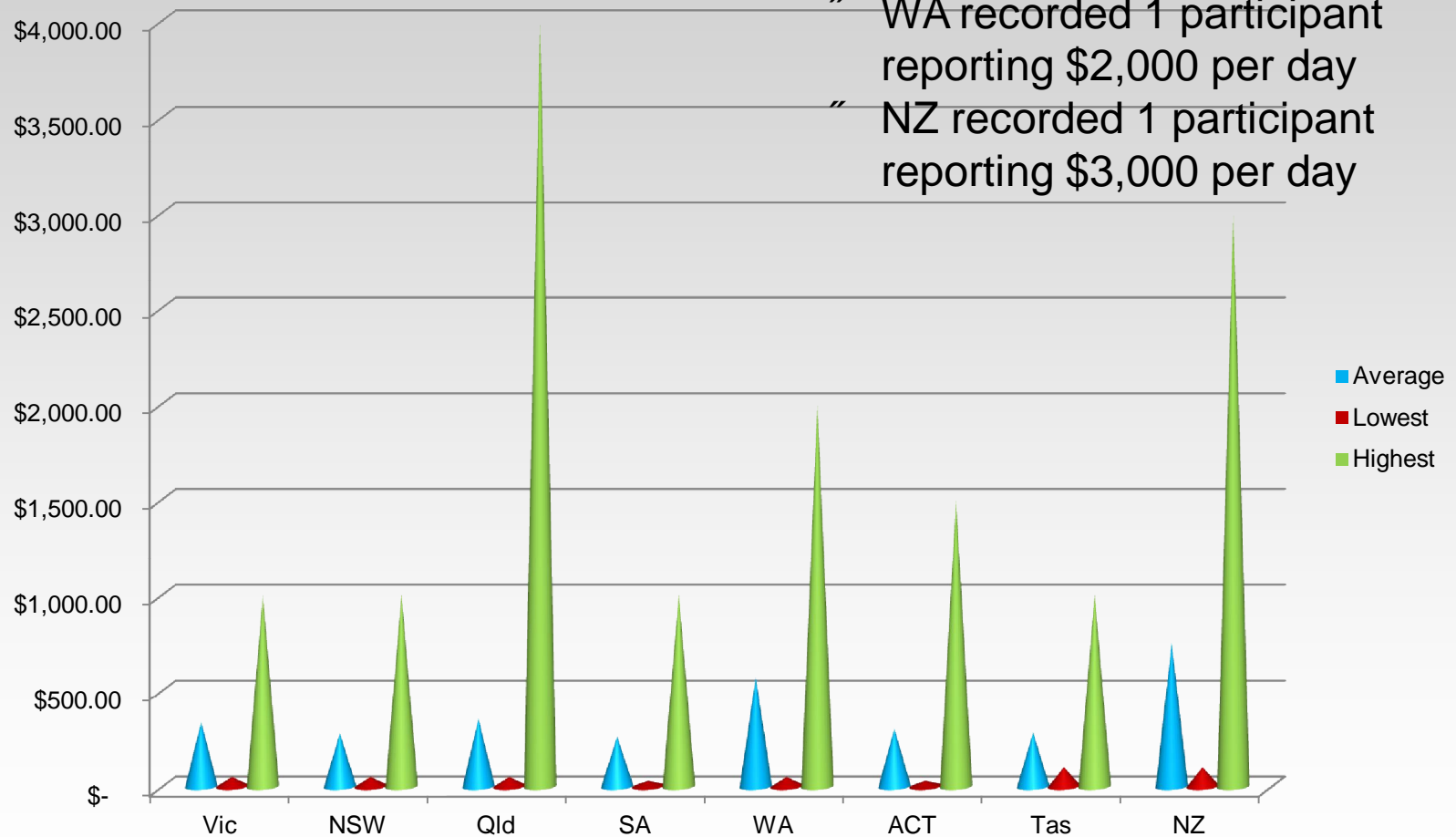


Daily cost of Ice use



- ❑ Average daily cost amongst young people was \$323 . ranging from \$30 - \$1,000
- ❑ Participants in Adult TCs reported average cost of \$359 . ranging from \$30 - \$4,000 per day.
- ❑ 18 participants reported spending \$1,000 and above daily. Personal reports from participants showed usage of up to 2-3grams daily . approx \$1,000 - \$1,500.
- ❑ Outreach participants reported spending less per day with average cost of \$300, ranging from \$30 - \$500
- ❑ Total average daily cost across all conditions was \$327 per day

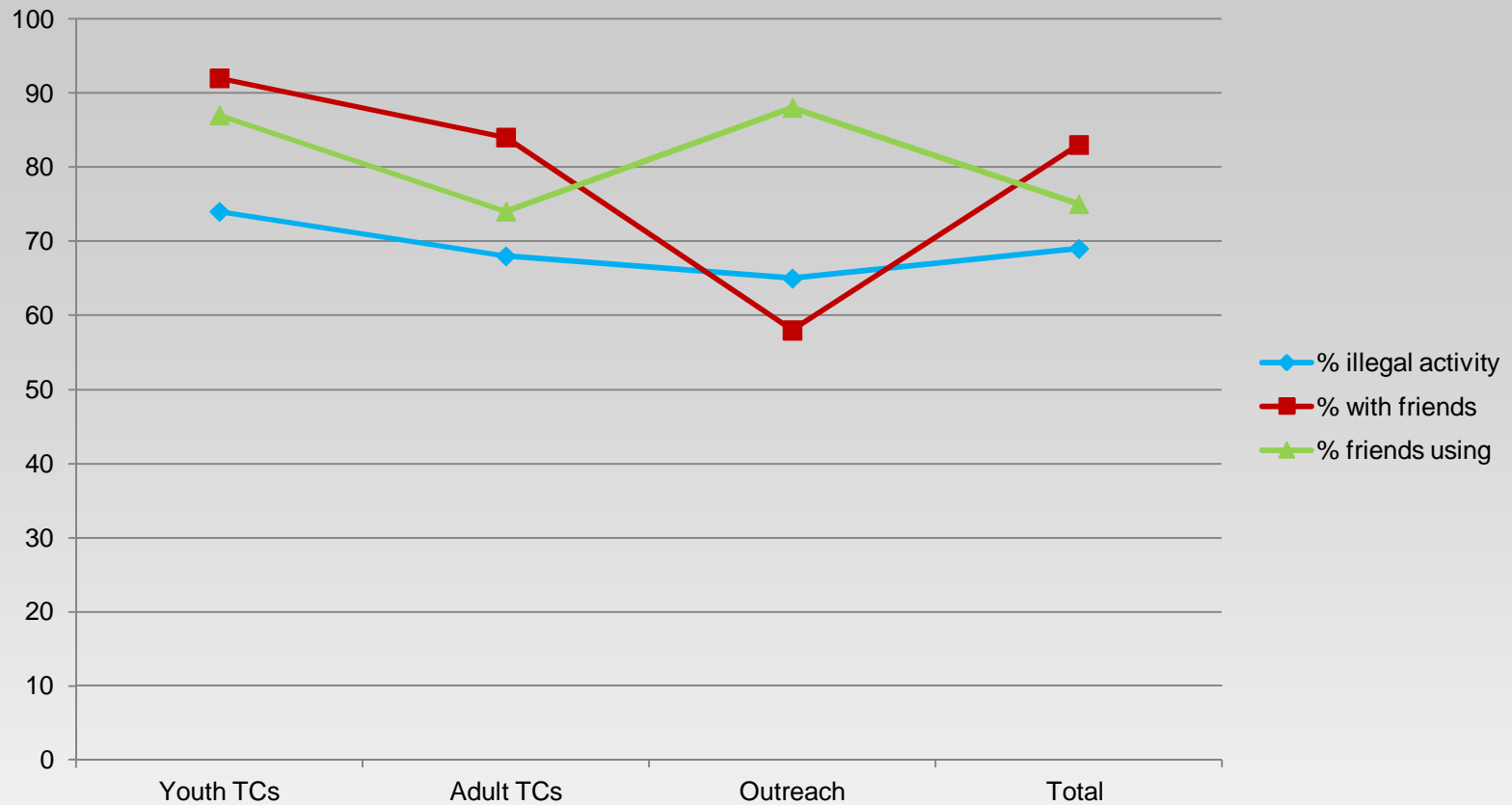
Daily cost by jurisdiction



“ Across all jurisdictions, costs ranged from \$30-\$4,000 daily . with Queensland recording the highest cost (\$4,000).

“ WA recorded 1 participant reporting \$2,000 per day

“ NZ recorded 1 participant reporting \$3,000 per day



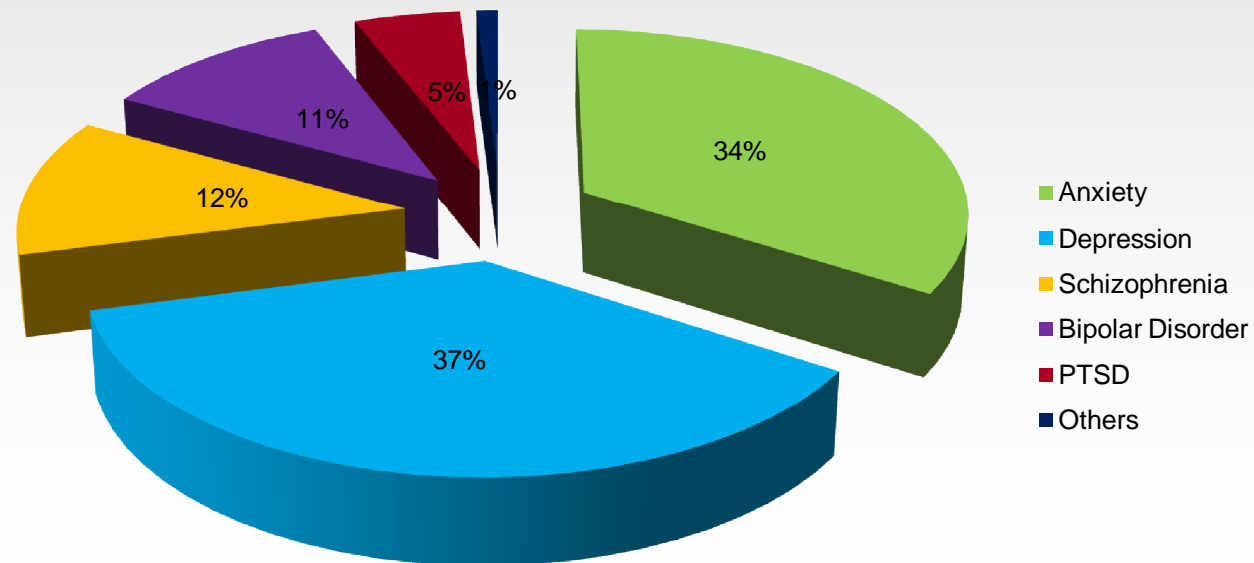
- ❑ Similar percentages across all conditions stated they had been involved in illegal activities to fund their use (74% Youth, 68% Adults, 65% Outreach) . Total: 69%
- ❑ Overall, 83% reported using with friends, fewer outreach (58%)
- ❑ 75% reported friends still using (87% Youth, 74% Adult, 88% Outreach). This raises issues for aftercare and increases importance of relapse prevention programs

Complex presentations

- Evidence suggests individuals with severe substance-use disorders, mental health issues, forensic involvement and trauma histories, benefit from TC treatment.
- TCs are an important and effective treatment for clients in improving at least some aspects of their quality of life, specifically mental health and social engagement, and reducing harmful behaviours, including substance-use and crime.
- TCs provide a multifaceted treatment modality to a complex population in variable circumstances (Magor-Blatch, Bhullar, Thomson & Thorsteinsson, 2014).
- Recent study of ATS users in 11 Australian TCs found the presence of pathological symptoms, clinical syndromes and symptom pathology for 19 of the 24 MCMI-III Clinical Personality, Clinical Syndrome and Severe Clinical Syndrome scales (Magor-Blatch, 2013).

Mental illness and drug dependence

- Drug dependence combined with mental health problems is a significant issue and poses specific treatment challenges.
- For example, at Odyssey NSW approximately 57% TC residents in 2013-14 had co-existing mental illness.
- Represents 11% increase from 2012-13, and continuing an upward trend.
- Issues within treatment: anger management, paranoid thoughts, suicide ideation and self-harm



Group Intervention for Amphetamine-Type Stimulant (ATS) Use (GIATS): 2009-2013

- ATS use is associated with a range of negative physical and mental health consequences, resulting in substantial costs to the community in health care, criminal justice and other psychosocial factors, including child protection and family support.
- ATS were the fourth most common principal drug of concern for which treatment was sought in 2009. 10 in Australia.
- While the majority presented for counselling, 13.9% entered residential treatment, including therapeutic communities (TCs) in 2009. 10.
- Currently, this number is far higher . on average 62% with up to 91% in some TC populations.

Group Intervention for Amphetamine-Type Stimulant (ATS) Use (GIATS): 2009-2013

- Good evidence that TCs are effective in reducing substance use and dependency, as well as psychosocial functioning, attitudes and behaviour (De Leon, 2010; King, 2014, Magor-Blatch, 2013)
- Psychosocial responses, including CBT, relapse prevention, contingency management , ACT and MI are among the most effective treatments for methamphetamine abuse and dependence (Lee et al, 2007; Magor-Blatch, 2013; Rawson et al, 2002).
- Long term treatment success has been found to be more common with longer treatment duration and more intensive treatment modalities of counselling and residential rehabilitation (McKetin et al, 2010).
- MATES study: participants who used methamphetamine more often prior to treatment entry, injected, experienced psychotic symptoms and high levels of psychological distress had poorer outcomes (McKetin et al, 2010).

**ODYSSEY
HOUSE**



*'A Calm in
the Sea of
Addiction'*

GIATS: 2009-2013

- Prior to this study, evidence-based interventions for this group were based on individual cognitive behavioural therapy.
- A treatment intervention, utilising CBT, ACT and Mindfulness was developed, and presented within an MI framework. This included four sections:
 - ◆ Section 1: Tip Sheets
 - ◆ 11 Tip Sheets covering clinical information, withdrawal, motivation for change, coping with cravings, recovery metaphors, managing feelings, coping with anxiety & relapse dangers.
 - ◆ Section 2: Clinical Assessment
 - ◆ Comprehensive assessment, Assessing readiness for change, Mental Health assessment, Screening for depression & Anxiety, Information on the PsyCheck Screening Tool, Psychosis Screening Tool



*'A Calm in
the Sea of
Addiction'*

GIATS: 2009-2013

- ◆ Section 3: Treatment Protocol . 7 modules
 - ◆ Module 1: Building motivation for change
 - ◆ Module 2: Understanding and coping with cravings
: Acceptance & Commitment Therapy
 - ◆ Module 3: Understanding how thoughts influence
behaviour
 - ◆ Module 4: Understanding feelings and making the
Mind/Body connection
 - ◆ Module 5: Learning to deal with anxious thoughts
and feelings
 - ◆ Module 6: Understanding and acknowledging core
beliefs and values
 - ◆ Module 7: Relapse Prevention



GIATS: 2009-2013

- ◆ Section 4: Worksheets
 - ◆ The treatment intervention includes 22 different worksheets covering:
 - “ Timeline follow-back & stages of change ladder;
 - “ Psychosis screener;
 - “ Lifestyle issues causing problems; Decisional balance; Pavlov's Dog & Fight or Flight Response;
 - “ Vitality & Suffering Diary; Unhelpful thinking patterns; Self-monitoring record; Understanding how we experience feelings; Feelings of Anger, Loss, Shame & Guilt; Pleasant thoughts calendar; Anxious thoughts questionnaire;
 - “ Values worksheets, including Personal Values Card Sort;
 - “ Positive Affirmations; Relapse dangers & Goal setting.

The Study and Hypotheses



- The study explored the differences between those with primary and secondary ATS use in terms of demographic, substance-use and criminal history, physical and mental health, employment and psychosocial issues.
- Of interest was the question whether those who undertook the focussed Group Intervention for ATS (GIATS) received an additional treatment benefit over and above the usual TC treatment in matched TCs.
- A further question sought to determine if the level of psychiatric comorbidity influenced treatment outcome among study participants.

The Study and Hypotheses



- It was hypothesised that the GIATS would provide additional benefit within a treatment context and, as a result, participants receiving this specialised treatment intervention would experience:
 - ◆ (1) reduced attrition from TC treatment,
 - ◆ (2) a reduction in ATS use,
 - ◆ (3) improvement in psychosocial functioning, and
 - ◆ (4) a reduction in criminal activity.
- ◆ It was proposed that TCs utilising the GIATS would incorporate this within the TC as a part of the treatment program, particularly utilising it with those in the early stages of treatment.
- ◆ In relation to future application, TC intervention sites were invited to include other substance users in the treatment sessions and to seek qualitative feedback from the wider group.

Demographics

- The Intervention and TAU sites were matched in relation to geography (WA, ACT, NSW, Queensland) and treatment populations. This included two sites in each condition working with families (WA, Victoria, ACT and NSW); and with mixed or single gender (male-only and female-only).
- Demographically, the conditions were well matched in relation to age; marital, parental and family status; education and employment; criminal history; substance use (including primary and secondary drugs of concern); injecting use and overdose history; and severity of drug dependence.



Demographics



- TAU group: mean age of 32.11 years, $SD=6.60$.
 - ◆ Age range of men was 19. 51 years, mean age of 32.46 years, $SD=6.55$.
 - ◆ Age range of females was 20. 48 years, mean of 31.41, $SD=6.75$.

- Intervention group: mean of 35.37 years, $SD=8.89$.
 - ◆ Age range of men was 19. 63 years, mean age of 35.35 years, $SD=8.90$.
 - ◆ Age range of females was 20. 58 years, mean of 35.08, $SD=8.75$.

- An independent samples *t*-test revealed participants in the Intervention group were significantly older than those in the TAU group ($M = 32.11$, $SD = 6.60$) and Intervention ($M = 35.24$, $SD = 8.81$) group, $t(239) = 3.12$, $p = .002$.

Demographics



- TAU Group: 48 participants (39.3%) - 26 males (31.3%) and 22 females (56.4%), stated they were parents.
- Intervention Group: 79 (63.2%) - 44 males (58.7%) and 35 females (70.0%), were parents.

- Significant difference - $\chi^2(2) = 14.46, p = .001$.

- TAU group: 2 males and 4 females (total of 6 participants, 4.9%) had care of their children.
- Intervention Group: 5 males and 18 females (total of 23 participants, 18.4%) had care of their children.

- Importantly, at baseline the two groups were comparable on all measures with significant differences in just 2 areas . age and parenting status.

Measures



- Participants completed two self-report questionnaires, which included a number of validated measures, on recruitment to the study. Questionnaire A included:
 - ◆ Questions selected from the Brief Treatment Outcome Measure (BTOM; Lawrinson, Copeland, & Indig, 2003)
 - ◆ Severity of Dependence Scale (Amphetamines and other ATS use) (SDS; Gossop, Best, Marsden, & Strang, 1995)
 - ◆ Lifestyle issues for seeking treatment (adapted from the 2007 New Zealand Illicit Drug Monitoring System (IDMS) survey)
 - ◆ The Depression Anxiety Stress Scale (DASS-42; Lovibond & Lovibond, 1995a)
 - ◆ Novaco's Dimensions of Anger Reactions Scale 5 (DAR5; Novaco, 1975)
 - ◆ Behavioural Rating Inventory of Executive Function - Adult Version Self Report Form (BRIEF-A; Roth, Isquith, & Gioia, 2005)
 - ◆ The Short Form-36 Version 2 (SF-36v2; Ware, Gaudek, & IQOLA Project Group, 1994)

Measures



- Questionnaire B comprised:
 - ◆ Millon Clinical Multiaxial Inventory . III (MCMI-III; Millon, Millon, Davis, & Grossman, 2009)

- A third measure, the Timeline Follow Back, was also administered to participants at entry.

- Questionnaire A was administered at baseline, six months post baseline (T1) and again at 12. 18 months (T2, T3) after discharge from treatment.

- Questionnaire B was administered only once, at baseline, to determine what personality factors, if any, would predict retention within treatment for participants with primary compared with secondary presentations of ATS use disorders.

Baseline data: ATS use



- Age of first use of ATS varied widely across the sample.
 - ◆ Age of first use - TAU group: 11 years of age; Intervention Group: 12 years of age.
- Injecting the main mode of use across all ATS drug types, other than for Ecstasy, where the main form was ingestion. Injecting reported by 19.7% of TAU and 24.8% of Intervention group.
- 9 of TAU group and 10 of Intervention group had overdosed in the three months prior to TC entry.
- No differences in type of drug use (ATS as primary or secondary drug of concern [AOD]) and gender between the two groups for the TAU ($\chi^2(1) = .06, p = .81$) and Intervention ($\chi^2(1) = .37, p = .54$).
- TAU group was significantly younger on most of the drug variables, even with the corrections for overall age differences and length of use. While this suggests the TAU group was a more problematic group, years between onset and recognition of problematic use were similar for both groups, suggesting a characteristic course of the disorder.

Criminal offending at baseline



- For all past crimes - no significant relationships between TAU vs Intervention on any crimes.
- In terms of past three months only - No significant relationships between groups on: property crime ($\chi^2(1) = 2.20, p = .14$), person crime ($\chi^2(1) = 3.11, p = .08$), drug possession/use ($\chi^2(1) = 2.02, p = .16$), drug dealing ($\chi^2(1) = 2.50, p = .11$), forgery ($\chi^2(1) = 3.21, p = .07$), arson ($\chi^2(1) = 3.73, p = .053$), driving ($\chi^2(1) = 2.94, p = .09$), and other offences ($\chi^2(1) = 1.91, p = .17$),
- Intervention group reported significantly higher number of vandalism acts as compared to TAU group, vandalism ($\chi^2(1) = 4.28, p = .04$).
- For number of occasions when a person committed a crime, a series of independent samples *t*-tests revealed no significant differences between TAU and Intervention groups on any of crimes.

Personality



- In line with expectations, the presence of pathological symptoms, clinical syndromes and symptom pathology was observed for 19 of the 24 MCMI-III Clinical Personality, Clinical Syndrome and Severe Clinical Syndrome scales.
- Strong presence of pathological symptoms observed on the Antisocial, Depressive, Masochistic, Alcohol Dependence, and Drug Dependence scales, with the Drug Dependence scale recording the highest mean score.
- Scores indicative of the presence of a clinical syndrome were observed on the Anxiety, Bipolar, Borderline, Dependent, Narcissistic, Negativistic and Sadistic scales.
- Scores suggestive of symptom pathology were observed on the Avoidant, Paranoid, Schizoid, Schizotypal, PTSD, Dysthymia and Thought Disorder scales. These results are consistent with previous studies (Grilo et al. 1997a; 1997b).

Personality



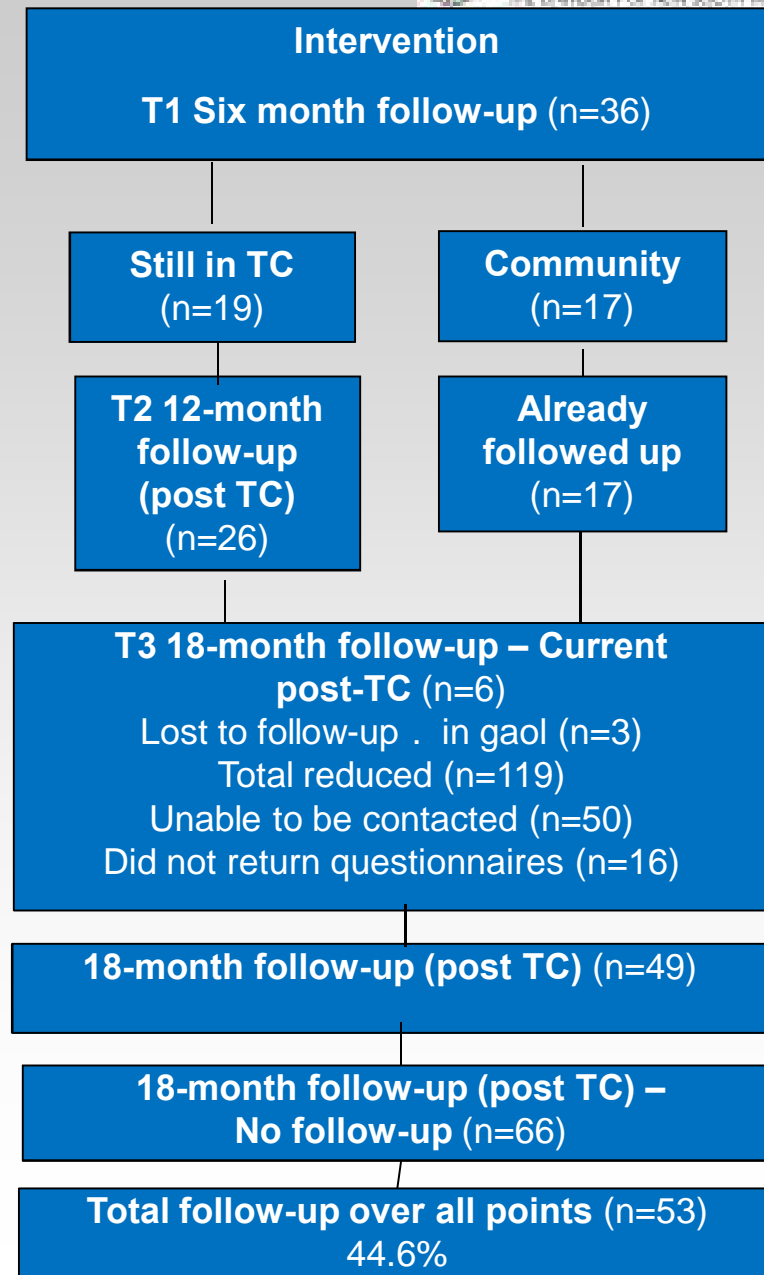
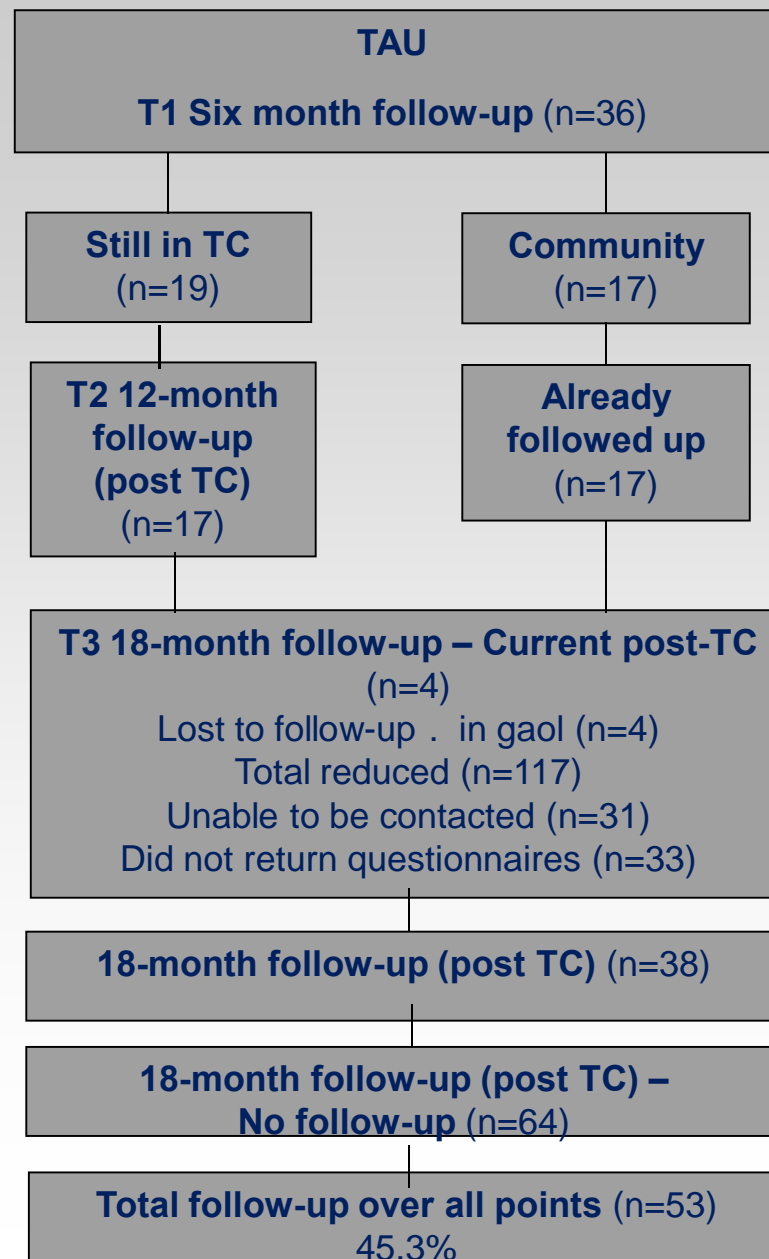
- Comparison of personality and psychopathology symptomology between primary and secondary ATS users revealed significant differences on three of the MCMI-III scales:
 - ◆ Alcohol Dependence, Major Depression and Somatoform, with participants who noted ATS as secondary DOC scoring higher on all scales.
- More participants who nominated ATS as primary DOC (49.5%) completed treatment (compared with 36.2%).
- Difference between the two groups was not significant.
- Of those participants who did not complete a program, many left against advice (ATS: 61.5% and AOD: 68.4%).
- Participants nominating ATS as secondary DOC nominated heroin (47.7%), alcohol (37.5%) and cannabis (10.6%) as primary DOC.

Personality



- Finding that personality and psychopathology did not predict retention in treatment unexpected, as personality disorders typically reported to have adverse effects on treatment outcomes among substance-using populations, such as poor treatment retention and relapse to substance use (Ross, Dermatis, Levounis, & Galanter, 2003).
- Other researchers report similar findings to the current study, with personality disorders, such as Antisocial PD being unrelated to TC treatment outcomes (see Messina, Wish, Hoffman, & Nemes, 2002).
- Additional explanation of the current findings is the potential for the TC to have impacted on participants' personality and psychopathology symptomology. Evidence to support changes in personality disorders during the treatment of substance abuse (DeGroot et al, 2003).

Numbers at follow-up



Outcomes T1 to T3 : ATS Use



	TAU				Intervention			
	T1	T2	T3	<i>p</i>	T1	T2	T3	<i>p</i>
Amphet Days used	5.25 (9.29) (<i>n</i> = 118)	.00 (.00) (<i>n</i> = 31)	.54 (1.38) (<i>n</i> = 24)	.12	5.41 (8.78) (<i>n</i> = 122)	.00 (.00) (<i>n</i> = 35)	.71 (2.01) (<i>n</i> = 34)	<.001
Amount used (wk)	6.66 (10.31) (<i>n</i> = 113)	5.88 (6.32) (<i>n</i> = 26)	3.91 (4.43) (<i>n</i> = 18)	.32	6.52 (7.83) (<i>n</i> = 118)	4.26 (4.92) (<i>n</i> = 28)	3.43 (3.51) (<i>n</i> = 32)	<.01
Meth Days used	5.74 (10.22) (<i>n</i> = 107)	.10 (.56) (<i>n</i> = 29)	1.04 (2.44) (<i>n</i> = 23)	<.05	3.03 (7.02) (<i>n</i> = 90)	.00 (.00) (<i>n</i> = 25)	1.48 (6.24) (<i>n</i> = 27)	.15
Amount used (wk)	3.74 (3.44) (<i>n</i> = 99)	11.60 (35.21) (<i>n</i> = 24)	4.35 (6.81) (<i>n</i> = 19)	.64	6.18 (12.27) (<i>n</i> = 80)	4.51 (4.76) (<i>n</i> = 20)	2.36 (2.91) (<i>n</i> = 23)	<.01
Ecstasy Days used	.75 (3.53) (<i>n</i> = 106)	.00 (.00) (<i>n</i> = 29)	.09 (.43) (<i>n</i> = 22)	.75	.58 (1.91) (<i>n</i> = 96)	.00 (.00) (<i>n</i> = 25)	.08 (.39) (<i>n</i> = 27)	.36
Amount used (wk)	3.87 (4.46) (<i>n</i> = 97)	1.76 (2.00) (<i>n</i> = 18)	3.54 (5.80) (<i>n</i> = 14)	.35	3.39 (3.78) (<i>n</i> = 77)	2.59 (2.80) (<i>n</i> = 16)	1.67 (1.74) (<i>n</i> = 18)	.42

Outcomes T1 to T3: SDS



- At baseline and again at T3, participants in both conditions reported high severity of dependence, indicating behavioural patterns of ATS dependence and continuing concern regarding loss of control and the psychological components of dependence.
- At T3, both the TAU and Intervention groups continued to register scores indicative of dependence, with means of 8.26($SD = 4.78$) and 10.45($SD = 3.03$) respectively.
- This difference was significant, ($t(58) = 2.16, p < .05$).
- Participants in each group still recorded above the cut-off on the SDS at T3, supporting other studies (e.g., Copeland et al., 2001) which have found scores on the SDS remaining high and above cut-off after treatment, and indicating ongoing anxiety about dependence.

Employment and Legal status



- Participants from both groups were still largely unemployed, with five people in each of the groups having gained either fulltime or part-time employment (16.1% TAU and 14.7% Intervention).
- Evidence at follow-up of a reduction in criminal behaviour, with increased percentages in both conditions reporting no legal conditions.
- Two participants in each of the groups had been arrested since leaving the TC. Individual arrests were slightly higher, but there were fewer occasions of crime amongst the Intervention group sample.
- TAU participants had committed fewer crimes in the previous three months; however, overall the Intervention group reported fewer occasions of crime (113 compared with 243 occasions by TAU participants).

Changes in Legal status: T1 - T3



	T1 TAU (n=122)	T3 TAU (n=27)	T1 Intervention (n=125)	T3 Intervention (n=30)
Current status	Number (%)	Number (%)	Number (%)	Number (%)
Bail	24(19.7%)	2(7.4%)	22(17.6%)	1(3.3%)
Parole	15(12.3%)	0(0.0%)	12(9.6%)	1(3.3%)
Probation	7(5.7%)	1(3.7%)	13(10.4%)	0(0.0%)
Treatment order	12(9.8%)	0(0.0%)	12(9.6%)	0(0.0%)
None	69(56.6%)	19(70.4%)	65(52.0%)	23(76.7%)
Other	9(7.4%)	5(18.5%)	12(9.6%)	5(16.7%)

Majority reported no longer having any legal conditions in each of the categories. Importantly, this included Treatment Orders, which at baseline had included 12 in each of the conditions (9.8% of the TAU and 9.6% of the Intervention group).

Criminal behaviour



- Overall occasions of crime had dropped, with 33 occasions reported by TAU participants and 37 by Intervention group participants, but with the majority in all categories committed prior to the previous three months.
- TAU participants admitted to property crime and driving offences as the main offences.
- A series of chi-squared analyses were conducted for crimes committed in the past (including the last three months). Results revealed no significant relationships between groups.

Mental Health and Wellbeing



- Psychosocial functioning is a key issue in terms of continuing recovery.
- Measures of mental and physical health (DASS-42 and SF-36), and executive functioning (BRIEF-A), which may be moderated by reactive aggression (assessed by the DAR5).
- Also of interest were assessments of personality disorder and psychopathology, and their possible influence on treatment retention, as well as factors in premature discharge (assessed by the MCMI-III).
- McKetin et al (2013) reported a five-fold increase in likelihood of psychotic symptoms during periods of methamphetamine use, and noted small minority of methamphetamine users continued to experience psychotic symptoms during abstinence, therefore indicating ongoing vulnerability.
- Recommendations stemming from this (MATES) study included provision of treatment as a first-line intervention.

Mental Health and Wellbeing: DASS 42



- Both Intervention and TAU groups improved from baseline to 12-18 months post-test on the levels of Depression, Anxiety and Stress.
- A comparison of results at T3 for TAU and Intervention groups shows that the Intervention group reported slightly higher scores on Depression, but the difference was not statistically significant ($t(60) = .03, p = .98$).
- Conversely, the Intervention group reported slightly lower symptoms of Anxiety and Stress, but once again these differences were not statistically significant (Anxiety: $t(60) = .02, p = .98$; Stress: $t(60) = .14, p = .89$).

Comparison of DASS scores



	Depression <i>M(SD)</i>	Anxiety <i>M(SD)</i>	Stress <i>M(SD)</i>
T1 TAU	17.55(11.16) (<i>n</i> =122)	13.27(9.66) (<i>n</i> =122)	19.18(10.91) (<i>n</i> =122)
T1 Intervention	20.00 (13.28) (<i>n</i> =125)	15.30(11.48) (<i>n</i> =125)	20.95(11.48) (<i>n</i> =125)
T2 TAU	12.53(12.35) (<i>n</i> =34)	8.32(9.40) (<i>n</i> =34)	14.24(12.80) (<i>n</i> =34)
T2 Intervention	13.06(13.10) (<i>n</i> =36)	10.19(11.49) (<i>n</i> =36)	15.92(12.10) (<i>n</i> =36)
T3 TAU	15.14(12.30) (<i>n</i> =29)	11.52(10.35) (<i>n</i> =29)	16.79(12.41) (<i>n</i> =29)
T3 Intervention	15.24(14.78) (<i>n</i> =33)	11.45(11.12) (<i>n</i> =33)	16.33(13.61) (<i>n</i> =33)
Lovibond & Lovibond (1995)	10.11(7.91) (<i>n</i> =2,914)	4.70(4.91) (<i>n</i> =2,914)	6.34(6.97) (<i>n</i> =2,914)
Crawford & Henry (2003)	5.55(7.98) (<i>n</i> =1,771)	3.56(5.39) (<i>n</i> =1,771)	9.27(8.04) (<i>n</i> =1,771)
Nicholas, Asghari & Blyth (2008)	14.29(11.95) (<i>n</i> =5,941)	9.27(8.64) (<i>n</i> =5,941)	16.26(11.23) (<i>n</i> =5,941)

Physical Health



- Results for the TAU sample show improvements on all measures, including a small reduction in Bodily Pain, which at earlier follow-up was still elevated.
- TAU sample reported significant improvement in two areas . General Health ($p < .05$, indicating that respondents believed they were as healthy as others in the general population) and Mental Health ($p < .05$, indicating that respondents rated themselves as improved in areas of nervousness, feeling sad or %down in the dumps+and happier when compared to others).
- Intervention group at baseline reported poorer physical health than the TAU sample (except Bodily Pain) and poorer functioning on Vitality and Mental Health.
- At T3, there had been significant improvement in Physical Functioning ($p < .05$), General Health ($p < .01$) and Mental Health ($p < .05$).
- Significant increase in Bodily Pain ($p < .05$), from baseline, although this was lower than that reported by respondents in the TAU sample.

Executive function



- Both groups improved from T1 to T3 on the BRIEF-A, with significant improvements on some subscales for each of the conditions.
- However, results indicate ongoing treatment considerations for working with this population group.
- This is of particular concern when cognitive deficits, including possibly poor impulse control, are considered alongside continuing high levels of mental health problems (particularly depression, anxiety and stress), personality and psychopathology, and reactive aggression.
- TAU group improved significantly on Inhibit ($p < .05$: the ability to resist impulses and to stop one's own behaviour at an appropriate time), and Shift ($p < .01$: the ability to move from one situation, activity, or aspect of a problem to another as circumstances demand).
- Significant improvement on BRI, ($p < .01$: ability to maintain appropriate regulatory control over behaviours and emotional responses).

Executive function



- Overall, Intervention group sample obtained lower scores on all subscales, other than in Emotional Control.
- Also had better cognitive functioning at T3 than the TAU sample.
- Intervention group also significantly improved in Organisation (of Materials) ($p < .01$: which measures orderliness of work, living and storage spaces, e.g., rooms and desk or other work areas).
- Significant improvement in the total MI score ($p < .05$: reflecting the ability to initiate activity and generate problem-solving ideas, to sustain working memory, to plan and organise problem-solving approaches, to monitor the success and failure of those approaches, and to organise materials in the environment).

Executive function



- At the end of treatment, both groups continued to show impairment in executive function, which has important implications for treatment.
- Analysis at T1, T2 and T3 compared overall executive functioning ability of participants with a sample of healthy adults, as provided through normative data.
- As expected, the mean GEC *T* score obtained for both conditions (TAU: $n=27$, $M=63.93$ ($SD=13.88$); Intervention group $n=34$, $M=61.24$ ($SD=16.68$)) were once more significantly higher than that reported for the normed sample of healthy adults ($M=48.98$, $SD=7.36$, $N=180$), $t(205) = 8.55$, $p<.001$; $t(212) = 6.95$, $p<.001$.
- Scores for 19 participants in both conditions had improved to extent that 4 TAU and 11 in Intervention group no longer in clinical range.
- However, scores for 6 TAU participants increased, and 14 TAU participants (51.9%) recorded scores in the clinical range, 2 (7.4%) above the 99th percentile.

Executive function

- 13 (38.2%) Intervention participants obtained GEC *T* score within the clinical range (above 65).
- 5 (14.71%) above the 99th percentile.
- GEC *T* scores for 16 of the Intervention group had increased, and in 11 of these cases this resulted in the person being placed in the clinical range.
- Results show statistically and clinically significant improvement for both groups over baseline, but no significant differences between groups.
- Outcomes for those who had still been in treatment at 6 months, showed Intervention group had greater level of improvement, particularly on Self-monitor ($p < .05$) and Working Memory ($p < .05$).
- However, participants in both Intervention and TAU groups obtained scores on Working Memory that were akin to results in studies of older adults with mild cognitive impairment, characterised by deficits in episodic memory (Rabina et al., 2006).

Executive function



BRIEF-A Clinical profile of TAU and Intervention Groups showing mean *T*-scores at T1 and T2

Measure of Aggression: DAR5

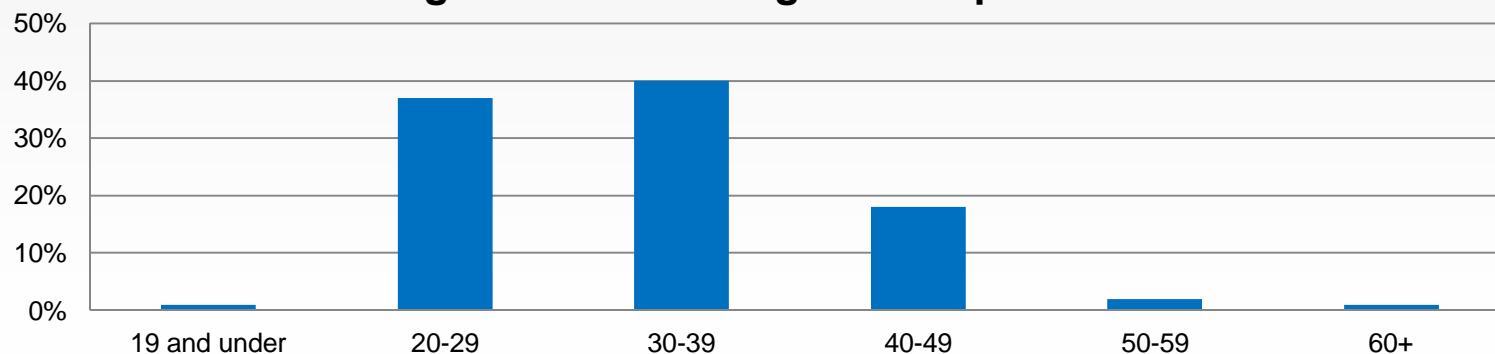


- Both groups improved over the course of treatment and follow-up, with the Intervention group showing significant improvement over time.
- An independent samples *t*-test indicated no significant difference between TAU ($n=29$, $M=6.41$, $SD=4.94$) and Intervention ($n=33$, $M=6.45$, $SD=5.51$) groups, $t(60) = .03$, $p = .98$.
- However, inspection of results for participants who were still in the TC at T2 and followed up post-discharge at T3 provides a very different picture, with TAU participants exhibiting greater levels of Aggression (in addition to greater levels of Depression, Anxiety and Stress) at the later follow-up point.
- Nevertheless, these differences between groups were non-significant.

Outcomes for clients who use methamphetamine: Higher Ground NZ

- Recent study of 155 clients discharged from Higher Ground TC (Auckland) between December 2011 and March 2014:
 - ◆ Had more than 30 days treatment prior to discharge;
 - ◆ Recorded Methamphetamine as principal drug of choice at first presentation;
 - ◆ Recorded Methamphetamine as principal drug of concern on admission;
 - ◆ Used Methamphetamine in 28 days prior to admission; or
 - ◆ Indicated Methamphetamine as substance of concern on admission.

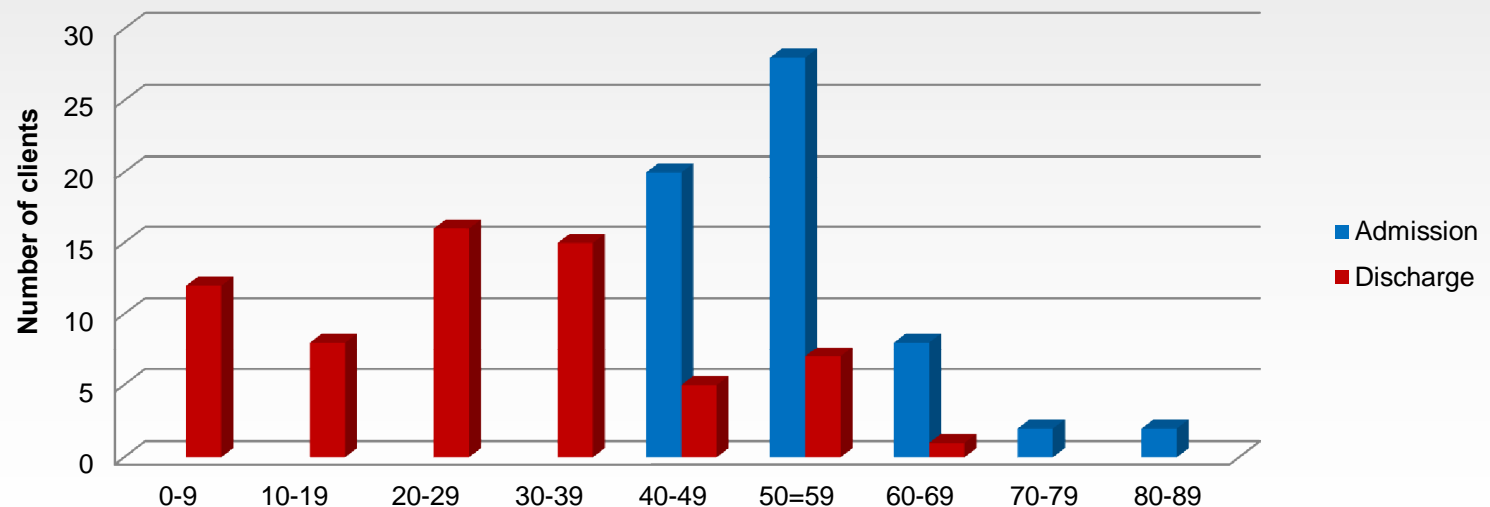
Age of clients using Methamphetamine



PTSD

- In this study, PTSD scores collected at admission and discharge
- Results show 18 point improvement in mean and median PTSD scores . suggesting clinically significant change (King, 2014)
- Analysis conducted on clients with PTSD scores above 44 on entry showed 82% (n=60) recorded below 44 on discharge

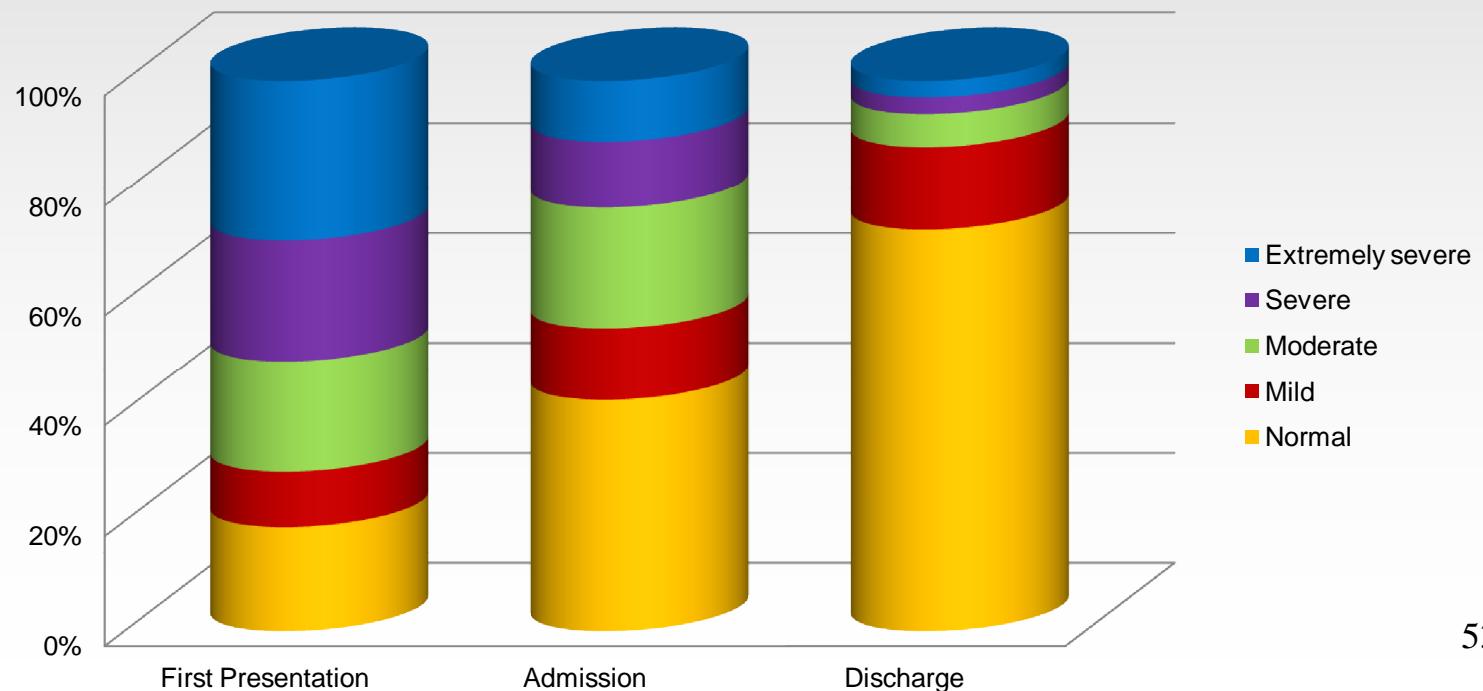
PCL-5 (PTSD) score



DASS

- On average clients at first presentation recorded scores in the extremely severe and severe range for depression and anxiety and in the moderate range for stress.
- Analysis of scores for clients in the severe and extremely severe range for depression shows on discharge 2/3 in normal range and 85-90% in normal to moderate range.

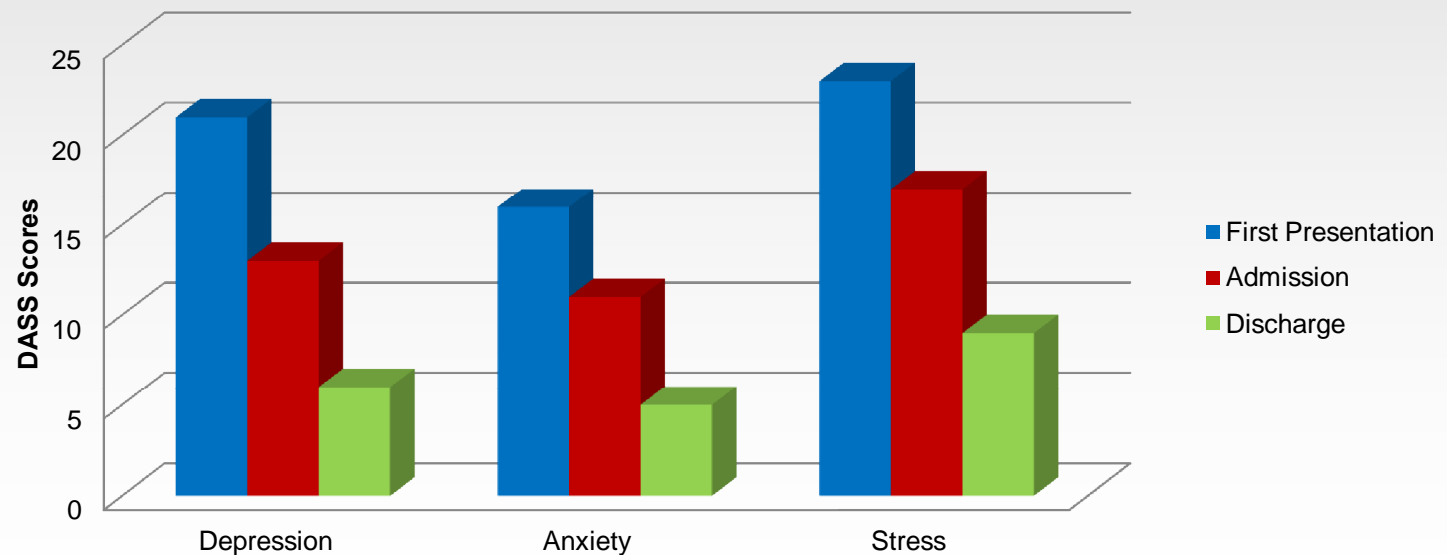
Depression scores for methamphetamine clients



DASS

- With pre-admission work, scores recoded in the extremely severe and severe range for depression, anxiety and stress had already begun to reduce by the time of admission and had reduced to within normal range by discharge.
- Post-discharge at 3,6,9,12 mths follow-up, scores remained within normal range . indicating sustained recovery.

Mean DASS comparison scores

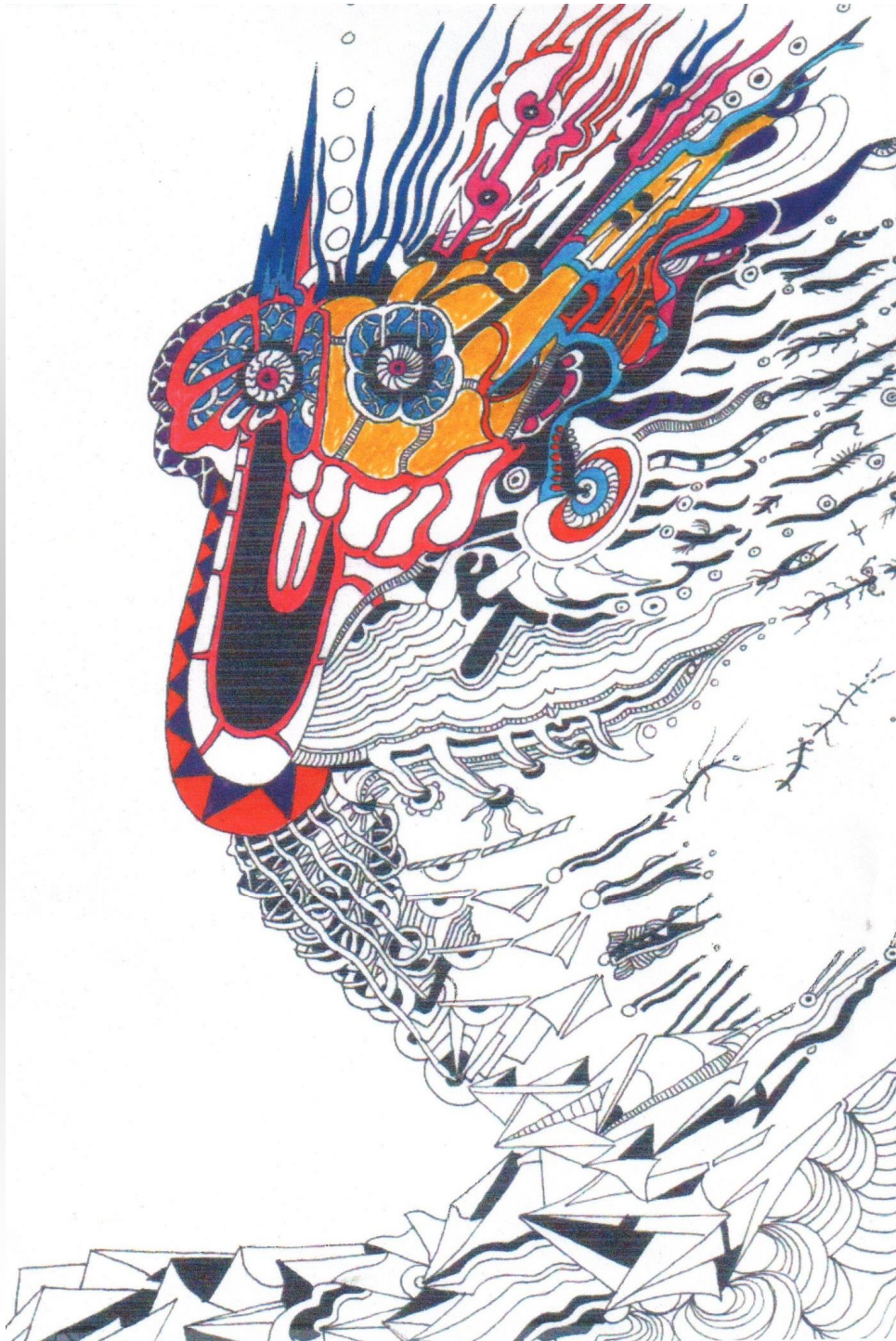


Conclusion

- Rich data provided on ATS, and specifically methamphetamine-using populations accessing therapeutic community treatment.
- Suggests consideration of the role other factors, including personality traits and psychopathology, cognitive deficits and executive function, and the role of reactive aggression, in maintaining substance use.
- Although those entering TCs often have long drug using histories, with high rates of injecting use and severe mental health concerns, results of both TC studies have shown significant improvement in outcomes as a result of TC treatment.
- In the GIATS study, outcomes were improved with the implementation of this intervention.

Conclusion

- Measures of successful treatment outcomes should include quality of life, improvement in psychological wellbeing and development of family and social relationships, rather than simply a measure of reduction in substance use and crime.
- Mental and physical health, executive function and psychopathology are highly associated with relapse and continued substance use.
- An added concern, is the development of prosocial networks, and with 75% of participants in the most recent survey reporting continued friendships with those still using methamphetamine, there is increased need for positive support structures as part of any continuing care program.
- Research shows that treatment success predicted by the number of treatment attempts, therefore important that recovery experiences are positive, thereby encouraging the person's return at the point of readiness for change.



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Dale Fletcher:
Amphetamine Dream

“No-one talks about
having a love affair with
methamphetamine”.
Participant, Sydney consultation.