FINAL REPORT

An evaluation of outcomes in the NSW Involuntary Drug and Alcohol Treatment (IDAT) Program

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SUMMARY OF FINDINGS

Demographically

- Sample size – 148 people participated in the outcome evaluation and were interviewed at entry to the program (n=148), at point of discharge from the program (n=143) and six months after leaving the program (n=105; 81% of 131 eligible for the six month interview).
- IDAT patients who participated in the study, half of which were female, were on average in their mid 40's, on a government pension (88.5%) and with long histories of alcohol and other drug treatment seeking (on average 17 previous treatments).
- Alcohol was the principal drug of concern for the majority of IDAT patients (85.7%), followed by methamphetamine (9.3%)
- Compared to voluntary treatment seekers, IDAT patients were older, more likely to be female, more likely to present for alcohol, less likely to be Indigenous, and with longer treatment histories.

Changes in alcohol and other drug consumption

- There were significant changes in a positive direction in relation to alcohol consumption. This included a reduction in the number of patients who consumed any alcohol during the six months post-treatment (X^2=13.2 and p<0.001), and for those who drank, a reduction in the numbers of days on which alcohol was consumed (decrease from 23.3 days (in the preceding 4 weeks) to 18.1 days, t=5.4, p<0.001) and reduction in the quantity consumed per day (23.3 standard drinks at baseline and 14.8 at 6 months, t=4.8, p<0.001). These positive outcomes held for the whole sample as well as for those people with alcohol dependency.
- For meth/amphetamine (the second most common principal drug of concern, but only including 19 people), the proportion of participants using meth/amphetamine did not change between baseline and six months post-treatment (19 people were using at 6 months). For those dependent on meth/amphetamine (at baseline, n=13) there were no significant changes in quantity used per day over the six months, but a decrease in the number of days used (note: small sample size).

Changes in health service utilisation

- There was a marked reduction in the proportion of people reporting use of ambulance services (from 71.4% at baseline down to 42.1% at 6 months) and this change was statistically significant (X^2= 22.4 and p<0.001). Similarly, the rate of emergency department and unplanned hospital admissions also decreased (from 79.3% to 49.3%) and this reduction was also statistically significant (X^2= 21.2; p<0.001).

Changes in physical health, psychologically health and overall quality of life

- IDAT patients experienced significant improvements in physical health, psychological wellbeing and in quality of life (all statistically significant improvements at six months). The greatest improvements were seen immediately after the inpatient treatment, with some decay of those positive effects by six months after treatment.

Patient perceptions of the IDAT program

- Involuntary treatment may be associated with perceived coercion, negative affective reactions, low motivation and poor satisfaction with treatment. Measures of these variables for IDAT revealed moderate perceived coercion, moderate negative reactions to being admitted to IDAT and high levels of satisfaction with the treatment program.
- There were no statistically significant relationships between these patient perceptions variables and the subsequent six-month treatment outcomes.
- The majority of the participants understood/accepted that they were admitted to IDAT program involuntarily as a legal mandate. Notwithstanding the involuntary and coercive nature of the admission to the IDAT program, about one third of the participants perceived the admission to IDAT as voluntary.
- About two thirds of the participants responded *"Yes"* to the question *"I believed the coercion into this treatment program was justified and worked in my best interest".*
- Generally, the participants expressed very positive perceptions about the content and quality of the IDAT program. Nearly all participants stated that they felt that the IDAT program had changed their life and/or had an impact on their life (82.1%). Importantly, nearly half (45.0%) of the participants stated that in their assessment, there were services (both clinical and non-clinical) that were provided in the IDAT program that they had not accessed before.

Aftercare: Utilisation of drug and alcohol treatment services post IDAT treatment

- Around half of the participants received some form of aftercare, treatment or support in the six months after being discharged from IDAT treatment: 15.5% returned to IDAT at least once, 35.9% accessed inpatient detoxification treatment, 28.2% accessed residential rehabilitation, 55.3% received outpatient counselling, and 42.7% engaged in self-help groups.

Predictors of alcohol use outcomes

- Four sets of analyses were conducted to examine predictors of alcohol outcomes at six months: whether patient severity variables predicted treatment outcomes at six months; the role of aftercare/ongoing treatment in predicting six months outcomes; demographic and treatment history variables which could be assessed at intake to inform the "likelihood from treatment" criterion for IDAT; and examining whether patient perceptions predict treatment outcomes.
- In relation to patient severity variables, previous IDAT admission (as a marker of severity) was not predictive of any outcomes. The SDS and K10 were significant predictors for a decrease in the number of standard drinks consumed on drinking days, but not for abstinence, nor for the number of days when alcohol was consumed post-treatment.
- There were no statically significant relationships between being in receipt of aftercare or further treatment, and six-month treatment outcomes.
- There was some evidence to suggest that "age" and "education" were predictors of positive alcohol use related outcomes. Younger participants seemed to be doing better at achieving abstinence from alcohol at 6 months. Participants who were 45 years or younger were also doing better at reducing the average number of standard drinks at 6 months, after taking into consideration the number of standard drinks

they consumed at baseline, and the marginal confounding effects of severity of dependence and mental health condition.

- Participants who did not finish year 10 were doing better than those with higher levels of education in reducing the average number of standard drinks at 6 months compared to baseline.
- People who were homeless at baseline seemed to be doing equally as well as people who were not homeless at achieving positive alcohol use related outcomes at 6 months.
- None of the four constructs of patient perceptions was a statistically significant predictor for any of the three alcohol use outcome measures.

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INTRODUCTION

Background

The concept of mandatory treatment was founded on the 1960s notion that some people who use alcohol and/or drugs are motivated for treatment, while others are not [1]. Those who are not motivated for treatment may require some lever to facilitate treatment entry. This lever is often referred to as 'rational authority' and entails a mandatory, but not punitive, requirement to attend treatment [2].

Mandatory treatment compels someone to treatment through one of two mechanisms [3]:
1. Involuntary treatment: where the individual has no choice or say in the matter
2. Coerced treatment (sometimes referred to as forced choice): where individuals can choose between a criminal justice sanction and a treatment program.

There is considerable variety in the ways in which mandatory treatment is implemented both in Australia and internationally, with substantial differences in the target group, the levels of legal coercion, and whether consent needs to be given [4, 5]. Referral pathways and treatment options correspondingly vary.

Both in Australia and internationally, models of mandatory treatment broadly fall into five categories [3]:

1. Court-mandated treatment
2. Drug courts
3. Compulsory prison-based treatment
4. Involuntary treatment (also known as civil commitment)
5. Centre-based compulsory rehabilitation (specific to East and Southeast Asian countries).

In Australia, referrals to all except one of the models are through the criminal justice system. Compulsory prison-based treatment, court-mandated treatment and drug courts all target people who have committed criminal offences that are either directly due to drug use (e.g. drink driving, drug dealing) or are indirectly related, including offences committed to support substance use (e.g. burglary), or crimes committed under the influence (e.g. assault). These interventions primarily seek to reduce reoffending, as well as eliminate problematic AOD use [3].

In Australia, involuntary treatment is the only referral pathway into mandatory treatment for people with AOD problems outside of the justice system. It is only an option for people who are assessed as being at risk of serious harm to themselves or to others, and whose decision-making capacity is considered to be compromised due to substance use. Involuntary treatment interventions are generally relatively short (usually between 7 and 28 days) and seek to ameliorate immediate and significant harm [3].

Involuntary treatment can be controversial, impacting as it does on conceptions and experiences of individual rights and state responsibilities [4]. Although involuntary

treatment for alcohol and drug dependence has occurred for centuries, methodologically sound studies of effectiveness, particularly for people who do not engage in illegal behaviours, are limited [6]. This uncertainty fuels arguments that depriving an individual of his/her liberty cannot be ethically justified if the intervention is not known to be of benefit. This uncertainty demands research rather than abandonment of potentially life-saving interventions, as demonstrated in a review of administrative data and community follow-up of 51 people who were severely dependent on alcohol visiting an emergency department in the United States [7]. This US review called for the need to establish mandatory treatment for patients with grave alcohol use disorders to maximise patient welfare, conditional that treatment be beneficial and delivered equitably to a well-defined population in appropriate settings, with explicit criteria to establish treatment duration and discharge readiness.

Within Australia, jurisdictions have different legislative frameworks regarding involuntary treatment. In New South Wales (NSW) involuntary treatment was previously provided under the Inebriates Act 1912. However, a review of that Act, recommended at the 2003 Summit on Alcohol Abuse and subsequently conducted in 2004 by the Parliament of New South Wales Standing Committee on Social Issues, concluded that the Inebriates Act is "fundamentally flawed" and recommended that it be "immediately repealed" [8]. As a result of this review, the *Drug and Alcohol Treatment Act* 2007 replaced the *Inebriates Act* 1912 and provides the legislative basis for the involuntary detention, treatment and stabilisation for persons with severe substance dependence, with the stated aim of protecting the health and safety of such persons, while also aiming to address all human rights aspects that were the subject of criticism of the previous legislation. Under the new legislation, the Involuntary Drug and Alcohol Treatment Program (the IDAT program) was developed to "provide short term care, with an involuntary supervised withdrawal component, to protect the health and safety of people with severe substance dependence who have experienced, or are at risk of, serious harm and whose decision-making capacity is considered to be compromised due to their substance use"[8].

The IDAT program is intended for persons who comply with the following criteria, as specified in the Act:

1. The person must have severe substance dependence, meaning that they:
    - have a tolerance of a substance,
    - show withdrawal symptoms when they stop using or reduce level of use,
    - have lost the capacity to make decisions about their substance use and personal welfare, due primarily to their substance dependence;
2. Care, treatment or control of the person is necessary to protect the person from serious harm;
3. The person is likely to benefit from treatment for substance dependence but has refused treatment; and
4. No other appropriate and less restrictive means for dealing with the person are reasonably available.

The legislation allows for a person to be detained for treatment for up to 28 days, or up to 3 months if they have alcohol-related brain injury. Patients receive medicated withdrawal treatment for 5 to 7 days, followed by post withdrawal inpatient residential treatment and

discharge/care planning. Community aftercare is an important component of the model of care, noting that patients take it up on a voluntary basis upon discharge. The aftercare framework aims to manage the high risks of relapse and adverse events following discharge from involuntary care, as well as restoring the person's capacity to make decisions about their substance use and personal welfare.

Under the legislation, the Involuntary Drug and Alcohol Treatment Program (the IDAT program) commenced in New South Wales in 2012 with two gazetted treatment units. One treatment unit has 4 IDAT beds, is located in Sydney as part of an existing voluntary detoxification unit at Herbert Street Clinic (HSC), Royal North Shore Hospital, Northern Sydney Local Health District. The other treatment unit has 8 IDAT beds, is located in Orange, as part of the Bloomfield (BF) hospital in Western NSW Local Health District. The choice of location aimed to ensure that both metropolitan and rural regions were covered.

The current study

In February 2016, the NSW Ministry of Health engaged the Drug Policy Modelling Program (DPMP), UNSW Sydney to conduct an evaluation of the IDAT program. The evaluation comprises four components: *a process evaluation, an outcome evaluation, a cost assessment and a data linkage study*. The process evaluation was completed with the final report submitted to the Ministry in April 2017. The cost assessment was completed in April 2018. The data linkage study is still underway. The outcome evaluation (the current report) began in September 2016. The primary objective of the outcome evaluation was to determine the effectiveness of the IDAT program in reducing alcohol and drug use and improving health and social outcomes by interviewing patients at entry to treatment, at discharge, and at six months after treatment.

The interview data focussed on measuring changes in outcomes within the patient cohort including alcohol and drug use (including frequency, quantity and addiction severity), physical and mental health, quality of life, and living circumstances. Perceptions of the program were also assessed.

Study aims

The aim of this outcome evaluation was to assess the effectiveness of the IDAT program in reducing alcohol and drug use and improving health and social outcomes. The effectiveness of the IDAT program is not only determined by the clinical intervention but by a combination of components: 1) referral to IDAT and the procedural justice practices involved in referral and admission; 2) perceptions and impacts of coercion; 3) medical, clinical and psychological interventions provided in inpatient treatment; and 4) services linking patients to community aftercare. For involuntary treatment, it is important to include perceived coercion and associated negative emotional reactions. For example, there is strong evidence to suggest that if patients perceive involuntary treatment to be unjustified and coerced, it is likely that they have negative emotional reactions to being admitted into treatment. Such negative reactions may have adverse effects on the therapist-patient relationship. These may then have negative impacts on treatment

outcomes even though the clinical treatment itself has proven effectiveness for patients who are motivated and who are engaged with treatment.

Research questions

The overarching research question for this evaluation was *"What is the effectiveness of the IDAT program in reducing alcohol and drug use and improving health and social outcomes?"*

There are 9 specific research questions:

Primary outcomes

Research question 1: Did IDAT participants reduce their alcohol and/or drug consumption between baseline and 6 months post IDAT program?

Research question 2: What aftercare or ongoing treatment did IDAT participants receive in the six months after discharge from the program?

Research question 3: Did IDAT participants health service utilisation change between baseline and 6 months post IDAT treatment?

Secondary outcomes

Research question 4: Did the IDAT participants physical health, psychological health, and wellbeing change between baseline and 6 months post IDAT treatment?

Patient perceptions

Research question 5: Did IDAT participants perceive that they were coerced and to what extent? Did their perceived coercion change between the time of admission and discharge?

Research question 6: What was the participants' degree of emotional reactions about being admitted into the IDAT program? Did their emotional reactions change between the time of admission and discharge?

Research question 7: What were the participants' levels of internal motivation and engagement with treatment? Did their internal motivation and engagement with treatment change between the time of admission and discharge and 6 months after discharge?

Research question 8: What were the participants' levels of satisfaction with treatment in IDAT? Did their level of satisfaction change between the time of admission and discharge?

Predictors of treatment outcome

Research question 9: What factors predict alcohol use related outcomes?

METHOD

Study design

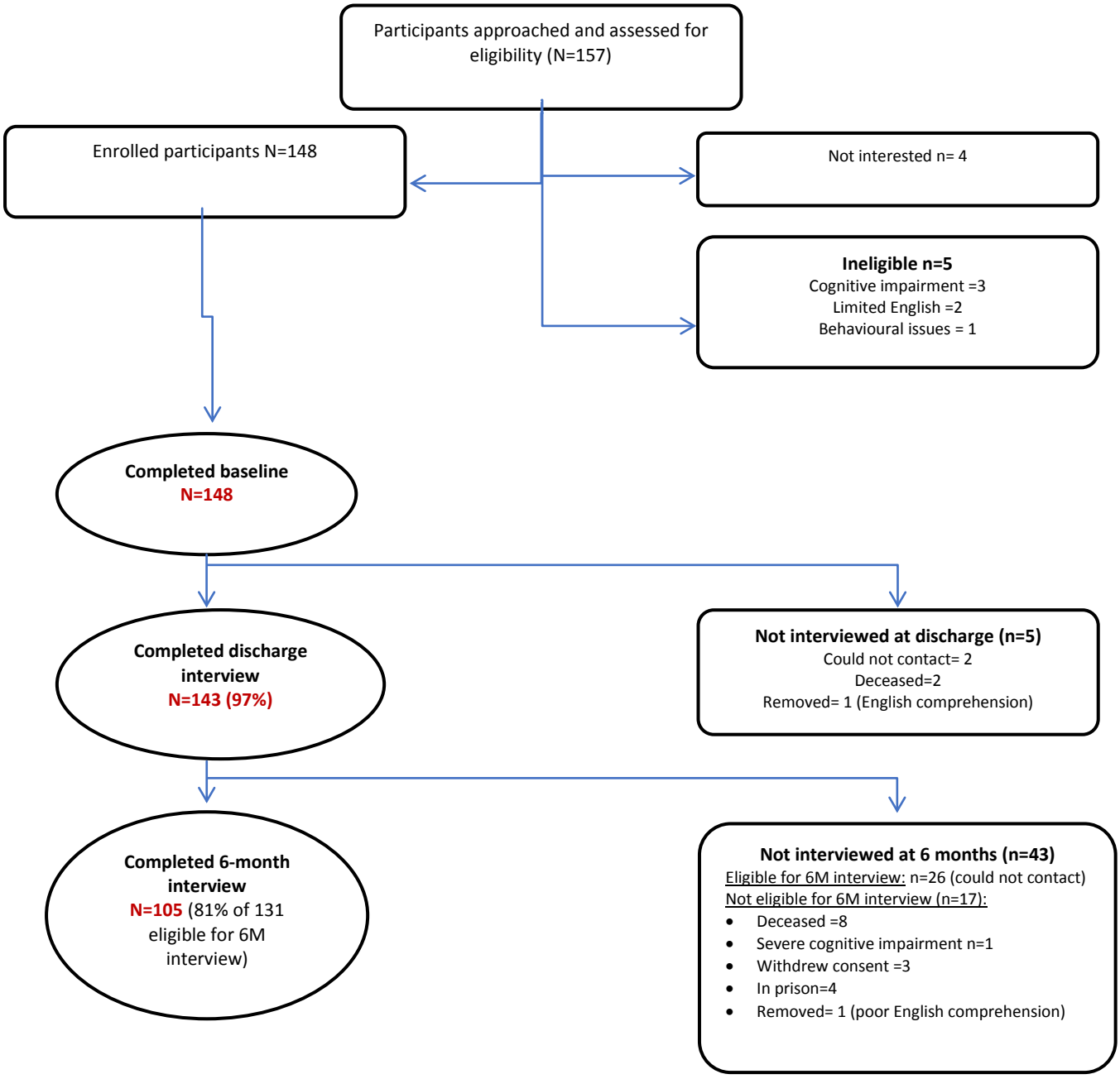
This evaluation study employed a prospective, repeated-measures, single-group study design. Structured interviews were conducted with the IDAT program participants on three occasions: at treatment admission (a short time after program entry), at discharge (a few days before discharge), and at 6 months from discharge. By taking repeated measures at the different stages of the program, the treatment group acted as their own controls.

Study sample

Between 16 September 2016 and 20 December 2018, 157 IDAT patients were approached and assessed for eligibility (at both IDAT treatment units). Of the 157 patients approached and assessed by the research team, 148 agreed to participate in the study, a 94 per cent response rate. Of the 9 patients who were not enrolled in the evaluation, 4 were not interested, 5 were ineligible (3 cognitively impaired, 1 with limited English comprehension, and 1 with behavioural issues). Of the 148 participants who were enrolled into the evaluation and completed the baseline interview, 143 completed the discharge interview (97%) (see Figure 1). At the completion of the study, 131 participants were due and eligible for the 6-month interview, of whom 105 completed the 6-month interview (a follow-up rate of 81%). Seventeen (17) patients were ineligible for the 6-month interview because they: were deceased (n=8), were cognitively impaired (n=1), withdrew consent (n=3), were in prison (n=4) and had poor English comprehension (n=1).

The people who died (n=8) are excluded from the data analyses that examine change in the clinical outcomes (reduced sample size n=140). However, baseline data and discharge data of these deceased participants are included in tables that provide descriptive statistics to provide a fuller picture of the IDAT program patient profile. The specific sample sizes are indicated in each table for clarity.

Figure 1: Participant Enrolment Flowchart: Recruitment and follow up of IDAT cohort from September 2016 to December 2018



Sample characteristics

At the time of the baseline interview, the average age of the IDAT study participants was 45.9 years, more than half (52.8%) were male and 25.0% were either married or in de facto relationship (see Table 1). Participants were primarily European/Caucasian (87.2%) and 7.4% identified themselves as Aboriginal or Torres-Strait Islander. A high percentage (41.5) completed trade/technical course and 24.5% completed university. Yet, at the time of the baseline interview, the majority of the participants (88.5%) were on government pension, allowance or benefit and 85.1% were unemployed. The majority (81.1%) were either living in a house or flat including public housing or living at their parents' home. Nearly half (45.9%) of the participants were living alone before being admitted to IDAT (socially isolated).

Table 1: Participant profile (at baseline)

Characteristics	**N=148**	**N=105 (at 6 months)**
Demographics		
Mean age (SD)	45.9 (10.9)	n/a
Male, *n* (%)	52.8	n/a
Marital status (%)		
Married/de facto	25.0	23.3
Single	62.2	76.7
Other	12.8	0.0
Cultural background (%)		
European/Caucasian	87.2	n/a
ATSI	7.4	
Other	5.4	
Education		
% Completed <year 10	20.4	n/a
% completed trade/ technical course	41.5	
% completed university	24.5	
Source of income (%)		
Wage/salary	5.4	4.8
Government pension, allowance or benefit	88.5	88.2
Other	6.1	5.2
Unemployed, *n* (%)	85.1	81.7
Living circumstances (%)		
House or flat including public housing	73.0	70.6
Parents' home	8.1	13.7
Boarding house/Hostel	2.7	5.9
No fixed address/homeless	10.8	2.9
Other	5.4	6.9
People living with (%)		
Alone	45.9	37.5
Shared rental accommodation	7.4	14.4
Partner/Spouse	15.5	15.4
Partner/Spouse & children	4.7	1.9
Parent(s)	9.5	15.4
Other	16.9	15.4
Principal drugs of concern (at the time seeking treatment) [a]		
Alcohol	85.7%	n/a
Amphetamine	9.3%	
Cannabis	0%	
Heroin	1.5%	

Treatment history prior to IDAT treatment		***During 6 months from discharge***
Prior IDAT treatment (%)	26.4%	16 (15.5)
% with prior IDAT treatment >1 episode	*4.8*	
Inpatient detoxification treatment (%)	71.6%	37 (35.9)
% inpatient detox >5 episodes	*29.3*	
Outpatient detoxification treatment (%)	19.6%	8 (7.8)
Residential rehabilitation (%)	60.1%	29 (28.2)
% residential rehab >5 episodes	*10.2*	
Outpatient counselling (%)	64.9%	57 (55.3)
Self-help group (i.e. NA, AA) (%)	58.1%	44 (42.7)
% self-help group >5 episodes	*15.1*	
Prescribed methadone/buprenorphine (%)	9.5%	8 (7.8)
Naltrexone (%)	20.9%	12 (11.7)
Acamprosate (%)	23.6%	11 (10.7)
Disulfiram (Antabuse) (%)	25.7%	19 (18.4)
Other pharmacotherapy (%)	20.9%	16 (15.5)
Total number of treatment episodes (mean & SD)	17 (21)	n/a
No treatment ever (%)	7.4%	n/a
Been in contact with D&A worker last 2 years	75.2%	n/a
Prison history	32.4%	n/a
Length of stay [b]		
Mean (SD)	36.1 (17.9)	
Median (min - max)	28 (16-91)	

Note: for drug of choice, multiple drugs could be selected

[a] [b] Principal drugs of concern are sourced from the question 1 in the Section on Severity of Dependence Scale *"4 weeks before you were admitted into IDAT, what drug was causing you the greatest concern?"*

[b] It is important to note that "length of stay" did not have any effects in predicting alcohol use related outcomes at 6 months. This is probably because people who stayed longer were those who had multiple levels of complications such as physical health, mental health and housing problems, which are mediating factors for alcohol use outcomes.

The majority of the IDAT study participants had attended a range of treatment services before they were admitted to the IDAT program. The participants had, on average, undergone any type of drug treatment 17 times. It is important to note that 26.4% of the participants had been in IDAT program before and 4.8% had been in IDAT program more than once before the current admission. A high proportion (71.6%) had attended inpatient detoxification treatment, 60.1% had attended residential rehabilitation and 58.1% had attended self-help group. Given that alcohol was the principal drug of concern, pharmacotherapy treatment primarily focused on naltrexone (20.9%), acamprosate (23.6%), or disulfiram (Antabuse) (25.7%). Given the high level of substance use, it is not surprising that 32.4% of the participants reported history in prison.

The participants' nominated drugs of choice prior to their admission to IDAT and the average number of years they had been using the respective drugs of choice (among those reporting using that drug/substance) are presented in Table 2. Specifically, the majority of the participants (89.2%) nominated alcohol as their drug of choice and for those reporting consuming alcohol, they had been doing so for 22.7 years on average. The second common drug of choice nominated was nicotine with more than half of the participants reporting smoking tobacco. Meth/amphetamine and cannabis was the third common drugs of choice (16.9% and 18.2%, respectively) with 9.5 average years of use for meth/amphetamine and

19.3 years for cannabis. A quarter (25.0%) of the participants reported more than one drug of choice. It is important to note that the drugs of choice are not mutually exclusive.

Table 2: Drugs of choice prior to admission to IDAT

Drugs of choice (prior to IDAT admission)	**N=148**
Alcohol, *n* (%)	132 (89.2)
Years used (of those consuming alcohol), mean (SD)	*22.7 (11.4)*
Meth/amphetamine, *n* (%)	25 (16.9)
Years used (of those using), mean (SD)	*9.5 (4.5)*
Heroin, *n* (%)	7 (4.7)
Years used (of those using), mean (SD)	*12.5 (7.7)*
Pharmaceutical opioids, *n* (%)	9 (6.1)
Years used (of those using), mean (SD)	*9.3 (5.5)*
Cannabis, *n* (%)	27 (18.2)
Years used (of those using), mean (SD)	*19.3 (9.7)*
Cocaine, *n* (%)	4 (2.7)
Years used (of those using), mean (SD)	*4.0 (2.6)*
Benzodiazepine, *n* (%)	6 (4.1)
Years used (of those using), mean (SD)	*7.0 (2.5)*
Nicotine, *n* (%)	83 (56.1)
Years used (of those using), mean (SD)	*25.3 (11.4)*
Other*, *n* (%)	4 (5.4)
Years used (of those using), mean (SD)	*13.3 (5.7)*
People reporting more than 1 drug of choice *n* (%) (poly use)	37 (25.0)

How do the IDAT patients compare to the national picture of voluntary alcohol and drug patients?

Table 3 shows that there are differences in the demographic and treatment profile of the IDAT sample in comparison with the national-level voluntary AOD treatment data available via the AIHW – AODTS National Minimum Dataset [9]. The gender division within the IDAT sample is more balanced (52.8%) compared to the national sample (65.5% males). However, it appears that Aboriginal or Torres-Strait Islanders are under-represented within the IDAT sample (7.4%) compared to the national average (14.1%). The IDAT sample is much older, 70% of whom are at least 40 years of age compared to only 31.7% in the national data. In terms of principal drugs of concern reported at the time seeking treatment, nearly the entire IDAT sample (85.7%) reported alcohol as their principal drug of concern, compared to about one third of the national data (30.7%)[1]. The reverse is observed for amphetamine, cannabis, and heroin where higher proportions of the national sample report these drugs as their respective principal drugs of concern. With regard to treatment history, as expected, much higher proportions of the IDAT sample reported attending the three most common types of treatment services: withdrawal/detoxification, counselling, and residential rehabilitation.

[1] Noting that the national data, derived for AODTS-NMDS does not collect comprehensive data on opioid pharmacotherapy maintenance treatment, so the majority of these treatment episodes are missing from AODTS-NMDS.

Table 3: Comparison of profile: IDAT sample vs voluntary AOD treatment recipients

Demographic	**Voluntary AOD treatment sample**	**IDAT sample (N=148)**
Gender (male)	65.5%	52.8%
Indigenous (Aboriginal or Torres-Strait Islander)	14.1%	7.4%
Age ≥40 years	31.7%	70.0%
Principal drugs of concern (at the time seeking treatment)		
Alcohol	30.7%	85.7%
Amphetamine	26.2%	9.3%
Cannabis	18.2%	0%
Heroin	6.0%	1.5%
Treatment history		
Withdrawal/detoxification	13.2%	71.6%
Counselling	36.4%	64.9%
Residential rehabilitation	13.4%	60.1%

Source for voluntary AOD treatment sample: Alcohol and other drug treatment services in Australia 2016–17, page 43 https://www.aihw.gov.au/getmedia/6ada5e0f-40ff-459b-ae6c-b45845a37ccc/aihw-hse-207.pdf.aspx?inline=true

Interview procedure

The primary measures analysed in the current evaluation report were collected by way of individual interviews with participants (see Appendix 2 for the baseline interview questionnaire for reference). All baseline interviews were conducted at each of the two IDAT treatment units between September 2016 and December 2018 and took approximately 60 minutes to complete. The discharge interviews were conducted as closely as possible to the date when the participants were expected to be discharged from the IDAT inpatient treatment and took between 20 to 30 minutes to complete, either face to face or over the phone. The 6-month interviews were conducted over the phone and took approximately 60 minutes to complete. All the participants were informed that their participation in the evaluation was voluntary and that the information they provided was completely confidential and would not affect their participation in the IDAT program. This information was reiterated at each of the subsequent interviews. Trained researchers, who were independent of the IDAT program, conducted the interviews.

Measures

Appendix 1 lists the areas of data collected with the associated tools (as relevant) and the time-points that they were collected.

Alcohol use related outcomes collected at 6 months are the primary outcomes of this evaluation. They include three measures: 1) any alcohol use (yes/no) during the time window of 6 months (from IDAT discharge); 2) the number of days using alcohol during the preceding 28 days; and 3) the number of standard drink consumed on a typical day when alcohol was consumed during the preceding 28 days.

The Australian Treatment Outcomes Profile (ATOP)

The primary outcomes pertaining to change in substance use were measured using the Australian Treatment Outcomes Profile (ATOP) [10], which is a one-page clinician or researcher administered instrument validated in Australian AOD treatment populations. The ATOP examines substance use (days used out of 28 for substances such as alcohol, amphetamine-type substances, benzodiazepines, cannabis, opioids); as well as self-reported physical health (extent of physical symptoms and bothered by illness), psychological health (anxiety, depression and problem emotions and feelings) and quality of life (e.g. able to enjoy life, gets on well with family and partner, satisfied with living conditions), all as assessed by one question each, in the past 28 days. Higher scores on the substance use questions indicate more days of use (range 0–28), whereas higher scores on the health and wellbeing questions (range 0–10) indicate better self-rated health outcomes. The ATOP also examines arrests, being a victim or perpetrator of violence, and acute housing problems.

The Severity of Dependence Scale (SDS)

The Severity of Dependence Scale (SDS) [11] was devised to provide a short, easily administered scale which can be used to measure the degree of dependence experienced by users of different types of drugs. The SDS contains five items, all of which are explicitly concerned with psychological components of dependence. These items are specifically concerned with impaired control over drug taking and with preoccupation and anxieties about drug use. Optimal cut-off points on the Severity of Dependence Scale (SDS), indicative of clinically significant dependence, have been determined for a range of substance types. The IDAT participants reported two main types of principal drug/substance of concern being alcohol and meth/amphetamine. The cut-off score for alcohol is 3 [12] and the cut off score for meth/amphetamine is 4 [13]. The cut-off scores were used to divide the participants into subgroups for the data analyses: 1) the full sample: people who used alcohol or meth/amphetamine at any level; and 2) the sub-samples: people who were dependent on alcohol or meth/amphetamine.

The Alcohol Use Disorders Identification Test (AUDIT)

The Alcohol Use Disorders Identification Test (AUDIT) [14] is a 10-item screening tool developed by the World Health Organization (WHO) to assess alcohol consumption, drinking behaviours, and alcohol-related problems. The AUDIT examines hazardous and harmful drinking. Scores ≥ 8 in men (7 in women) indicate hazardous or harmful drinking, and scores >15 indicate dependence. Total max score is 40 (each item has a max score of 4).

The Short Form-12 (SF-12) health survey

The Short Form-12 (SF-12) health survey [15] is a multidimensional generic measure of health-related quality of life. It has become widely used in clinical trials and routine outcome assessment because of its brevity and psychometric performance. The SF-12 is a 12-item instrument that provides a generic measure of health status. The SF-12 contains two summary scales, measuring eight dimensions of health and wellbeing. The Mental Component Summary (MCS) scale measures vitality (energy/fatigue), social functioning, role limitations due to emotional problems, and mental health (6 items). The Physical Component Summary (PCS) scale measures physical functioning, role limitations due to physical health problems, bodily pain, and general health (6 items). The SF-12 items were referenced to the four weeks prior to each interview. Summary scale scores were calculated

using norm-based scoring based on Australian norms (MCS=52.4 and PCS=48.9), which was based on population norms produced by the Department of Human Services, South Australia [16]. Scores higher than 52.4 and 48.9, respectively indicate greater physical and mental health than Australian population norms, while scores below 52.4 and 48.9, respectively indicate health and wellbeing that is poorer than Australian population norms. The SF-12 was administered at three time-points: at baseline, at discharge and again at the 6-month interview to determine whether there were any changes in the IDAT participants' physical and mental health over the course of the program participation.

The Kessler Psychological Scale (K-10)

The Kessler Psychological Scale (K-10) is a simple measure of psychological distress [17]. The K-10 scale involves 10 questions about emotional states each with a five-level response scale. The measure can be used as a brief screen to identify levels of distress for the time window of the preceding four weeks. The maximum total score is 50. A set of cut-off scores was adopted from [17] and the Australian Bureau of Statistics http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/4817.0.55.001Chapter92007-08. Higher scores represented poorer mental health/higher psychological distress.

The Macarthur Perceived Coercion Scale Short Form (MPCS)

Perceived coercion was measured by the Macarthur Perceived Coercion Scale Short Form (MPCS, adapted from the work by Gardner and colleagues in 1993 [18]). The MPCS is a self-report measure of perceived coercion to attend treatment and was adapted to fit the context of the IDAT program. While the MPCS was originally designed for use in mental hospital admissions, it has been adapted for use in a variety of treatment settings. The MPCS assesses individual clients' perceptions of their *freedom* to participate in treatment, their *influence* and *control* over participation and their *choice* to participate in treatment. The adapted version has 7 statements and IDAT participants responded to each statement on a three-point scale (0 = yes, 1 = don't know, 2 = no). The seven items were then aggregated, providing a total perceived coercion score ranging from zero to fourteen. Higher scores indicate greater perceived coercion to enter treatment. The MPCS was administered at admission to assess extent of perceived coercion and at discharge to assess whether perceived coercion changed over time, as a result of experiencing IDAT inpatient treatment. Following suggestion by Hoge and colleagues [19], we categorised the score into 4 categories: 0 = 0 score (no coercion); 1 = score from 1 to 5 (low coercion); 2 = score from 6 to 10 (medium coercion) and 3 = score from 11 to 14 (high coercion)). In addition, participants with MPCS scores greater than 5 have a high level of perceived coercion and participants scoring 5 or less generally perceive admission as voluntary. Four additional statement/questions were asked to elicit possible explanations of perceived coercion within the context of the IDAT program (see the last four statement/questions in Table 25).

The Affective Reactions to Hospitalisation Scale (ARHS)

Emotional reactions was measured by the Affective Reactions to Hospitalisation Scale (ARHS, also adapted from the work by Garner and colleagues [18] and the evaluation of the NSW Compulsory Drug Treatment Program (CDTP)) [20]. The ARHS is a six-item scale that measures participants' affective reactions when being admitted to the IDAT program. The

participants were asked whether they felt *angry, sad, pleased, relieved, confused* and *frightened* about being admitted to, and participating in, the IDAT program. Participants responded to each statement on a three-point scale (0 =no, 1=don't know, 2 =yes). The two positive emotions were reverse scored, and the six items summed to produce a total score ranging from zero to twelve. Higher scores reflect more negative reactions regarding admission and participation in the IDAT program. The ARHS was measured at two time-points: 1) at admission to assess the extent of negative emotions about being admitted to IDAT on the first day at IDAT; and 2) at discharge to assess whether the negative emotions changed over time, as a result of experiencing IDAT inpatient treatment.

The Program Interest Questionnaire (PIQ) and Program Perception Questions (PPQ)

Internal motivation and treatment engagement was measured through eight statements (three statements from the adapted Program Interest Questionnaire (PIQ) [21] and five statements from the adapted Program Perception Questions (PPQ, adapted from the evaluation of the NSW Compulsory Drug Treatment Program-CDTP) [20]. The first three statements from the PIQ were asked at two time-points (at admission and at discharge). They aim to elicit the participants' perceptions of: 1) whether the IDAT program would be helpful to them; 2) their interest in participating in the program (whether they wanted to attend the program); and 3) whether they believed they needed help to prevent relapse to alcohol and/or illicit drug use when they were back to the community (Table 13). The PIQ used a variety of scale formats to elicit responses (one of the formats is: 0=not at all, 1= yes, I think so, 2=yes, for sure). No total score is calculated for the PIQ.

The second five statements from the PPQ aim to assess: 1) The participants' understanding of their obligations while on the IDAT program; 2) whether they would participate in the community-based aftercare program, if necessary (now that they had completed the IDAT inpatient treatment); 3) the participants' perceptions of how confident they were that they would be able to stay off alcohol and/or drugs in the community; 4) whether they considered their health more of a priority (at discharge and at 6 months) than they did before they started the IDAT program; and 5) whether they felt that the IDAT program had changed them and/or had an impact on their life (Table 13). No total score is calculated for the PPQ.

The Treatment Perceptions Questionnaire (TPQ)

Satisfaction with treatment was measured by the Treatment Perceptions Questionnaire (TPQ) [22]. The TPQ was developed by Marsden and colleagues to provide a suitable tool to measure patient satisfaction specifically in an addiction treatment context, capturing many aspects of care that have been found relevant to outcomes in earlier research. TPQ scores are derived from 10 items relating to perceptions about staff and programme design. These include 'beliefs about staff 's understanding of the client's problems, agreement with treatment objectives, availability for talking to, ability to motivate and professional competence, communication about treatment expectations, therapeutic content, time in treatment and programme rules and regulations'. Each item was scored on a 5-point scale (from *0 = disagree strongly* to 4 *= agree strongly*). Scores on the negative items were recoded for analysis to yield positive evaluations on all items. Higher scores indicate greater

satisfaction. To assess the clients' overall satisfaction levels with their index treatment TPQ item responses were summed to create an aggregate score on a 0–40 scale. Subsequently, the total score was categorised into 4 categories: 0 = score 0-10 (Very unsatisfied); 1 = score 11-20 (Unsatisfied); 2 = score 21-30 (Satisfied) and 3 = score 31-40 (Very satisfied).

Data analyses

Examining change on outcome measures

Most of the outcomes involve 2 time-points (baseline vs discharge; or baseline vs 6 months). Outcomes that involve 3 time-points included: 1) general physical health score SF-12; 2) general mental health score K-10; and 3) psychological health, physical health and overall quality of life as part of the ATOP. For outcome data of two time-points, simple methods were used to test if the change over the two time-points was statistically significant. Specifically, dependent t-test for paired samples was used to identify if there were differences in continuous outcome variables (e.g. drug and alcohol dependence scale, the number of days alcohol was consumed, the quantity of alcohol consumed). McNemar's test for paired samples was used to identify difference in dichotomous outcome variables (e.g. abstinence or not). Simple statistical methods such as t-test and McNemar's test can only test associations to identify differences between 2 time-points, and do not permit inclusion of covariates. Therefore, mixed effects regression modelling was used to conduct the analyses when: 1) covariates were included in the analyses; and 2) when analyses were conducted for outcomes across three time-points.

For outcome on drug and alcohol use (derived from ATOP), analyses were conducted for the full sample (n=140) and a sub-sample (n=131). The sub-sample included participants who met two criteria: 1) identified alcohol as their primary drug of concern; and 2) had a Severity of Dependence Score ≥3. The data analyses for the full sample aimed to examine if IDAT treatment was effective in reducing alcohol use for all participants (regardless of their level of alcohol use). The data analyses for the sub-sample aimed to examine if IDAT was effective for participants who were dependent on alcohol (determined by the SDS score ≥3).

Patient perceptions (coercion, affective reactions, motivation, satisfaction with treatment)

Descriptive statistical analyses, using t-test, and Chi-square tests compared changes over time for each variable.

Predictor analyses

There are many possible variables that may predict treatment success. Four separate analyses were conducted:

1) The associations between patient severity variables (severity of dependence, mental health, and past treatment history) and treatment outcomes at six months were assessed with univariate statistics.
2) The associations between aftercare/ongoing treatment and treatment outcomes at six months were tested with univariate statistics.
3) In consultation with the NSW Ministry of Health and the two IDAT Units, a list of potential predictors that could inform assessment of "likely to benefit from

treatment" (one of the eligibility criteria for IDAT treatment) were identified. The potential predictors for "likely to benefit from treatment" included in the analyses were: age, gender, marital status, education, employment, housing condition/homelessness, treatment history (prior IDAT treatment), prison history, and the number of ED visits in the last 4 weeks (cut-off = 4 based on preliminary data analysis)

4) The associations between the patient perception measures (coercion, negative emotions, treatment motivation and satisfaction) and treatment outcomes were assessed with mixed effects linear regression.

All four sets of predictor analyses were conducted on the three primary outcome measures: 1) alcohol use (yes/no) in the 6 months from discharge; 2) number of days in which alcohol was consumed (during the preceding 28 days); and 3) number of standard drinks per day on a day when alcohol was consumed (28 days). Mixed effects regression modelling was used to conduct the analyses.

For the third set of predictor analyses (to inform assessment of "likely to benefit from treatment"), two covariates (severity of dependence, measured by the SDS total score, and mental health condition, measured by the K-10 total score) were used to control for the possible confounding effect between the predictors on outcomes. For example, people who are younger are likely to have less severity of dependence because they have less years of using alcohol, and people with lower severity of dependence are more likely to do better than people with higher severity of dependence. On a similar logic, mental health condition has been shown in the literature as a possible confounder.

The analysis of patient perceptions used mixed effects linear regression to test for associations between the patient perception measures (coercion, negative emotions, treatment motivation and satisfaction) against three alcohol outcomes (any alcohol use (yes/no), number of days used, number of standard drinks per day). Three regression models were run, one for each outcome measure. Mediating variables were controlled for. These mediating variables were: age, education (because these two predictors have statistically significant impact on alcohol outcome) total SDS score, total K-10 score, and aftercare (because these are clinically important predictors).

Handling missing data

In this evaluation, there were five types of missing data: 1). missing data because the responses to questions within the questionnaires were skipped (this was minimal); 2). missing data because the individual was lost-to-follow-up at discharge (n=5, see Flowchart); 3). missing data due to mortality (after being discharged from IDAT) (n=8); 4). missing data due to lost to follow-up at 6 months (n=26); and 5) missing data due to ineligibility for 6-month interview (incarcerated, withdrawn from the study, severe cognitive impairment, poor English comprehension) (n=9). Below are the strategies that we pre-defined for handling each type of missing data. These strategies use the most conservative assumptions.

For 1). The data were not imputed and treated simply as missing (i.e. analysing data as incomplete). This level of missingness was minimal.

For 2). No imputations of discharge data were undertaken, treated as missing.
For 3). Mortality: The people who died were excluded from the data analyses that examined change in the clinical outcomes. However, baseline data and discharge data of these participants are included in tables that provide descriptive statistics to provide a fuller picture of the IDAT program patient profile. Sample sizes are given for each set of analyses, noting where participants are not included due to death.
For 4) and 5). For these 35 cases (26 lost to follow-up and 9 ineligible for interview), imputation of missing data was conducted with the assumption that the IDAT treatment program had no effect and their baseline data was therefore applied to the 6 month follow-up time point. The sample sizes for most of the outcome analysis were therefore n=140 (n=105 interviewed participants and n=35 imputed follow-up data).

RESULTS

Alcohol and drug consumption outcomes

Research question 1: Did IDAT participants reduce their alcohol and/or drug consumption between baseline and 6 months post IDAT program?

Table 4 shows the results pertaining to change in alcohol use between baseline and 6 months.

For the full sample: At baseline 83.6% of the sample was using alcohol and this reduced to 66.4% at 6 months. The change in the proportion of people who used alcohol was statistically significant with X^2=13.2 and p<0.001. The mean number of days consuming alcohol also decreased from 23.3 days (in the preceding 4 weeks) to 18.1 days. This change was statistically significant with *t*=5.4, p<0.001 and the mean difference was 8.8 days. The mean number of standard drinks consumed on the day alcohol was consumed was 23.4 at baseline and this was reduced to 14.8 at 6 months. This change was also statistically significant (*t*=4.8, p<0.001) and the mean difference was 5.3 standard drinks.

For those who met criteria for alcohol dependence (n=131): At baseline, for those who met alcohol dependence criteria[2], 82.4% were using alcohol and this was reduced to 64.1% at 6 months. The change in the proportion of alcohol dependent people who used alcohol was statistically significant (X^2=13.2 and p<0.001). The mean number of days consuming alcohol also decreased from 23.4 days (in the preceding 4 weeks) to 18.1 days. This change was statistically significant (*t*=4.5, p<0.001) and the mean difference was 5.5 days. The mean number of standard drinks consumed on the day alcohol was consumed was 24.0 at baseline and this was reduced to 15.3 at 6 months. This change was also statistically significant (*t*=5.1, p<0.001) and the mean difference was 9.1 standard drinks.

This significant reduction in alcohol consumption for those who were alcohol dependent was also mirrored in the AUDIT score results. The mean AUDIT score was 28.0 at baseline and it decreased to 21.9 at 6 months and the decrease was statistically significant (*t*=5.7, p<0.001) and the mean difference of 6.2 between the baseline and the 6-month scores. The proportion of participants who had AUDIT score that indicated possible dependence (AUDIT score of 20+) decreased from 81.5% at baseline to 60.9% at 6 months.

[2] As stated in the Data Analysis section, those participants who met criteria for alcohol dependence were defined as 1) reporting alcohol as their primary drug of concern; and 2) had Severity of Dependence Score of ≥3.

Table 4: Alcohol consumption and change between baseline and 6 months

Measure (past 4 weeks)			**Test of significance**
For the whole sample	**Baseline (n=140)**	**6 months (n=140, imputed data for 35 LTFUs)** [a]	
Alcohol Use (measured by the ATOP)			
Used, *n* (%) (in the time window of 6 months)	117 (83.6%)	93 (66.4%)	X^2= 13.2; p<0.001
Days used, mean (SD) (in the preceding 28 days)	23.3 (7.4)	18.1 (10.7)	*t*=5.4; p<0.001 (mean difference=8.8 days)
Standard drinks/day, mean (SD) (in a typical day when alcohol was used during the preceding 28 days)	23.4 (15.7)	14.8 (14.7)	*t*=4.8; p<0.001 (mean difference=5.3 standard drinks)
For participants who were dependent on alcohol (with Severity of Dependence Scale score ≥3 (as cut-off score for alcohol dependence)	**Baseline (n=131)**	**6 months (n=131, imputed data for 27 LTFUs)** [a]	
Alcohol Use (measured by the ATOP)			
Used, *n* (%) (in the time window of 6 months)	108 (82.4%)	84 (64.1%)	X^2= 13.2; p<0.001
Days used, mean (SD) (in the preceding 28 days)	23.4 (7.5)	18.1 (10.8)	*t*=4.5; p<0.001 (mean difference=5.5 days)
Standard drinks/day, mean (SD) (in a typical day when alcohol was used during the preceding 28 days)	24s.0 (15.6)	15.3 (15.3)	*t*=5.1; p<0.001 (mean difference=9.1 standard drinks)
AUDIT Score (for those reporting alcohol as principal drug of concern)	**Baseline (n=106)**	**6 months (n=106, imputed data for 16 LTFUs)** [a]	
Average AUDIT score (mean and SD)	28.0 (10.1)	21.9 (12.9)	*t*=5.7; p<0.001 (mean difference=6.2 scores)
% AUDIT lower risk [b]	8 (6.2%)	29 (21.8%)	
% AUDIT increasing risk	6 (4.6%)	17 (12.8%)	
% AUDIT higher risk	10 (7.7%)	6 (4.5%)	
% AUDIT possible dependence	106 (81.5%)	81 (60.9%)	

[a] As indicated in the Data Analysis section, imputation of missing data is conducted with the assumption that the IDAT treatment program has no effect and their baseline data applies to the follow-up time point (6 months). LTFU: Lost to follow up.

[b] AUDIT scores: 0 – 7: lower risk; 8 – 15: increasing risk; 16 – 19: higher risk; 20+: possible dependence.

Consumption of other drugs

Table 5 shows the results pertaining to use of substances other than alcohol at baseline and 6 months. The numbers of people reporting use of other substances was very small, particularly at 6 months, and statistical comparisons could not be undertaken. A dichotomous variable was created to indicate use of any of these substances. Descriptive analysis shows that the proportion of people using any substance other than alcohol was reduced from 27.1% at baseline to 23.6% at 6 months. Given the small numbers, statistical analysis for change was not conducted.

Table 5: Drug use and change between baseline and 6 months

Measure (past 4 weeks)	**Baseline (n=140)**	**6 months (n=140, imputed data for 35 LTFUs)** [a]
Cannabis		
Used, *n* (%)	19 (13.6%)	15 (10.7%)
Days used, mean (SD)	15.9 (10.4)	13.0 (10.7)
Quantity *(gram)* per day, mean (SD)	4.7 (13.2)	5.6 (16.1)
Benzodiazepines		
Used, *n* (%)	4 (2.9%)	6 (4.3%)
Days used, mean (SD)	3.0	--
Quantity *(tablet)* per day, mean (SD)	5.0	--
Heroin		
Used, *n* (%)	4 (2.9%)	5 (3.6%)
Days used, mean (SD)	18.7 (16.2)	--
Quantity *(gram)* per day, mean (SD)	3.5 (3.5)	--
Pharmaceutical opioids		
Used, *n* (%)	6 (4.3%)	1 (0.7%)
Days used, mean (SD)	20.4 (10.5)	--
Quantity per day, mean (SD)	22.0 (10.0)	--
Cocaine		
Used, *n* (%)	1 (0.7%)	0
Days used, mean (SD)	--	--
Quantity per day, mean (SD)	--	--
Other problem substance		
Used, *n* (%)	5 (3.6%)	4 (4.4%)
Days used, mean (SD)	22.2 (24.3)	13.5 (12.5)
Quantity per day, mean (SD)	--	--
Any illicit drug use		
Used, *n* (%)	38 (27.1%)	33 (23.6%)
Daily tobacco used in past 28 days		
Yes, *n* (%)	78 (55.7%)	64 (45.7%)
Quantity per day, mean (SD)	19.1 (14.5)	14.4 (12.8)
Injecting behaviour		
Yes, *n* (%)	13 (9.3%)	10 (7.1%)
Days injected, median (min-max)	10.5 (12.2)	8.6 (10.2)
Injected with equipment used by someone else, *n* (%)	2 (1.4%)	2 (1.4%)

[a] As indicated in the Data Analysis section, missing data imputation was conducted with the assumption that the IDAT program has no effect and their baseline data applied to the follow-up time point (6 months).
All data in this table were derived from the ATOP.
-- sample is too small to calculate the statistics.

The results pertaining to the use of meth/amphetamine are presented in a separate table (Table 6) because meth/amphetamine was reported as a second most common principal drug of concern. The presentation of results in Table 6 follows the same logic as Table 4, for the whole sample and then separately for the sub-sample of participants who met two criteria: 1) identified meth/amphetamine as their primary drug of concern; and 2) a Severity of Dependence Score ≥4.

For the full sample: At baseline 13.6% of the sample was using meth/amphetamine and this was the same at 6 months. The mean number of days using meth/amphetamine decreased slightly from 12.6 days (in the preceding 4 weeks) at baseline to 11.9 days at 6 months. However, the decrease was not statistically significant. The mean quantity of meth/amphetamine use (measured in *points*) on the day meth/amphetamine was used was 2.9 at baseline and this was reduced to 1.8 at 6 months. This change was not statistically significant.

For the sub-sample dependent on meth/amphetamine: Of the 13 participants who were dependent on meth/amphetamine, at baseline 84.6% had used in the last 4 weeks. This was reduced to 61.5% at 6 months. However, the change in the proportion of participants using meth/amphetamine was not statistically significant (X^2=0.8 and p=0.37). The mean number of days using meth/amphetamine decreased from 17.1 days (in the preceding 4 weeks) at baseline to 13.5 days at 6 months and this decrease was statistically significant (p=0.04) and the mean difference was 4.1 days. The mean quantity of meth/amphetamine use (in *points*) on the day meth/amphetamine was used was 2.9 at baseline and this decreased to 2.6 at 6 months. This decrease was not statistically significant (p=0.65).

Table 6: Consumption of meth/amphetamine at baseline and 6 months

Measure (past 4 weeks)			**Test of significance**
For the whole sample	**Baseline (n=140)**	**6 months (n=140, imputed data for 35 LTFUs)**	
Meth/amphetamine use			
Used, *n* (%)	19 (13.6%)	19 (13.6%)	X^2= 0.0; p=1.0
Days used, mean (SD)	12.6 (11.1)	11.9 (12.3)	*t*=0.9; p=0.4
Quantity *(point)* per day, mean (SD)	2.9 (2.7)	1.8 (2.2)	*t*=0.8; p=0.5
For participants who were dependent on meth/amphetamine (with Severity of Dependence Scale score ≥4 (as cut-off score for alcohol dependence)	**Baseline (n=13)**	**6 months (n=13, no missing data)**	
Meth/amphetamine use			
Used, *n* (%)	11 (84.6%)	8 (61.5%)	X^2= 0.8; p=0.37
Days used, mean (SD)	17.1 (10.2)	13.5 (13.6)	*t*=2.5; p=0.04 (mean difference = 4.1 days)
Quantity *(point)* per day, mean (SD)	2.9 (2.4)	2.6 (3.1)	*t*=0.5; p=0.65

Aftercare and ongoing treatment

<u>Research question 2:</u> What aftercare or ongoing treatment did IDAT participants receive in the six months after discharge from the program?

Access to community-based drug and alcohol treatment services after IDAT may be critical to maintain positive treatment outcomes. Recent evaluation studies of prison-based drug and alcohol treatment programs have shown that the greatest benefits are associated with continued treatment in post-prison aftercare [23]. Aftercare and ongoing treatment are important components of the IDAT model of care.

Data from the 6-month interview (of 105 participants, without imputation) indicated that only 30 participants (28%) had a case manager after being discharged from IDAT (see Table 7). Around half of the participants accessed other alcohol treatment post-discharge, most commonly counselling (55%), followed by self-help groups (43%). It is important to note that 15% of the participants returned to IDAT during the post-discharge period.

Table 7: Aftercare and ongoing treatment during 6 months from discharge from the IDAT program (without imputation)

Treatment uptake during 6 months post discharge (n=105)	***N (%)***
Had a case manager (9 out of 30 participants had IDAT based case managers; 21 had community-based case managers)	30 (28.6)
IDAT treatment (%)	16 (15.5)
Inpatient detoxification treatment (%)	37 (35.9)
Outpatient detoxification treatment (%)	8 (7.8)
Residential rehabilitation (%)	29 (28.2)
Outpatient counselling (%)	57 (55.3)
Self-help group (i.e. NA, AA) (%)	44 (42.7)
Prescribed methadone/buprenorphine (%)	8 (7.8)
Naltrexone (%)	12 (11.7)
Acamprosate (%)	11 (10.7)
Disulfiram (Antabuse) (%)	19 (18.4)
Other pharmacotherapy (%)	16 (15.5)

Health service utilisation

Research question 3: Did IDAT participants' health service utilisation change between baseline and 6 months post IDAT treatment?

Table 8 presents data on self-reported health service utilisation which was collected at baseline and 6-month interview for the time window of the *preceding 4 weeks*. Three areas of health services were collected: *1) ambulance services; 2) hospital services; and 3) other health services.*

The rate of utilisation of both ambulance services and hospital services was reduced markedly. The proportion of participants receiving help from ambulance officers decreased from 71.4% at baseline to 42.1% at 6 months and this decrease was statistically significant (X^2= 30.0; p<0.001). For those who did receive help from ambulance officers, the mean number of times decreased from 3.6 to 3.2. Consistent with the proportion of participants reporting alcohol being their primary drug of concern, most participants reported that they received help from ambulance officers due to alcohol use (81.0% at baseline, compared to other drugs at baseline, 15.0%). Almost every visit by the ambulance officers resulted in the people being taken to the hospital in the ambulance.

It is important to note that while some hospital services are planned/desired (i.e. a patient appropriately and usually intentionally receives hospital services for treatment of a medical condition), some other hospital services are unplanned/undesired (in our case, emergency medical services for a medical condition caused by unexpected events such as a car accident). For this evaluation, we are concerned with unplanned/undesired hospital services that are likely to be caused by excessive consumption of alcohol and/or drugs (e.g. gastrointestinal bleeding caused by excessive consumption of alcohol). There was a remarkable decrease in the proportion of participants having unplanned hospital services, reported as being treated as a patient in a hospital emergency or casualty ward (from 79.3% at baseline to 49.3% at 6 months) and this decrease was statistically significant (X^2= 13.8; p<0.001). Of those participants who reported being treated in a hospital emergency or casualty ward, the average number of times was reduced from 3.1 to 2.6 but this reduction was not statistically significant.

Pertaining to other health services, it is positive to see that the proportion of participants visiting a GP was high for both baseline and 6 months (58.6% and 62.9%) and a small increase in the proportion of participants visiting a dentist (from 5.0% at baseline to 10.0% at 6 months).

Table 8: Health service utilisation (in preceding 4 weeks)

	Baseline (n=140)	6 months (n=140, imputed data for 35 LTFUs)	Test of significance
AMBULANCE SERVICES			
% receiving help from ambulance officers	100 (71.4%)	59 (42.1%)	X^2= 30.04; p<0.001
# of times receiving help from ambulance officers *(of those who did receive help from ambulance officers) (mean, SD, min & max)*	3.6 (3.6) 1-22	3.2 (3.9) 1-22	*t*=0.9; p=0.40
% receiving help from ambulance officers due to alcohol use *(of those who did receive help from ambulance officers)*	81 (81.0%)	42 (71.2%)	X^2= 1.24; p=0.19
% receiving help from ambulance officers due to use of other drugs *(of those who did receive help from ambulance officers)*	15 (15.0%)	13 (22.0%)	X^2= 1.22; p=0.22
% being taken to a hospital in the ambulance *(of those who did receive help from ambulance officers)*	99 (99.0%)	58 (98.3%)	X^2= 0.14; p=0.90
# of times being taken to the hospital in the ambulance *(of those who did receive help from ambulance officers) (mean, SD, min & max)*	2.5 (3.1) 0-16	2.7 (2.9) 0-20	*t*=1.1; p=0.35
HOSPITAL SERVICES			
% being treated as a patient in a hospital emergency or casualty ward	111 (79.3%)	69 (49.3%)	X^2= 13.8; p<0.001
# of times being treated as a patient in a hospital emergency or casualty ward *(of those who were treated) (mean, SD, min & max, & of those being treated in a hospital emergency or casualty ward)*	3.1 (3.1) 1-16	2.6 (3.0) 1-20	*t*=1.2; p=0.34
% admitted to a hospital as a result of the above visit *(to a hospital emergency or casualty ward)*	93 (83.3%)	55 (79.7%)	X^2= 1.02; p=0.29
OTHER HEALTH SERVICES			
% visiting a GP	52 (58.6%)	88 (62.9%)	Statistical tests for the outcomes in this section were not conducted because: 1) the difference in % is small; and/or 2) the sub-sample is very small.
% visiting a specialist doctor	27 (19.3%)	27 (19.3%)	
% having at least one urine test	70 (50.0%)	63 (45.0%)	
% having at least one blood test	78 (55.7%)	65 (46.4%)	
% having at least one X-ray or scan	66 (47.1%)	43 (30.7%)	
% visiting a dentist	7 (5.0%)	14 (10.0%)	
% visiting a psychiatrist	20 (14.3%)	19 (13.6%)	
% visiting a psychologist	24 (17.1%)	21 (15.0%)	

	Baseline (n=140)	6 months (n=140, imputed data for 35 LTFUs)	Test of significance
% visiting a social/welfare worker	49 (35.0%)	40 (28.6%)	
% visiting a therapist or a counsellor	40 (28.6%)	34 (24.3%)	
% of IDAT patients getting medications on prescription	97 (69.3%)	101 (72.1%)	

Note: 40 participants (28.6% of 140) did not report using emergency service (ambulance or ED) during 4 weeks prior to IDAT admission (see first row of table 100% - 71.4% = 28.6%).

Physical health, psychological health and wellbeing

Research question 4: Did the IDAT participants' physical health, psychological health, and wellbeing change between baseline and 6 months post IDAT treatment?

Data on physical health and well-being were sourced from the SF-12 and sections of the ATOP. Figure 2 and Figure 3 show the means and standard errors for SF-12 mental health component summary scores (MCS) and physical health component summary scores (PCS) across three time-points. The figures suggest that both the mental health (MCS) and physical health (PCS) improved between baseline and time of discharge. Both measures showed decay at 6 months but the average scores for mental and physical health remained higher than at baseline (although the difference between baseline and 6 months post IDAT was not statistically significant, as indicated by the overlap of error bars). Except for mean total score of PCS at discharge, the mean total score of both MCS and PCS at all time-points were much lower than the Australian norms (MCS=52.4 and PCS=48.9) based on population norms produced by the Department of Human Services, South Australia [16].

Figure 2: Mean and standard errors for Mental Component Summary (MCS) (from the SF-12)

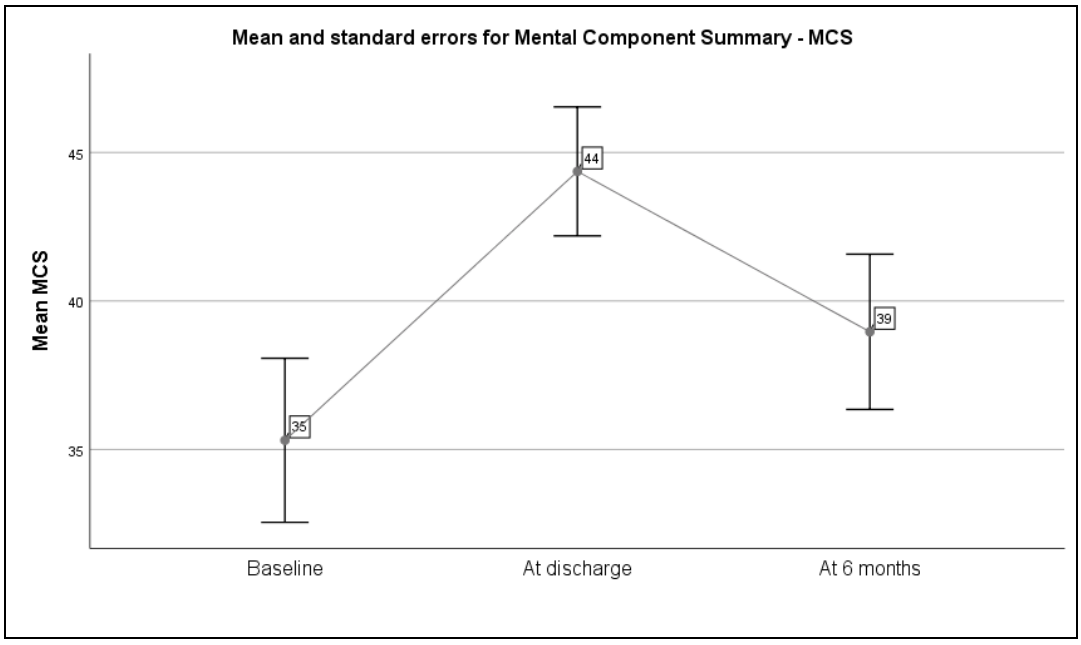


Figure 3: Mean and standard errors for Physical Component Summary (PCS) (from the SF-12)

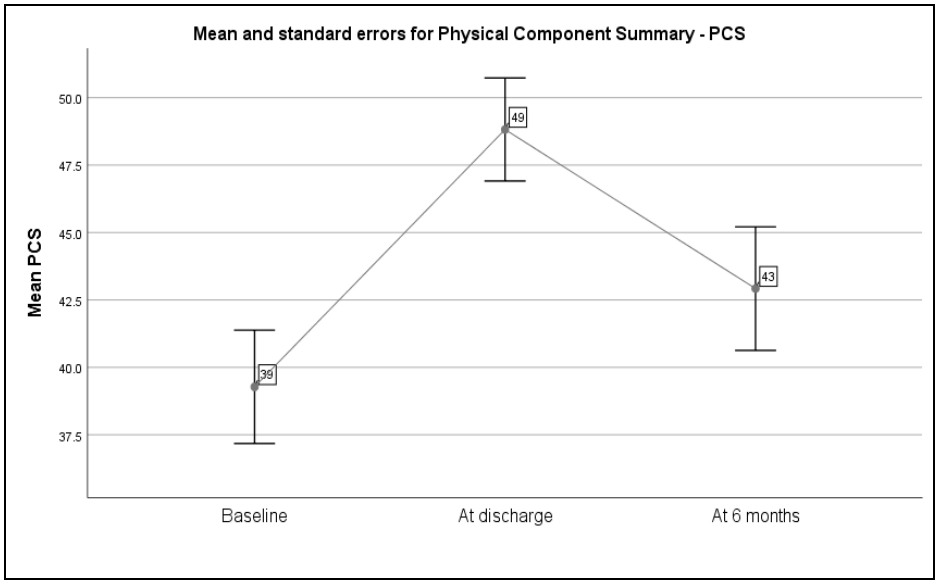


Table 9 reports data collected from sections of the ATOP pertaining to health, social functioning, and quality of life measures. Consistent with data reported earlier (Table 1 - demographic characteristics), the proportion of people reporting doing paid work was low (5.7%) at baseline and this was slightly increased to 9.3% at 6 months. At baseline, 17.9% of the participants reported being homeless and this was reduced to 14.3% at 6 months. In terms of physical health, psychologically health and overall quality of life, across the three scales, approximately 50% of the participants had scores of ≤5 at baseline. However, the proportions dropped to a range of 14% to 25% at both discharge and 6-month interview. Statistically significant test results show that the IDAT inpatient treatment had significant impact in improving the participants physical health, psychologically health and overall quality of life and this change sustained over time ($p<0.001$).

Table 9: Health and social functioning at baseline, discharge and six-month follow-up (from the ATOP)

Measure (past 4 weeks)	**Baseline (n=140)**	**Discharge (n=135)**	**6 months (n=140, imputed data for 35 LTFUs)**	**Test of significance**
Paid work, *n* (%)	8 (5.7%)	Not collected[a]	13 (9.3%)	Statistical tests for the outcomes in this section were not conducted because: 1) the difference in % is small; and/or 2) the sub-sample is very small.
Education/training, *n* (%)	1 (0.7%)		3 (3.0%)	
Homeless, *n* (%)	25 (17.9%)		20 (14.3%)	
At risk of eviction, *n* (%)	13 (9.3%)		13 (9.3%)	
Arrest, *n* (%)	16 (11.4%)		12 (8.6%)	
Being a perpetrator of violence, *n* (%)	10 (7.1%)		2 (1.4%)	

Measure (past 4 weeks)	Baseline (n=140)	Discharge (n=135)	6 months (n=140, imputed data for 35 LTFUs)	Test of significance
Being a victim of violence, *n* (%)	34 (24.3%)		20 (14.3%)	
Psychological health score <5	59 (42.1%)	26 (18.6%)	35 (25.0%)	X^2= 13.8; p<0.001
Physical health score <5	65 (46.4%)	20 (14.3%)	35 (25.0%)	X^2= 15.2; p<0.001
Overall quality of life score <5	63 (45.0%)	24 (17.1%)	32 (22.9%)	X^2= 16.8; p<0.001

[a] Not collected: because these measures are not relevant for when people were in IDAT inpatient treatment.

Table 10 reports the change in two different measures for general mental health as measured by the K-10: 1) total K-10 score; and 2) level of mental health disorder. The total K-10 score reduced from a mean of 28.8 at baseline to 21.8 at discharge and 24.9% at 6 months. T-tests comparing change at two time-points (baseline and 6 months post IDAT) showed that the reduction in K-10 score was statistically significant (*t*=3.2; p=0.04) with a mean difference of 3.9 scores). The proportion of participants with good mental health (cut-off score of 10-19) increased from 23.6% at baseline to 43.6% at discharge, and then dropped to 35.7% at 6 months. In the same manner, the proportion of participants with cut-off scores of 30-50 (representing severe mental disorder) decreased from 52.1% at baseline to 15.7% at discharge and then increased to 36.4% at 6 months. Overall, IDAT treatment seems to be effective in improving psychological health.

Table 10: Psychological health at baseline, discharge, six-month follow-up (from the K-10)

Measure (past 4 weeks)	Baseline (n=140)	Discharge (n=135)	6 months (n=140, imputed data for 35 LTFUs)	Test of significance*
Total K-10 score (mean and SD)	28.8 (10.9)	21.8 (8.6)	24.9 (11.1)	*t*=3.2; p=0.04 mean difference=3.9 scores)
Level of distress/mental health disorder				
1-Well *(score 10-19)*	33 (23.6%)	61 (43.6%)	50 (35.7%)	
2-Mild disorder *(score 20-24)*	17 (12.1%)	29 (20.7%)	26 (18.6%)	
3-Moderate disorder *(score 25-29)*	16 (11.4%)	23 (16.4%)	11 (7.9%)	
4-Severe disorder *(score 30-50)*	73 (52.1%)	22 (15.7%)	51 (36.4%)	

*Tests were conducted to compare change across 2 time-points: between baseline and 6 months.

Patient perceptions (coercion, affective reactions, motivation, satisfaction with treatment)

<u>Research question 5:</u> Did IDAT participants perceive that they were coerced and to what extent? Did their *perceived coercion* change between the time of admission and discharge?

Table 11 shows that at admission, the median coercion score of attending IDAT treatment was 7.5 out of 14 (minimum = 0, maximum = 13) and at discharge, the median coercion score was 8 (minimum = 0, maximum = 14). However, Figure 4 shows the mode coercion score, revealing that more than 40% of the participants had a coercion score of 12 at baseline and 37% of the participants had a coercion score of 12 at discharge. All these statistics suggest that perceived coercion was at a medium to high level and there was no change in perceived coercion from admission to discharge (p=0.40) as a result of experiencing IDAT inpatient treatment (see test of significance in Table 11).

About one third of the participants (32.9% at admission and 29.3% at discharge) had coercion scores of 5 or less, therefore were considered to have perceived admission to the IDAT program as voluntary. This is consistent with findings from previous research that showed that 20-30% of the involuntarily admitted patients report that involuntary admission to treatment was "largely a voluntary choice" [24-27]. For our analysis, the proportion of patients who had score of 5 or less appears to be similar both at admission and at discharge. However, within participants there was a change in the perception of their attendance at the program as voluntary, 14.6% of participants who had perceived that their attendance was voluntary at baseline no longer felt this way by the time they did the discharge interview and 13.4% of participants who had perceived that their attendance was not voluntary at baseline felt it was voluntary by the time they did their discharge interview (data not shown in Table 11).

It is important to note that a substantial proportion of the participants reported experiencing force during the admission process with 43.6% of the participants reporting that *"Someone physically tried to make me come to this program"*. And even though about one third of the participants perceived IDAT admission as voluntary, the distributions of perceived coercion scores of the whole sample for both at admission and at discharge were positively skewed toward a maximum score (the distribution clustering around 12 score), suggesting that for those participants who experienced coercion, their level of perceived coercion was high (Figure 4).

A substantial minority of participants perceived that insufficient information was given to them during the assessment and admission process, with one third of the participants responding "No" to the question *"Before coming to IDAT, were you informed that this is an involuntary treatment program?"* The statement which asks the participants whether their admission to the IDAT program was *"a requirement or condition of their current status"* is another measure of the level of perceived coercion. The majority of the participants (72.1% at admission and 74.3% at discharge) responded "Yes" to this question, suggesting that the majority of the participants understood/accepted that they were admitted to IDAT program involuntarily as a legal mandate imposed upon people who have excessive levels of alcohol

and drug use. It is important to note that the proportion of participants who *"chose/accepted to participate in this treatment program because I believe it is a fast way to get me into other treatment services when I finish treatment here"* was substantial (21.4% at baseline and 30.4% at discharge). This confirms one of the findings from the IDAT Process Evaluation, where some IDAT patients believed that it would be easier for them to have access to treatment services such as residential rehabilitation after they complete treatment at IDAT (which is free to them), as opposed to them trying to seek treatment at a residential rehabilitation themselves (it is difficult to get a treatment slot). About two thirds of the participants responded *"Yes"* to the question *"I believed the coercion into this treatment program was justified, and worked in my best interest"* (statement no. 11 in Table 11). This suggests that the majority of the participants acknowledged genuine concern in the decisions made to admit them to IDAT. This is a credit to those health professionals and legal professionals involved given the acuity of the patients' illness and circumstances, the requirement of legislation to initiate compulsory assessment and treatment, and in some cases the coercive nature of the environment that preceded admission.

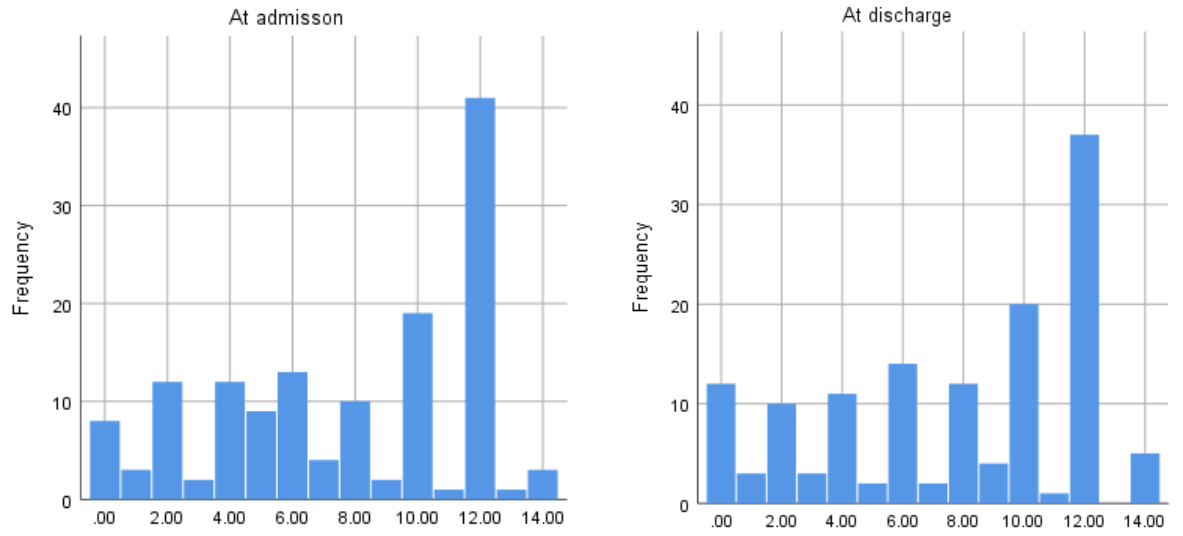
There are various possible explanations as to why perceived coercion was not higher, given the involuntary nature of IDAT. As described in our Process Evaluation report for the IDAT program (page 77 and 78), the role of the Magistrates at the IDAT program is critical in that the Magistrates viewed the hearing process (which occurred within 7 days from admission) as *"an empowering process"* in that *"they (the patients) wanted to be heard. They wanted to have their concern voiced in that forum".* It was confirmed by one of the two Magistrates that *"as a result of this empowering process, most of the patients who opposed the Dependence Certificate at the beginning of the hearing process eventually agreed that treatment at IDAT was done for their benefit and consented to engage in treatment*". This suggested that the role of the Magistrates was critically important not only on the legal process but also important in motivating the engagement of the patients while in IDAT. In addition, the expectation of positive outcomes from admission to IDAT may have modified both the impact of coercive events and the experience of perceived coercion.

Table 11: Perceived coercion of attending IDAT treatment

Questions	At admission N=140		At discharge N=135		Test of significance
Percentage of participants responding "Yes"	n	%	n	%	
1. I felt free to do what I wanted about participating in this treatment program	45	32.1	54	38.6	
2. Someone physically tried to make me come to this treatment program	61	43.6	67	47.9	
3. I felt I chose to participate in this treatment program	67	47.9	64	45.7	
4. I felt it was my idea to participate in this treatment program	33	23.6	35	25.0	
5. The transportation to get me into this program involved the police	6	4.3	14	10.0	
6. I felt I had a lot of control over whether I participated in this program	44	31.4	42	30.0	
7. I felt that I had more influence than anyone else on whether I participated in this program	27	19.3	38	27.1	
Total coercion score (Median, min-max) *(total of the first 7 questions only)*	7.5 (0-13)		8 (0-14)		*t*=0.9; p=0.40
Voluntary (coercion score <5) *Involuntary (coercion score ≥5)*	*46* *94*	*32.9* *67.1*	*41* *95*	*29.3* *67.9*	
Additional statements/questions for the context of IDAT					
8. Before coming to IDAT, were you informed that this is an involuntary treatment program? (Yes)	101	72.1	92	65.7	
9. From your understanding, was attending this program a requirement or a condition of your current status? (Yes)	101	72.1	104	74.3	
10. I chose/accepted to participate in this treatment program because I believe it is a fast way to get me into other treatment services when I finish treatment here (Yes)	30	21.4	43	30.7	
11. I believed that coercion into this treatment program was justified, and worked in my best interests (Yes)	94	67.1	96	68.6	

Notes: No imputation for missing data was conducted because these are only baseline and at discharge data, not 6-month data.

Figure 4: Histogram of perceived coercion score



<u>Research question 6:</u> What was the participants' degree of *emotional reactions* to being admitted into the IDAT program? Did their emotional reactions change between the time of admission and discharge?

Despite the above findings about perceived coercion, about half of the participants reported that they were *relieved* and *pleased* at being admitted (at the time of admission); and a higher proportion of participants expressed these positive emotional reactions at discharge. Table 12 shows participants' median scores and the percentage of participants with scores of one or more on the Affective Reactions to Hospitalisation Scale (ARHS) scale. At baseline, the median score was 6 (with a minimum of 0 and maximum of 12), suggesting that the IDAT patients had a moderate level of negative reactions to being admitted to IDAT. The median score decreased to 3.8 at discharge, also with a minimum of 0 and maximum of 12, suggesting that IDAT patients felt less negative at discharge compared to their feelings at baseline ($t=-6.49$; $p<0.001$).

This positive change in motivational reactions is likely due to the influence of the positive IDAT treatment experience, especially the therapeutic clinical environment. In addition, the positive change was also probably facilitated by the procedural justice practiced by the Magistrates during the hearing process because as in other international studies of admissions to involuntary treatment (for both drug and alcohol and mental health treatments), patients' perceptions of aspects of procedural justice have a significant impact on patients' perceptions. While there was no change in perceived coercion score between admission and discharge (as presented in Table 12: the median coercion score was 7.5 at admission and 8 at discharge), there was a substantial reduction in negative emotional reactions and this reduction was statistically significant. Also, the change in emotional reactions was consistent across all six statements. Further analysis examining the relationship between perceived coercion and negative emotional reactions (statistics not

shown) revealed a non-significant statistical relationship between these two variables. As such, overall, the data suggest that there was no direct association between *perceived coercion* and *negative emotional reactions* towards being admitted to IDAT.

Additional data analyses of specific items were conducted to examine if the source of anger ("Being admitted to this program made me feel angry") lay in the negative pressures of force or threats ("Someone physically tried to make me come to this program"). The results (data not shown in table format) showed that those who felt forced (n=67 of 140, 47.9%, see Table 11) were more inclined to feel angry than those who did not experience force (n=73 of 140, 52.2%) [$X^2(1,N=140) = 5.2$, p=0.03)]. This finding has implications as it emphasises the importance of the interpersonal process during referral and admission. If it was possible to reduce the level of "force" and increase the extent to which patients feel their views are taken into consideration in the admission process, the perceived level of coercion and negative emotion might be reduced.

Table 12: Patient emotional reactions about being admitted into IDAT

Questions	At admission N=140		At discharge N=135		Test of significance
	n	%	N	%	
How did being admitted to this treatment program make you feel? Did it make you feel:					
1. Angry (Yes)	52	37.9	37	27.2	
2. Sad (Yes)	82	58.6	52	38.2	
3. Pleased (Yes)	58	41.4	81	59.6	
4. Relieved (Yes)	71	50.7	91	66.9	
5. Confused (Yes)	76	54.3	41	30.1	
6. Frightened (Yes)	66	47.1	35	25.7	
Total score (Median, min-max)	6 (0-12)		3.8 (0-12)		t=-6.49; p<0.001
Level of negative reactions (3 categories) *1- Low negativity (score 1-4)* *2- Medium negativity (score 5-8)* *3- High negativity (score 9-12)*	 54 42 44	 38.6 30.0 31.4	 86 28 22	 63.2 20.6 16.2	
Level of negative reactions (2 categories) *1- No negativity* *2- Score of ≥1*	 19 121	 13.6 86.4	 45 91	 33.1 66.9	X^2=19.3; p<0.001

Note: No imputation for missing data was conducted because these are only baseline and at discharge data, not 6-month data.

<u>Research question 7:</u> What was the participants' levels of *internal motivation and engagement with treatment?* Did their internal motivation and engagement with treatment change between the time of admission and discharge?

At baseline only one third (32.1%) of the participants expressed the view that the IDAT program would be of help to them and this increased to 40.3% at discharge (see Table 13). Less than half (40.7%) of the participants felt that they wanted to attend the program and the proportion increased substantially at discharge (59.0%). These increases suggest that

those participants who may not recognise and acknowledge the helpfulness of the IDAT program can, through treatment participation and interactions with other IDAT patients, become more engaged in treatment. Two thirds (65.0%) of the participants felt they needed help to keep them from going back to using alcohol/drugs and this decreased to 49.6% at discharge. There might be two ways of interpreting the last statement. It is possible that participants were more confident at discharge in their ability to stay off alcohol and drugs when they return to the community. Alternatively, it is possible that the perceptions of not needing help (at both admission and discharge) reflect the fact that these were involuntary patients, who had not sought assistance through internal motivating factors or perceptions of their own need for help.

At the discharge interview, participants generally expressed very positive perception about their engagement with the IDAT program. About two thirds (77.1%) of the participants understood their obligation while on the program. Two thirds expressed willingness to participate in the community-based aftercare program. Nearly two thirds (61.4%) of the participants expressed that they were "*Confident or Very confident"* that they would be able to stay off alcohol and/or drugs in the community at discharge interview (dropping to 52.4% at 6-month interview). The majority (80.7%) of the participants stated that they considered their health more of a priority at the time of discharge and at 6 months than they did before they started the IDAT program and they felt that the IDAT program had changed and/or had an impact on their life (82.1%).

Importantly, half (49.6%) of the participants stated that in their assessment, there were services (both clinical and non-clinical) that were provided in the IDAT program that they had not accessed before (not presented in Table 13). The participants were asked to list two of these services if they answered 'Yes' to this question. The majority of the services listed were medical services such as physical health care (MRI, treatment of pre-existing injuries, physiotherapy, dental care) and medications (pharmaceutical). However, there was also a range of non-medical services such as group education sessions (for occupational therapy or psychology, education about medications, dietician support for setting up meal plans), housing support, and linking to community-based services.

Table 13: Patients' internal motivation in engagement in the IDAT program

Questions	At admission N=140	At discharge N=135	At 6-month FU N=103 (no imputation)
	n (%)	n (%)	n (%)
1. From what you knew of this program, did you think it would be of help to you? *(Yes, for sure)*	45 (32.1)	54 (40.3)	*Not asked at 6 months*
2. How did you feel about attending this program? *(For sure, I wanted to attend this program)*	57 (40.7)	79 (59.0)	*Not asked at 6 months*
3. Did you feel you needed help to keep you from going back to using alcohol/drugs? *(Yes, for sure)*	91 (65.0)	67 (49.6)	*Not asked at 6 months*
4. I understand what has been required of me on the IDAT program *(Agree or Strongly agree)*	*Not asked at baseline*	108 (77.1)	*Not asked at 6 months*
5. Now that you have attended the IDAT program, will you participate in the community-based aftercare program, if necessary? *(Yes)*	*Not asked at baseline*	103 (73.6)	*Not asked at 6 months*
6. How confident are you that you will be able to stay off alcohol and/or drugs in the community? *(Confident or Very confident)*	*Not asked at baseline*	86 (61.4)	54 (52.4)
7. Do you consider your health more of a priority now than you did before you started the IDAT program? *(Yes)*	*Not asked at baseline*	113 (80.7)	86 (82.7)
8. Do you feel that the IDAT program has changed you and/or had an impact on your life? *(Yes)*	*Not asked at baseline*	115 (82.1)	87 (83.7)

* No imputation for missing data was conducted because it is not appropriate to impute for 6-month data.

<u>Research question 8:</u> What was the participants' *satisfaction* with treatment in IDAT*?* Did their level of satisfaction change between the time of admission and discharge?

Data on the *patients' satisfaction of the IDAT program* are presented in Table 14. At admission, the participants had high level of satisfaction with different aspects of the IDAT program, as indicated by the high proportions of participants responding *Agree or Strongly agree* with the positive statements (items 2, 4, 5, 8, and 9) and the low proportions of participants responding *Agree or Strongly agree* with the negative statements (items 1, 3, 6, 7, and 10). The mean total score was 24, which was generally at the satisfactory level. Only 2.1% of the participants gave scores that were categorised as "very unsatisfied". The majority of the participants (56.4% + 12.9%= 69.3%) gave scores that were categorised as "Satisfied" or "Very satisfied". Overall, at admission, the participants expressed very good level of satisfaction on different aspects of the IDAT program.

There seems to be little change across the individual 10 items, the overall total score, and the 4 levels of satisfaction comparing baseline and discharge, except for item no. 6.

Specifically, the proportion of participants expressing their discontent with the treatment sessions (in the context of IDAT, these are the group work sessions) they had attended (item no.6) increased from 37.1% at admission to 48.6% at discharge.

Table 14: Patients' perception of the quality of the IDAT program (measured by the Treatment Perception Questionnaire)

Questions	At admission N=136*	At discharge N=136	Test of significance
	n (%)	n (%)	
During my contact with IDAT treatment, as of today... I think that			
1. The staff have not always understood the kind of help I want *(Agree or Strongly agree)*	46 (32.9)	55 (39.3)	
2. I have been well informed about decisions made about my treatment *(Agree or Strongly agree)*	82 (58.6)	85 (60.7)	
3. The staff and I have had different ideas about what my treatment objectives should be *(Agree or Strongly agree)*	37 (26.4)	47 (33.6)	
4. There has always been a member of staff available when I have wanted to talk *(Agree or Strongly agree)*	95 (67.9)	97 (69.3)	
5. The staff have helped to motivate me to sort out my problems *(Agree or Strongly agree)*	96 (68.6)	102 (72.9)	
6. I have not liked all of the treatment sessions I have attended *(Agree or Strongly agree)*	52 (37.1)	68 (48.6)	
7. I have not had enough time to sort out my problems *(Agree or Strongly agree)*	37 (26.4)	30 (21.4)	
8. I think the staff have been good at their jobs *(Agree or Strongly agree)*	114 (81.4)	105 (75.0)	
9. I have received the help that I was looking for *(Agree or Strongly agree)*	90 (64.3)	95 (67.9)	
10. I have not liked some of the treatment rules or regulations *(Agree or Strongly agree)*	83 (59.3)	85 (60.7)	
Total score (mean and SD) (max: 40)	*23.7 (6.3)*	*23.3 (7.2)*	*t=0.96; p=0.56*
Level of satisfaction			
*0- V*ery unsatisfied *(score 0-10)*	3 (2.1)	9 (6.4)	
1- Unsatisfied (score 11-20)	36 (25.7)	25 (17.9)	
2- Satisfied (score 21-30)	79 (56.4)	86 (61.4)	
3- Very satisfied (score 31-40)	18 (12.9)	16 (11.4)	

Note: No imputation for missing data was conducted because these are only baseline and at discharge data, not 6-month data. Data were missing for 6 participants.

Factors predicting treatment outcomes

Research question 9: What factors predict alcohol use related outcomes?

There are many possible variables that may predict treatment success. In this section we report four sets of analyses: the first is concerned with whether patient severity variables predict treatment outcomes at six months; the second is concerned with the role of aftercare/ongoing treatment in predicting six months outcomes; the third is concerned with examining demographic and treatment history variables which could be assessed at intake to inform the "likelihood from treatment" criterion for IDAT; and the fourth is examining whether patient perceptions predict treatment outcomes.

Patient severity as a potential predictor of outcomes

Patient severity and its association with treatment outcomes at six months for each of the three alcohol treatment outcomes (alcohol use, number of days using alcohol, and number of standard drinks consumed in a typical day when alcohol was consumed) are presented in the three following tables. The three patient severity measures were: previous IDAT admission, severity of dependence (SDS), and mental health condition (K10).

Table 15: Univariate mixed effects regression analysis with "alcohol use – Yes/No" as outcome variable, predicted by three severity measures*

Predicting variables	**Beta Coefficient (standard error)**	**Odds Ratio****	**P-value**
Previous_IDAT treatment			
Yes	0.37 (1.23)	1.45	0.76
No (reference)	--	--	--
Time	*-0.76 (0.35)*	*n/a*	*0.03*
Previous_IDAT*Time			
Yes	-0.006 (0.72)	0.99	0.99
No (reference)	--	--	--
Time	*-0.76 (0.30)*	*n/a*	*0.01*
Total SDS score	0.03 (0.04)		0.49
Time	*-0.76 (0.30)*	*n/a*	*0.01*
Total K-10 score	-0.012 (0.02)		0.45

**Univariate analysis: each potential predictor was placed in the model separately. The results are combined together in one table for ease of reading.*

***odds ratio is only relevant for categorical predictor variable.*

Table 16: Univariate mixed effects regression analysis with "number of days alcohol was used" as outcome variable, predicted by three severity measures*

Predicting variables	**Beta Coefficient (standard error)**	**P-value**
Previous_IDAT		
Yes	1.02 (2.29)	0.66
No (reference)	--	--
Time	*-4.72 (1.23)*	*0.0002*
Previous_IDAT*Time		
Yes	-1.27 (3.58)	0.72
No (reference)	--	--
Time	*-4.42 (1.03)*	*<0.0001*
Total SDS score	0.02 (0.15)	0.89
Time	*-4.41 (1.03)*	*<0.0001*
Total K-10 score	0.05 (0.06)	0.38

**Univariate analysis: each potential predictor was placed in the model separately. The results are combined together in one table for ease of reading.*

Table 17: Univariate mixed effects regression analysis with "number of standard drinks consumed" as outcome variable, predicted by three severity measures*

Predicting variables	**Beta Coefficient (standard error)**	**P-value**
Previous_IDAT		
Yes	0.11 (5.53)	0.98
No (reference)	--	--
Time	*-7.28 (1.82)*	*0.0001*
Previous_IDAT*Time		
Yes	-1.98 (3.38)	0.56
No (reference)	--	--
Time	*-7.72 (1.52)*	*<0.0001*
Total SDS score	1.01 (0.28)	0.0005
Time	*-7.78 (1.52)*	*<0.0001*
Total K-10 score	0.35 (0.11)	0.001

**Univariate analysis: each potential predictor was placed in the model separately. The results are combined together in one table for ease of reading.*

Results from these univariate mixed effects regression modelling (Tables 15, 16, 17) show that:

In relation to the binary alcohol use outcome (yes/no):

- Previous IDAT treatment history was not a significant predictor of alcohol use at six months. The rate of alcohol use among both groups (previous IDAT versus no previous IDAT) significantly decreased over time.
- Other measures of severity (total SDS score and total K-10 score) were not predictors for alcohol use at six months (p=0.49 and p=0.45, respectively).

For the number of days of alcohol use:

- Previous IDAT treatment history did not predict the number of days of alcohol use. The between-group difference (Previous_IDAT*Time) had a statistically non-

significant p-value of 0.72, which means the two groups had the same rate of decrease in the number of days alcohol was consumed.
- Total SDS score and total K-10 score were not predictors for decrease in the number of days alcohol was consumed at six months (p=0.89 and p=0.38, respectively).

For the mean number of standard drinks consumed on drinking days:
- Previous IDAT treatment history did not show a significant effect; there were no differences between the two groups (previous IDAT versus no previous IDAT) in the reduction of the mean standard drinks (p=0.56)
- The total SDS score and total K-10 score were strong predictors for decrease in the number of mean standard drinks consumed on a typical day when alcohol was consumed at six months (p<0.0001 for both predictors).

In these analyses, it is noteworthy that previous IDAT admission was not associated with greater consumption of alcohol. In summary, the SDS and K10 were significant predictors for the decrease in the number of standard drinks consumed on drinking days, but not for abstinence, or for the number of days when alcohol was consumed post-treatment. Previous IDAT admission (as a marker of severity) was not predictive of any outcomes.

Aftercare as a potential predictor of treatment outcomes

We tested whether there was an association between receiving aftercare and ongoing treatment and the three alcohol use related outcomes (any alcohol use, number of days used, number of standard drinks per drinking day); see Tables 18, 18 and 20 for the results.

For this analysis, aftercare is defined as having accessed any of the following six treatment services (from Table 7):
1. Case management
2. IDAT treatment
3. Inpatient detoxification treatment
4. Outpatient detoxification treatment
5. Residential rehabilitation
6. Outpatient counselling

Aftercare does not include self-help nor pharmaceutical treatment (because most often pharmaceutical treatment is part of the above six types of treatment). No imputation was conducted for missing data on aftercare because it is not possible to ascertain whether people who were lost-to-follow-up (missing data) would be more likely to access aftercare or not to access aftercare.

Table 18: Mixed effects regression analysis with "alcohol use – Yes/No" as outcome variable (testing the possibility of Yes), predicted by "aftercare" – no imputation on missing data

Predicting variables	**Beta Coefficient (standard error)**	**Odds Ratio***	**P-value**
Aftercare/further treatment			
Yes	-0.71 (1.53)	0.49	0.64
No (reference)	--	--	--
Time	-1.38 (0.79)	n/a	0.01
Aftercare*Time			
Yes	0.56 (0.88)	1.75	0.52
No (reference)	--		--

**odds ratio is only relevant for categorical predictor variable.*

Table 19: Mixed effects regression analysis with "number of days alcohol was used" as outcome variable, predicted by "aftercare" – no imputation on missing data

Predicting variables	**Beta Coefficient (standard error)**	**P-value**
Aftercare/further treatment		
Yes	1.71 (4.88)	0.73
No (reference)	--	--
Time	-2.01 (1.91)	0.02
Aftercare*Time		
Yes	-3.64 (3.23)	0.26
No (reference)	--	--

**odds ratio is only relevant for categorical predictor variable.*

Table 20: Mixed effects regression analysis with "number of standard drinks consumed" as outcome variable, predicted by "aftercare" – no imputation on missing data

Predicting variables	**Beta Coefficient (standard error)**	**P-value**
Aftercare/further treatment		
Yes	5.56 (6.99)	0.43
No (reference)	--	--
Time	-5.44 (3.91)	0.01
Aftercare*Time		
Yes	0.48 (4.35)	0.91
No (reference)	--	--

**odds ratio is only relevant for categorical predictor variable.*

These findings (Tables 18, 19, 20) indicate that:

1. At baseline, there was a non-statistically significant difference in any alcohol use, the mean number of days consuming alcohol, and the mean number of standard drinks consumed on a typical day when alcohol was used between participants who received aftercare and participants who did not receive aftercare (as evidenced by the non-significant p-value of the variable "Aftercare/further treatment" (p=0.64, p=0.73 and p=0.43, respectively);
2. A significant negative effect of "Time" was detected across the analysis for each of the three alcohol use related outcomes, indicating that: 1) the probability of

reporting any alcohol use at 6 months was decreased compared to baseline, among both participants who accessed aftercare and participants who did not accessed aftercare (p=0.52); 2) the mean number of days using alcohol by both participants who accessed aftercare and participants who did not accessed aftercare decreased by 2.01 days at 6 months compared to baseline (p=0.02); and 3) the number of standard drinks consumed by both participants who accessed aftercare and participants who did not accessed aftercare decreased by 5.44 at 6 months compared to baseline (p=0.01).

3. On average, there were no statistically significant differences between participants who accessed aftercare and participants who did not access aftercare in the rate of decrease in all of the three alcohol use related outcomes, as evidenced by the p-value of the interaction term variable "AgeGroup*Time" (p=0.54, p=0.08, and p=0.43, respectively).

Demographic and treatment history variables which could be assessed at intake to inform the "likelihood from treatment" criterion for IDAT

There are four eligibility criteria for entry to IDAT, one of which is "likely to benefit from treatment". The process evaluation of the IDAT program identified that some stakeholders regarded this criterion as too vague, and there were no practical identification measures of those who are "likely to benefit from treatment".

This set of analysis focussed on identifying those demographic characteristics that were statistically significantly associated with positive treatment outcomes, in order to address "benefit from treatment" as able to be assessed during the initial program entry processes.

The variables listed in Table 21 did not show any statistically significant association with alcohol use outcomes in the univariate analyses.

Table 21: Non-significant demographic predictors of alcohol use related outcomes

Potential predictors	**Alcohol use at six months (yes/no)**	**Number of days alcohol was used**	**Number of standard drinks consumed on a day when alcohol was consumed**
Gender	p=0.33	p=0.21	p=0.33
Marital status	p=0.22	p=0.32	p=0.10
Employment	p=0.13	p=0.92	p=0.93
Treatment history prior to IDAT	p=0.99	p=0.72	p=0.56
Prison history	p=0.19	p=0.99	p=0.40
Number of ED visits in the preceding 4 weeks prior to IDAT admission	p=0.48	p=0.65	p=0.92

Only two variables showed statistically significant associations: age and education.
Age was analysed both as continuous and categorical predictor variable. Because the mean age was 45, this was used as the cut-off for dividing the participants into two age groups: 1) participants who were 45 years old or younger; and 2) participants who were older than 45 years old.

Table 22: Multivariate mixed effects regression analysis with "alcohol use – Yes/No" as outcome variable (testing the possibility of Yes), predicted by "age"*

Predicting variables	Beta Coefficient (standard error)	Odds Ratio**	P-value
AgeGroup (categorical variable) 45 or younger Older than 45 (reference)	 -2.35 (1.18) --	 0.098 --	 0.049 --
Time	-1.30 (0.56)	n/a	0.02
AgeGroup*Time 45 or younger Older than 45 (reference)	 0.78 (0.68) --	 2.44 --	 0.25 --
Total SDS score	0.08 (0.05)	n/a	0.16
Total K-10 score	-0.02 (0.02)	n/a	0.26
Age (continuous variable, in year)	0.06 (0.02)	n/a	<0.01
Time	-0.80 (0.31)	n/a	0.01
Total SDS score	0.07 (0.05)	n/a	0.16
Total K-10 score	-0.02 (0.02)	n/a	0.22

**Multivariate analysis: analysis that include multiple predictors in one model such that the outputs are conditional on the presence of all the included predictors.*
***odds ratio is only relevant for categorical predictor variable.*

Table 23: Multivariate mixed effects regression analysis with "number of days alcohol was used" as outcome variable, predicted by "age"

Predicting variables	Beta Coefficient (standard error)	P-value
AgeGroup (categorical variable) 45 or younger Older than 45 (reference)	 2.26 (3.39)	 0.51
Time	-4.08 (1.44)	0.006
AgeGroup*Time 45 or younger Older than 45 (reference)	 -2.64 (2.17)	 0.23
Total SDS score	-0.11 (0.20)	0.57
Total K-10 score	0.09 (0.07)	0.24
Age (continuous variable)	0.06 (0.07)	0.40
Time	-5.23 (1.07)	<0.001
Total SDS score	-0.11 (0.20)	0.59
Total K-10 score	0.08 (0.07)	0.28

**The outcome variable is a continuous variable therefore odds ratio is not relevant.*

Table 24: Multivariate mixed effects regression analysis with "Number of standard drinks on a typical day when alcohol was used" as outcome variable, predicted by "age"

Predicting variables	Beta Coefficient (standard error)	P-value
AgeGroup (categorical variable) 45 or younger Older than 45 (reference)	 15.32 (4.97) --	 0.003 --
Time	-4.74 (2.03)	0.022
AgeGroup*Time 45 or younger Older than 45 (reference)	 -8.66 (3.08) --	 0.006
Total SDS score	0.62 (0.33)	0.06

Total K-10 score	0.21 (0.12)	0.09
Age (continuous variable)	-0.13 (0.11)	0.26
Time	-8.51 (1.56)	<0.001
Total SDS score	0.57 (0.34)	0.09
Total K-10 score	0.22 (0.12)	0.08

Results from mixed effects regression modelling (from all three above tables) show that:

1. A significant negative effect of "Time" was detected across the analysis for both younger and older participants on each of the three alcohol use related outcomes, indicating that: 1) the probability of reporting any alcohol use at 6 months was decreased compared to baseline among participants of both groups (p=0.02); 2) the mean number of days using alcohol by both age groups decreased by 4.08 days at 6 months compared to baseline (p=0.006); and 3) the number of standard drinks consumed by both age groups decreased by 4.74 at 6 months compared to baseline (p=0.022).
2. The interaction term "AgeGroup*Time" indicates whether there was a statistically significant difference between the two age groups for each of the alcohol related outcomes. The results show that on average: 1) the rate of decrease in any alcohol use was not statistically different between the two age groups (p=0.25); and 2) the rate of decrease in the mean number of days using alcohol was not statistically significantly different between two age groups (p=0.23); however, the rate of reduction in the mean number of standard drinks in the younger age group was larger than in the older age group by 8.66 standard drinks and this difference was statistically significant (p=0.006).
3. For "Age" as a continuous variable: for each year older in Age, there is a 6% higher probability that a participant was more likely to use any alcohol at 6 months (p<0.01). However, "Age" as a continuous variable was not a predictor of the reduction in number of days consuming alcohol and the number of standard drinks consumed on a typical day when alcohol was consumed (p=0.40 and p=0.26, respectively).
4. Severity of dependence (total SDS score) and mental health condition (K-10 score) did not have any mediating effect in the relationship between age, age group and alcohol abstinence at 6 months (p=0.16 and p=0.22, respectively); neither on the reduction in the number of days alcohol was consumed (p=0.59 and p=0.28, respectively) nor the reduction in the number of standard drinks on a typical day when alcohol was consumed (p=0.09 and p=0.08, respectively).

Overall, this means that the IDAT program had a positive impact on alcohol use but younger participants seemed to be doing better at: 1) attaining abstinence from alcohol; and 2) reducing the average number of standard drinks at 6 months, after taking into consideration the marginal confounding effects of severity of dependence and mental health condition. However, there was not statistically significant differences between the two age groups in reducing the number of days using alcohol at 6 months.

For educational level, there was no statistically significant differences between the two groups (participants who attained year 10 or higher and participants who did not finish year 10) in two alcohol use related outcomes: 1) alcohol use abstinence; and 2) reduction in the number of days alcohol was consumed. Therefore, tables for these two outcomes are not presented. Table 25 below presented on the effects of education attainment on the third alcohol use related outcome: number of standard drinks on a typical day when alcohol was used.

Table 25: Multivariate mixed effects regression analysis with "Number of standard drinks on a typical day when alcohol was used" as outcome variable, predicted by "education"

Predicting variables	**Beta Coefficient (standard error)**	**P-value**
Education (categorical variable)		
Year 10 or higher	-15.72 (6.37)	0.02
Less than year 10 (reference)	--	--
Time	-15.88 (3.53)	<0.0001
Time*Education		
Year 10 or higher	9.13 (3.92)	0.02
Less than year 10 (reference)	--	--
Total SDS score	0.19 (0.13)	0.12
Total K-10 score	0.69 (0.33)	0.04

Results from this mixed effects regression modelling (from the table above) show that:

1. Significant effects on reduction in the mean number of standard drinks (the effect of 'Time') were found ($p<0.0001$). This indicates that the number of standard drinks consumed by participants of both educational attainment groups decreased by 15.88 (standard drinks) on average at 6 months compared to baseline;
2. On average, the reduction in the mean number of standard drinks in the group who attained year 10 or higher was smaller than the group who did not finish year 10 by 9.13 standard drinks and this difference was statistically significant ($p=0.02$).
3. Of the two covariates, only total K-10 score had a statistically significant mediating/confounding effect in the relationship between educational level and the number of standard drinks, in that participants with lower K-10 scores at baseline were doing better.

This means that the participants of both groups were doing well at reducing the number of standard drinks. However, participants who did not finish year 10 were doing better in reducing the average number of standard drinks at 6 months compared to baseline, after taking into account the possible confounding effects of severity of dependence and mental health condition.

Homelessness was not a significant predictor in the univariate analyses examining association with any of the alcohol use related outcomes. However, given the importance of homelessness in considerations of admissions to IDAT, the data analyses results are provided here (Table 26).

Table 26: Multivariate mixed effects regression analysis with "alcohol use – Yes/No" as outcome variable, testing for the probability of Yes, predicted by "homelessness"

Predicting variables	**Beta Coefficient (standard error)**	**Odds Ratio**	**P-value**
Homelessness			
Homeless	-1.43 (1.23)	0.22	0.25
Not homeless (reference)	--	--	--
Time	-0.88 (0.35)	n/a	0.014
Time*Homelessness			
Homeless	0.46 (0.74)	1.57	0.54
Not homeless (reference)	--	--	--
Total SDS score	0.06 (0.05)	n/a	0.23
Total K-10 score	-0.02 (0.02)	n/a	0.30

Table 27: Multivariate mixed effects regression analysis with "number of days alcohol was used" as outcome variable, predicted by "homelessness"

Predicting variables	**Beta Coefficient (standard error)**	**P-value**
Homelessness (categorical variable) Homeless Not homeless (reference)	-7.31 (4.76)	0.13
Time	-6.02 (1.15)	<0.0001
Time*Homelessness Homeless Not homeless (reference)	5.27 (3.01)	0.08
Total SDS score	-0.13 (0.19)	0.53
Total K-10 score	0.08 (0.08)	0.32

Table 28: Multivariate mixed effects regression analysis with "Number of standard drinks on a typical day when alcohol was used" as outcome variable, predicted by "homelessness"

Predicting variables	**Beta Coefficient (standard error)**	**P-value**
Homelessness (categorical variable) Homeless Not homeless (reference)	7.47 (7.31) --	0.31 --
Time	-7.99 (1.69)	<0.0001
Time*Homelessness Homeless Not homeless (reference)	-3.59 (4.53) --	0.43 --
Total SDS score	0.21 (0.13)	0.10
Total K-10 score	0.65 (0.34)	0.054

Results from mixed effects regression modelling (from Tables 26, 27 and 28) show that:

1. A significant negative effect of "Time" was detected across the analysis for each of the three alcohol use related outcomes, indicating that: 1) the probability of reporting any alcohol use at 6 months was decreased compared to baseline, among both participants who were homeless and who were not homeless (p=0.02); 2) the mean number of days using alcohol by both participants who were homeless and who were not homeless decreased by 6.02 days at 6 months compared to baseline (p<0.0001); and 3) the number of standard drinks consumed by both participants who were homeless and who were not homeless decreased by 7.99 at 6 months compared to baseline (p<0.0001), after taking into consideration the possible confounding effects of severity of dependence and mental health condition.
2. On average, there was no statistically significant differences between participants who were homeless and who were not homeless in the rate of decrease in all of the three alcohol use related outcomes, as evidenced by the p-value of the interaction term variable "AgeGroup*Time" (p=0.54, p=0.08, and p=0.43, respectively).

In summary, both participants who were homeless and who were not homeless significantly reduced their alcohol use (for all three alcohol use related outcomes); and there was no statistically significant difference between participants who were homeless and who were

not homeless in any alcohol use related outcomes, after taking into account the possible confounding effects of severity of dependence and mental health condition.

Patient perceptions of treatment and alcohol use outcomes

The relationship between the patient perceptions (perceived coercion, negative affection, motivation/engagement and satisfaction) and the three alcohol outcomes (alcohol use yes/no, number of days consuming alcohol, and number of standard drinks consumed on a typical day when alcohol was consumed) was examined with mixed effects regression models. Demographic and clinical characteristics that were examined as potential predictors (age, education, total SDS score, total K-10 score, and aftercare) were included as potential mediating factors in the relationship between patient perceptions and alcohol use outcomes.

Table 29: Mixed effects regression analysis with "alcohol use – Yes/No" as outcome variable, predicted by "patient perceptions"

Predicting variables	**Beta Coefficient (standard error)**	**Odds Ratio***	**P-value**
Time	-1.01 (0.34)		0.003
Age (in year)	0.06 (0.02)		0.005
Education (categorical variable)			
Year 10 or higher	0.01 (0.05)		0.98
Less than year 10 *(reference)*	--		--
Total SDS score	0.07 (0.06)		0.31
Total K-10 score	-0.02 (0.02)		0.31
Coercion (total score at admission)	-0.02 (0.07)		0.73
Negative emotional reactions (total score at admission)	0.003 (0.07)		0.96
Internal motivation ("From what you knew of the IDAT program, did you think it would be of help to you?")			
Yes, for sure	0.11 (0.61)		0.86
Yes, I think so	0.12 (0.52)		0.81
No, not at all *(reference)*	--		--
Treatment satisfaction (total score at discharge)	-0.01 (0.04)		0.70
Aftercare (reporting at least one treatment type**)			
Yes	0.01 (0.44)		0.97
No *(reference)*	--		--

**odds ratio is only relevant for categorical predictor variable.*

*** Aftercare treatment types are listed in Table 10.*

Table 30: Mixed effects regression analysis with "number of days alcohol was used" as outcome variable, predicted by "patient perceptions"

Predicting variables*	**Beta Coefficient (standard error)**	**P-value**
Time	-3.90 (1.07)	0.0004
Age (in year)	0.10 (0.07)	0.12
Education (categorical variable)		
Year 10 or higher	-2.64 (1.88)	0.16
Less than year 10 *(reference)*	--	--
Total SDS score	0.21 (0.20)	0.32
Total K-10 score	-0.02 (0.08)	0.80
Coercion (total score at admission)	0.35 (0.21)	0.09
Negative emotional reactions (total score at admission)	0.09 (0.23)	0.70
Internal motivation ("From what you knew of the IDAT program, did you think it would be of help to you?")		
Yes, for sure	0.32 (1.95)	0.86
Yes, I think so	1.41 (1.61)	0.38
No, not at all *(reference)*	--	--
Treatment satisfaction (total score at discharge)	0.05 (0.12)	0.68
Aftercare (reporting at least one treatment type**)		
Yes	-1.03 (1.49)	0.49
No *(reference)*	--	--

**The outcome variable is a continuous variable therefore odds ratio is not relevant.*
*** Aftercare treatment types are listed in Table 10.*

Table 31: Mixed effects regression analysis with "number of standard drinks consumed on a typical day when alcohol was consumed" as outcome variable, predicted by "patient perceptions"

Predicting variables*	**Beta Coefficient (standard error)**	**P-value**
Time	-7.20 (1.63)	<0.0001
Age (in year)	-0.08 (0.12)	0.52
Education (categorical variable)		
Year 10 or higher	-3.86 (3.48)	0.27
Less than year 10 *(reference)*	--	--
Total SDS score	0.71 (0.38)	0.07
Total K-10 score	0.20 (0.14)	0.16
Coercion (total score at admission)	0.08 (0.39)	0.84
Negative emotional reactions (total score at admission)	-0.06 (0.41)	0.88
Internal motivation ("From what you knew of the IDAT program, did you think it would be of help to you?")		
Yes, for sure	-6.59 (3.61)	0.07
Yes, I think so	-4.09 (3.01)	0.18
No, not at all *(reference)*	--	--
Treatment satisfaction (total score at discharge)	-0.10 (0.21)	0.64
Aftercare (reporting at least one treatment type**)		
Yes	-2.89 (2.75)	0.29
No *(reference)*	--	--

**The outcome variable is a continuous variable therefore odds ratio is not relevant.*
*** Aftercare treatment types are listed in Table 10.*

Tables 29 to 31 show that none of the four constructs of patient perceptions was a statistically significant predictor for any of the three alcohol use outcome measures. These findings are inconsistent with the international literature that examined these indicators for participants of voluntary drug and alcohol treatment services. For example, a cohort study in the UK [28] found that client satisfaction predicted positive outcomes, independent of voluntary treatment settings. It is possible that the differences are due to the timing of the measurement. Here in the IDAT evaluation, we measured the perceptions at admission (and satisfaction at discharge) and looked for associations between those measures and six-month treatment outcomes. For Prendergast [23] and other studies of treatment outcomes in a range of treatment settings [28, 29], the outcomes were measured while the participants were still engaged in treatment (and as such are much more likely to be highly associated).

Importantly however it appears that the participant perceptions of coercion, and negative reactions are not associated with treatment outcomes six months later. This arguably is good news for the IDAT program inasmuch as the 'involuntariness' and the associated affective reactions to that are not predictive of outcome. Similarly, treatment satisfaction and motivation were also not predictive of six-month treatment outcomes.

DISCUSSION

Prima facie, the aim of effectively reducing alcohol use and dependency in IDAT participants appears to be successful. As many as 24 participants (out of 117 participants who reported alcohol as their primary drug of concern at admission) achieved alcohol abstinence at 6 months after completion of the inpatient treatment phase. This represents an abstinence rate of 20.6%, which is very positive given that a high proportion of the IDAT patients were physically and mentally ill. Of those who continued alcohol at 6 months, they used less frequently (reducing from 23.3 days to 18.1 days) and on a day when alcohol was consumed, the quantity consumed was reduced (from 23.4 to 14.8 standard drinks).
It was not possible to ascertain the change in illegal drug use (meth/amphetamine or any other illicit drugs combined) due to small sub-samples.

The reductions in alcohol consumption were mirrored in improvements in physical and psychological health of the patients, as well as improvements in quality of life. There were also positive signs regarding health care utilisation, with significant reductions in unplanned hospital admissions and emergency department visits. It is positive to see that the proportion of participants visiting a GP was high for both baseline and 6 months (58.6% and 62.9%) and a small increase in the proportion of participants visiting a dentist (from 5.0% at baseline to 10.0% at 6 months).

These improvements between program admission and six months after program discharge were found in the context of an involuntary treatment program. Most patients felt coerced into the program, consistent with the procedures required for program entry, with moderate levels of negative affective reactions. Despite the coercion experiences, the satisfaction with the program was high. Generally, the participants expressed very positive perceptions about the content and quality of the IDAT program. Nearly all participants stated that they felt that the IDAT program had changed their life and/or had an impact on their life (82.1%). Importantly, nearly half (45.0%) of the participants stated that in their assessment, there were services (both clinical and non-clinical) that were provided in the IDAT program that they had not accessed before. Given the high level of severity of dependence of the IDAT participants, the proportion of participants accessing aftercare services during the 6 months after IDAT treatment was about half of the group: 35.9% accessed inpatient detoxification treatment, 28.2% accessed residential rehabilitation, 55.3% used outpatient counselling, and 42.7% engaged in self-help groups. It is noteworthy that 15.5% returned to IDAT at least once.

In terms of predicting successful outcomes, there were few significant findings. Most demographic and clinical variables (e.g. gender, marital status, employment status, past IDAT treatment, number of ED visits prior to IDAT admission) did not predict alcohol use related outcomes at six months. The exception was age (with younger participants doing better at six months). Education and patient severity (SDS and K-10) only predicted one alcohol outcome (the number of standard drinks consumed on a typical day when alcohol was consumed). Higher educational attainment, higher SDS total score and higher total K-10 score predicted a higher number of standard drinks at six-month follow-up. Being homeless at time of program entry was not associated with poorer treatment outcomes. Perhaps

most importantly, the involuntariness (as measured through perceived coercion and negative affective reactions) was not associated with alcohol use related outcomes at six months. Neither was treatment satisfaction, or perhaps more surprisingly aftercare services. These findings may be accounted for by the unbalanced nature of the data and the units of outcomes measured. In this evaluation, three different measures of alcohol consumption at six months post-treatment were used. The first two, a binary yes/no for any alcohol consumption over the past six months, and the number of days of alcohol consumption largely did not show significant associations with most predictor variables, whereas the third (standard drinks per day) showed significant associations with some predictor variables. This may be due to statistical issues; the first is a dichotomous variable, and there are temporal differences (the first measures differences across the entire six months of follow-up, whereas the last two measure the preceding four weeks before the interview). There are also sample size issues as a result of the unbalanced nature of the first outcome measure. Specifically, 20.6% (24/117) of the participants reported alcohol abstinence at 6 months. If a predictor variable is also a dichotomous variable (such as educational level, homelessness or aftercare), the number (n=24) is then divided further into sub-groups (a two by two table), leading to even smaller sample sizes in each cell (reducing the statistical power of the analysis). The other two outcome measures are both continuous variables. However, the number of days when alcohol was consumed is bounded by 28 (with mean=18.1, standard deviation=10.7, min=1 and max=28) while the number of standard drinks consumed is not bounded (with mean=14.8, standard deviation=14.7, min=0 and max=86 (see Table 4). This is a probable explanation for why some of the variables were not predictors for the number of days when alcohol was consumed but these same variables were predictors for the number of standard drinks consumed on a typical day when alcohol was consumed.

The question naturally arises as to whether in light of the current results, the IDAT ought to be continued, or expanded. The evaluation, unfortunately, does not provide the kind of information needed to give a definite answer to this question. The lack of a comparison group makes it impossible to determine with any degree of certainty whether the outcomes observed in connection with the program would have occurred in its absence. But the positive findings are noteworthy, especially given the rigour under which they were assessed and collected, and with a conservative imputation method for missing data due to lost-to-follow-up.

The companion linkage study will provide a comparison group for health service utilisation outcomes, not drug and alcohol outcomes. The linkage study findings will be available around September 2019.

APPENDICES

Appendix 1: Data and time-point of data collection

Appendix 1 provides the data collected with the associated tools (as relevant) and the time-points that they were collected.

Data	Baseline interview	Discharge interview	6-month follow-up interview
1. Demographics	x	--	--
2. Drug of choice, AOD treatment episodes and incarceration history *(the time frame is 6 months for 6-month FU interview)*	x	--	x
3. ATOP	x	x	x
4. Severity of Dependence Scale (SDS)	x	--	x
5. Audit- Alcohol Use Assessment *(1 year before IDAT admission for BL interview and preceding 6 months for FU interview)*	x	--	x
6. SF-12 Health Survey	x	x	x
7. K-10: Kessler Psychological Scale	x	x	x
8. Health Service Utilisation (HSU)	x	--	x
9. Perceived Coercion Questions (patient perceptions about how they were admitted into IDAT) *("on first day at IDAT" for BL interview and "today" for DC interview)*	x	x	--
10. Affective Reactions to Hospital Scale (patient emotional reactions about being admitted into IDAT) *("on first day at IDAT" for BL interview and "today" for DC interview)*	x	x	--
11. Program Interest Questions (patient assessment on the usefulness of the IDAT program) *("on first day at IDAT" for BL interview and "today" for DC interview)*	x	x	--
12. Program Perception Questions (patient perception of the content of the IDAT program)	--	x	x
13. Treatment Perception Questionnaire (TPQ) (patient assessment of the quality of the IDAT program)	x	x	--

Participant ID Number: |___|___|___|___|___|___|___|___|___|___|

Date of interview: ___/___/___

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Treatment Agency: _____

Wave: _____

Interviewer: |___|___|___|

Date Treatment Commenced: ___/___/___

Date Treatment Completed: ___/___/___

MRN: ___|___|___|___|___|___|___|

Evaluation of the NSW Involuntary Drug and Alcohol Treatment (IDAT) Program

(ADAT evaluation)

STRUCTURED QUESTIONNAIRE

(baseline interview)

For IDAT Patients

The IDAT evaluation is funded by the New South Wales Ministry of Health.

SECTION 1: DEMOGRAPHICS

Q1. What is your date of birth? ……/……/…….

Q2. What is your cultural background?

☐1 European/Caucasian
☐2 Asian
☐3 Middle Eastern
☐4 Aboriginal or Torres Strait Islander
☐5 Other (please specify) ……..

Q3. What is your current relationship status?

☐1 Married/defacto ☐2 Single ☐3 Other: …….

Q4. Gender *(interviewer to answer, do not read aloud)*

☐1 Male ☐2 Female ☐3 Other: …….

Q5. Before you were admitted to IDAT, what was your drug (or drugs) of choice? *(Choose multiple responses)*

☐1 Alcohol Years used _____ (yrs)
☐2 Heroin Years used _____ (yrs)
☐3 Cocaine Years used _____ (yrs)
☐4 Amphetamine/Methamphetamine *(or other amphetamine-type stimulants)* Years used _____ (yrs)
☐5 Benzodiazepine Years used _____ (yrs)
☐6 Cannabis Years used _____ (yrs)
☐7 Other opiates Years used _____ (yrs)
☐8 Nicotine Years used _____ (yrs)
☐9 Other drug (please specify) …… Years used _____ (yrs)

Q6. How many times have you started each of the following treatments?

IDAT inpatient treatment *(not counting the current one)* _____
Detoxification – inpatient _____
Detoxification – outpatient _____
Residential rehabilitation _____
Outpatient counselling + support *(episodes, not visits)* _____
Self-help groups such as NA or AA _____
Prescribed methadone/buprenorphine _____
Naltrexone _____
Acamprosate _____
Disulfiram (Antabuse) _____
Other pharmacotherapy _____

Total N _____

Q7. Have you been in contact with a drug and alcohol worker in your community during the last 2 years before you came into IDAT?

☐$_1$ Yes ☐$_2$ No ☐$_3$ Yes, but more than 2 years ago

Q8. How many years of school did you complete? _____ yrs?

Q9. Have you completed any courses since leaving school?

☐$_1$ No course ☐$_2$ Yes, trade/technical ☐$_3$ Yes, university/college

Q10. What was your main source of income during the month before you came here for treatment?

☐$_1$ Wage or Salary
☐$_2$ Government pension, allowance or benefit *(specify type:_____)*
☐$_3$ Child Support
☐$_4$ Superannuation/Annuity
☐$_5$ Own business or share in a partnership
☐$_6$ Rental investment
☐$_7$ Dividends or interest
☐$_8$ Other income *(please specify)* ……
☐$_9$ No form of income

Q11. Who were you living with during the past month? *(circle one only)*

☐$_1$ Alone
☐$_2$ Shared rental accommodation
☐$_3$ Partner/Spouse
☐$_4$ Partner/Spouse & children
☐$_5$ Parent(s)
☐$_6$ Other *(please specify)* ……

Q12. How many children do you have under your care? _____

Q13. What was your usual form of accommodation in the past month? *(circle one only)*

☐$_1$ Own house or flat (includes renting)
☐$_2$ Parents' home
☐$_3$ Boarding house/Hostel
☐$_4$ Shelter/refuge
☐$_5$ Drug treatment residence
☐$_6$ No fixed address/homeless
☐$_7$ Other *(please specify)* ……

Q14. (a) Have you ever been in prison?

☐$_1$ Yes - If yes, ask (b) ☐$_2$ No – If no, go to Section 2.

(b) How long ago were you last released from prison? _____mths/yrs

(c) How long were you in prison for the last time? _____mths/yrs

(d) What is the longest period of time that you have spent in prison? ____mths/yrs

ATOP

v4 Feb 2013

Surname: _____ MRN: _____

Given Names: _____

Date of Birth: ____/____/____ Sex: _____

Affix Patient Label here

ATOP DATE ___ /___ /_____ **CLINICIAN** _____

Treatment stage: ☐ Start of service episode ☐ Progress review ☐ Discharge ☐ Post Discharge

Section 1: Substance use

Record number of days used in the four weeks before you were admitted into IDAT

		Typical qty on day used	*Units*	**Week 4 (most recent)**	**Week 3**	**Week 2**	**Week 1**	**TOTAL**
a	Alcohol		Std drinks	0-7	0-7	0-7	0-7	0-28
b	Cannabis		_____	0-7	0-7	0-7	0-7	0-28
c	Amphetamine type substances (eg. ice, MDMA etc.)		_____	0-7	0-7	0-7	0-7	0-28
d	Benzodiazepines (prescribed & illicit)		_____	0-7	0-7	0-7	0-7	0-28
e	Heroin		_____	0-7	0-7	0-7	0-7	0-28
f	Other opioids (not prescribed methadone/buprenorphine)		_____	0-7	0-7	0-7	0-7	0-28
g	Cocaine		_____	0-7	0-7	0-7	0-7	0-28
h	(i)Other substance		_____	0-7	0-7	0-7	0-7	0-28
	(ii)Other substance		_____	0-7	0-7	0-7	0-7	0-28
i	Daily tobacco use?		_____			Yes ☐	No ☐	

Record number of days client injected drugs in these four weeks (if no, enter zero and go to section 2) j

						TOTAL
Injected	0-7	0-7	0-7	0-7	0-28
k Inject with equipment used by someone else?			Yes ☐	No ☐	

Section 2: Health and Wellbeing

Record days worked and at college, school or vocational training for the past four weeks

		Week 4	**Week 3**	**Week 2**	**Week 1**	**TOTAL**
a	Days paid work (incl. all paid work; not voluntary work)	0-7	0-7	0-7	0-7	0-28
b	Days at school, tertiary education, vocational training	0-7	0-7	0-7	0-7	0-28

Record the following items for the four weeks before you were admitted into IDAT

c	Have you been homeless?		Yes ☐	No ☐
d	Have you been at risk of eviction?		Yes ☐	No ☐
e	Have you, at any time in the past four weeks, been a primary caregiver for or living with any child/children	(i) under 5yo?	Yes ☐	No ☐
		(ii) 5-15yo?	Yes ☐	No ☐
f	Have you been arrested?		Yes ☐	No ☐
g	Have you been violent (incl. domestic violence) towards someone?		Yes ☐	No ☐
h	Has anyone been violent (incl. domestic violence) towards you?		Yes ☐	No ☐

i Client's rating of **psychological health status** (anxiety, depression and problem emotions and feelings)

0 1 2 3 4 5 6 7 8 9 10

Poor **Good**

j Client's rating of **physical health status** (extent of physical symptoms and bothered by illness)

0 1 2 3 4 5 6 7 8 9 10

Poor **Good**

k Client's rating of **overall quality of life** (e.g. able to enjoy life, gets on well with family and partner, satisfied with living conditions)

0 1 2 3 4 5 6 7 8 9 10

Poor **Good**

SECTION 3: SEVERITY OF DEPENDENCE SCALE (SDS)

1. Drug Use

4 weeks before you were admitted into IDAT,

1. What drug was causing you the greatest concern?

   Please specify (only one drug or alcohol)

   _____

2. What other drugs or alcohol have caused you concern over the 4 weeks before you were admitted into IDAT?

   Please specify (one or more drugs, up to a maximum of 3)

   1. _____
   2. _____
   3. _____

2. The Severity of Dependence Scale (SDS)

These five questions ask about how you have been thinking and feeling about your main problem drug in the **4 weeks before you were admitted into IDAT**, even if you have not been using:

(a) Over the 4 weeks before you were admitted into IDAT, did you ever think your use of this drug was out of control?

- ☐ **Never or almost never (0)**
- ☐ **Sometimes (1)**
- ☐ **Often (2)**
- ☐ **Always or nearly always (3)**

(b) Did the prospect of missing this drug make you very anxious or worried?

- ☐ **Never or almost never (0)**
- ☐ **Sometimes (1)**
- ☐ **Often (2)**
- ☐ **Always or nearly always (3)**

(c) Did you worry about your use of this drug?

- ☐ **Not at all (0)**
- ☐ **A little (1)**
- ☐ **Quite a lot (2)**
- ☐ **A great deal (3)**

(d) Do you wish you could stop?

- ☐ **Never or almost never (0)**
- ☐ **Sometimes (1)**
- ☐ **Often (2)**
- ☐ **Always or nearly always (3)**

(e) How difficult would you find it to stop or go without (the drug)?

- ☐ **Not difficult (0)**
- ☐ **Quite difficult (1)**
- ☐ **Very difficult (2)**
- ☐ **Impossible (3)**

Scoring: each of the five items is scored on a four point scale from 0-3. Addition of the five items produces a total score with higher scores indicating a higher level of dependence.

SDS SCORE = /15

SECTION 4: AUDIT- ALCOHOL USE ASSESSMENT

<u>One year before you were admitted into IDAT…</u>

AUDIT	Scoring system					Your score
	0	1	2	3	4	
How often did you have a drink containing alcohol?	Never	Monthly or less	2 - 4 times per month	2 - 3 times per week	4+ times per week	
How many units of alcohol did you drink on a typical day when you are drinking?	1 -2	3 - 4	5 - 6	7 - 9	10+	
How often have you had 6 or more units if female, or 8 or more if male, on a single occasion in the last year?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
How often during the last year have you found that you were not able to stop drinking once you had started?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
How often during the last year have you failed to do what was normally expected from you because of your drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
How often during the last year have you needed an alcoholic drink in the morning to get yourself going after a heavy drinking session?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
How often during the last year have you had a feeling of guilt or remorse after drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
How often during the last year have you been unable to remember what happened the night before because you had been drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
Have you or somebody else been injured as a result of your drinking?	No		Yes, but not in the last year		Yes, during the last year	
Has a relative or friend, doctor or other health worker been concerned about your drinking or suggested that you cut down?	No		Yes, but not in the last year		Yes, during the last year	

Scoring: 0 – 7 Lower risk, 8 – 15 Increasing risk,
16 – 19 Higher risk, 20+ Possible dependence

SECTION 5: SF-12 HEALTH SURVEY

Source: Salyers, M. P., Bosworth, H. B., Swanson, J. W., Lamb-Pagone, J., & Osher, F. C. (2000). Reliability and validity of the SF-12 health survey among people with severe mental illness. *Medical care*, *38*(11), 1141-1150.

1. In general, <u>during the 4 weeks before you were admitted into IDAT</u>, would you say your health was:

Excellent	Very good	Good	Fair	Poor
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

2. <u>During the 4 weeks before you were admitted into IDAT,</u> did your health then limit you in …

	Yes, limited a lot	Yes, limited a little	No, not limited at all
a Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf	☐ 1	☐ 2	☐ 3
b Climbing several flights of stairs	☐ 1	☐ 2	☐ 3

3. During the <u>4 weeks before you were admitted into IDAT</u>, how much of the time did you have any of the following problems with your work or other regular daily activities <u>as a result of your physical health</u>?

	All of the time	Most of the time	Some of the time	A little of the time	None of the time
a <u>Accomplish less</u> than you would like	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
b Do work or other activities <u>less carefully than usual</u>	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

4. During the <u>4 weeks before you were admitted into IDAT</u>, how much of the time did you have any of the following problems with your work or other regular daily activities <u>as a result of any emotional problems</u> (such as feeling depressed or anxious)?

	All of the time	Most of the time	Some of the time	A little of the time	None of the time
a <u>Accomplish less</u> than you would like	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
b Do work or other activities <u>less carefully than usual</u>	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

5. During the <u>4 weeks before you were admitted into IDAT</u>, how much did <u>pain</u> interfere with your normal work (including both work outside the home and housework)?

Not at all	A little bit	Moderately	Quite a bit	Extremely
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

6. <u>During the 4 weeks before you were admitted into IDAT,</u> how much of the time …

	All of the time	Most of the time	Some of the time	A little of the time	None of the time
a Had you felt calm and peaceful?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
b Did you have a lot of energy?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
c Had you felt downhearted and depressed?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

7. During the <u>4 weeks before you were admitted into IDAT</u>, how much of the time had your <u>physical health or emotional problems</u> interfered with your social activities (like visiting with friends, relatives, etc.)?

All of the time	Most of the time	Some of the time	A little of the time	None of the time
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

SECTION 6: K-10: KESSKER PSYCHOLOGICAL SCALE

Source: The Black Dog Institute http://www.blackdoginstitute.org.au/docs/5.K10withinstructions.pdf

K10

For all questions, please fill in the appropriate response circle. Fill in the circles like this: ●

Please do not tick or cross the circles.

During the 4 weeks before you were admitted into IDAT,	None of the time	A little of the time	Some of the time	Most of the time	All of the time
1. About how often did you feel tired out for no good reason?	○	○	○	○	○
2. About how often did you feel nervous?	○	○	○	○	○
3. About how often did you feel so nervous that nothing could calm you down?	○	○	○	○	○
4. About how often did you feel hopeless?	○	○	○	○	○
5. About how often did you feel restless or fidgety?	○	○	○	○	○
6. About how often did you feel so restless you could not sit still?	○	○	○	○	○
7. About how often did you feel depressed?	○	○	○	○	○
8. About how often did you feel that everything was an effort?	○	○	○	○	○
9. About how often did you feel so sad that nothing could cheer you up?	○	○	○	○	○
10. About how often did you feel worthless?	○	○	○	○	○

SECTION 7: HEALTH SERVICE UTILISATION (HSU)

Source: The Australian Treatment Outcome Study (the ATOS study)
Link: https://ndarc.med.unsw.edu.au/project/australian-longitudinal-study-heroin-dependence-11-year-prospective-cohort-study-mortality.

Notes to interviewers:

- To assist coding, record the medical reason/diagnosis/or condition where prompted if the client is able to report it.
- Prompt for condition if a treatment or symptoms are reported.
- If the client did not use a particular service in the last four weeks, then code this as a 0.
- The number of visits in each category should add up to total times. Code 99 if data are missing and 88 if not applicable.

This last section just asks about your use of health care services in the past month. Starting with ambulance services:

A. AMBULANCE SERVICES

1a. In the 4 weeks before you were admitted into IDAT, how many times did you receive help from **ambulance officers**?	|__|__| **total times**
1b. How many of these times were related to an alcohol-related incident?	|__|__| times
1c. How many of these times were related to other drugs-related incident (non-alcohol)?	|__|__| times
2. How many of these times resulted in you being taken to a **hospital** in the **ambulance**?	|__|__| **total times**

B. HOSPITAL SERVICES

1. In the 4 weeks before you were admitted into IDAT, how many times were you treated as a patient in a hospital **emergency or casualty ward**?	|__|__| **total times**
2. Were you admitted to a hospital as a result of this/these visit/s? ***NB: Do not include visits that led to a hospital admission (see below)***	Yes ☐1 No ☐2
2a. In the 4 weeks before you were admitted into IDAT, how many times did you go to the **outpatient clinic** of a hospital for treatment? (exclude visits to drug and alcohol services)	|__|__| **total times**
2b. What was the medical reason/diagnosis/condition for these visits and how many times were you treated at the **outpatient clinic** for each of these medical reasons/diagnoses/conditions?	
1. _____	|__|__| times VACS |__|__|__|
2. _____	|__|__| times VACS |__|__|__|
3. _____	|__|__| times VACS |__|__|__|
4. _____	|__|__| times VACS |__|__|__|
	|__|__| **total times**

3a. In the 4 weeks before you were admitted into IDAT, how many times were you admitted to a **hospital**? (Including for day-only procedures).	|__|__| **total times**
3b. What was the medical reason/diagnosis/condition for you being admitted and the number of nights you spent in the **hospital as an inpatient** for each of these medical reasons/diagnoses/conditions?:	
1. _____	|__|__| nights DRG |__|__|_|
2. _____	|__|__| nights DRG |__|__|_|
3. _____	|__|__| nights DRG |__|__|_|

C. OTHER HEALTH SERVICES

1. In the 4 weeks before you were admitted into IDAT, how many times did you visit a **GP**	|__|__| **total times**
2. In the 4 weeks before you were admitted into IDAT,, how many times did you visit a **specialist doctor?** (This is a community based doctor who you can't see without a GP's referral. Do not include psychologists, psychiatrists, or the medical officer you see as part of your current treatment).	|__|__| **total times**
3. In the 4 weeks before you were admitted into IDAT,, how many times did you have a blood or urine test?	|__|__| **total urine tests** |__|__| **total blood tests**
4. In the 4 weeks before you were admitted into IDAT, how many times did you have an x-ray or scan?	|__|__| **total tests**
5. In the 4 weeks before you were admitted into IDAT, how many times did you visit a **dentist**? 5b. How much did you pay for each visit?	|__|__| **total times** $|__.__| $|__.__| $|__.__|
6a. In the 4 weeks before you were admitted into IDAT, how many times did you visit **other health professionals** (e.g. chiropractor, naturopath, physiotherapist, optometrist, podiatrist)? 6b. How much did you usually pay for each type of visit?	|__|__| **total times** Professional _____$\|__.__\| _____$|__.__| _____$|__.__|

D. OTHER PSYCHOLOGICAL AND SOCIAL SERVICES
In addition to services counted above:

1. In the 4 weeks before you were admitted into IDAT, how many times did you visit a **psychiatrist**?	|__|__| **total times**
2a. In the 4 weeks before you were admitted into IDAT, how many times did you visit a **psychologist**? 2b.How much did you usually pay for each visit?	|__|__| **total times** $|__.__|

3a. In the 4 weeks before you were admitted into IDAT, how many times did you visit a **social/welfare worker?** 3b. How much did you usually pay for each type of visit?	|__|__| **total times** Professional _____$\|__.__\| _____$|__.__|
4a. In the 4 weeks before you were admitted into IDAT, how many times did you visit **other therapists/counsellors**? 4b. How much did you usually pay for each type of visit?	|__|__| **total times** Professional _____$\|__,__\| _____$|__.__| _____$|__.__|

E. MEDICATIONS

1a. *THIS QUESTION SHOULD BE ASKED AT BASELINE.* In the 4 weeks before you were admitted into IDAT, did you get any medications on **prescription?** *NOTE: include all prescription medications including methadone and other heroin treatment medication.* 1b. If YES, Please list the brand names of medications, number of packs you bought, pack size and unit strength			NO 0 |__| YES 1 |__|
1. BRAND NAME OF MEDICATION	2. No. of packs bought in the past 4 weeks. *If less than 1 pack, write "0"*	3. Pack size or quantity.	4. Unit strength as shown on the pack (mg)
Example: Valium	*2*	*50*	*5 mg*
1.			
2.			
3.			
4.			

SECTION 8: CRIME

Property Crime

1. During the 4 weeks before you were admitted into IDAT, how often, on average did you commit a property crime regardless of being caught or not *(e.g. break and enter, robbery without violence, shoplifting, stealing a prescription pad, stealing a car, or receiving stolen goods)?*

No property crime 0
Less than once a week 1
Once a week..... 2
More than once a week 3
(but less than daily)
Daily 4

Dealing

2. During the 4 weeks before you were admitted into IDAT, how often, on average did you sell drugs to someone, regardless of being caught or not?

No drug dealing 0
Less than once a week 1
Once a week..... 2
More than once a week 3
(but less than daily)
Daily 4

Fraud

3. During the 4 weeks before you were admitted into IDAT, how often, on average, did you commit a fraud *(e.g. forging cheques, forging prescriptions, social security scams (eg cash in hand), or using someone else's credit card)?*

No fraud..... 0
Less than once a week 1
Once a week..... 2
More than once a week 3
(but less than daily)
Daily 4

Crimes Involving Violence

4. During the 4 weeks before you were admitted into IDAT, how often, on average, did you commit a crime involving violence?

No violent crime..... 0
Less than once a week 1
Once a week..... 2
More than once a week 3
(but less than daily)
Daily 4

CRIME TOTAL _____

SECTION 9: PERCEIVED COERCION QUESTIONS

(Your perceptions about how you were admitted into IDAT)

(For the next 9 questions, please think about how you were feeling or thinking on <u>your first day</u> at IDAT)

Q1. I felt free to do what I wanted about participating in this treatment program.

☐$_0$ True ☐$_2$ False ☐$_1$ I don't know

Q2. Someone physically tried to make me come to this treatment program.

☐$_2$ True ☐$_0$ False ☐$_1$ I don't know

Q3. I felt I chose to participate in this treatment program.

☐$_0$ True ☐$_2$ False ☐$_1$ I don't know

Q4. I felt it was my idea to participate in this treatment program.

☐$_0$ True ☐$_2$ False ☐$_1$ I don't know

Q5. The transportation to get me into this program involved the police.

☐$_2$ True ☐$_0$ False ☐$_1$ I don't know

Q6. I felt I had a lot of control over whether I participated in this program.

☐$_0$ True ☐$_2$ False ☐$_1$ I don't know

Q7. I felt that I had more influence than anyone else on whether I participated in this program.

☐$_0$ True ☐$_2$ False ☐$_1$ I don't know

Q8. I chose/accepted to participate in this treatment program because I believe it is a fast way to get me into other treatment services when I finish treatment here.

☐$_0$ True ☐$_2$ False ☐$_1$ I don't know

Q9. I believed that coercion into this treatment program was justified, and worked in my best interests.

☐$_0$ True ☐$_2$ False ☐$_1$ I don't know

SECTION 10: AFFECTIVE REACTIONS TO HOSPITAL SCALE
(Your emotional reactions about being admitted into IDAT)

Source: The evaluation of the Compulsory Drug Treatment Program (CDTP) in New South Wales, adapted from Gardner, W., Hoge, S., Bennett, N., Roth, L., Lidz, C., Monahan, J., & Mulvey, E. (1993). Two scales for measuring patients' perceptions of coercion during mental hospital admission. Behavioural Sciences and the Law, 11, 307-322..
Link: http://www.bocsar.nsw.gov.au/Documents/l20.pdf

(For the next question, please think about how you were feeling or thinking on <u>your first day</u> at IDAT)

Q1. How did being admitted to this treatment program make you feel? Did it make you feel:

	Yes	No	Don't know
Angry	☐$_2$	☐$_0$	☐$_1$
Sad	☐$_2$	☐$_0$	☐$_1$
Pleased	☐$_0$	☐$_2$	☐$_1$
Relieved	☐$_0$	☐$_2$	☐$_1$
Confused	☐$_2$	☐$_0$	☐$_1$
Frightened	☐$_2$	☐$_0$	☐$_1$

SECTION 11: PROGRAM INTEREST QUESTIONS

(Whether you would like to be involved in the IDAT program)

(For the next 5 questions, please think about how you were feeling or thinking <u>on your first day at IDAT</u>)

Q1. From your understanding, was attending this program a requirement or a condition of your current status?

☐$_0$ No ☐$_1$ Yes

Q2. Before coming here, were you informed that this is an involuntary treatment program?

☐$_0$ No ☐$_1$ Yes

Q3. From what you knew of this program, did you think it would be of help to you?

☐$_0$ No, not at all ☐$_1$ Yes, I think so ☐$_2$ Yes, for sure

Q4. Did you feel you needed help to keep you from going back to using alcohol/drugs?

☐$_0$ No, not at all ☐$_1$ Yes, I think so ☐$_2$ Yes, for sure

Q5. How did you feel about attending this program?

☐$_0$ I did not want to attend this program

☐$_1$ I was not sure if I wanted to attend this program

☐$_2$ For sure, I wanted to attend this program

SECTION 12: TREATMENT PERCEPTION QUESTIONNAIRE (TPQ)

The TPQ aims to assess global satisfaction with services received.
Marsden, J., Stewart, D., Gossop, M., Rolfe, A., Bacchus, L., Griffiths & Strang, J. (2000). Assessing client satisfaction with treatment for substance use problems and the development of the Treatment Perceptions Questionnaire (TPQ). *Addiction research*, *8*(5), 455-470.

(For the next 10 questions, we will talk about your assessment of the quality of the IDAT program)

During my contact with IDAT treatment, as of today... I think that	**STRONGLY AGREE**	**AGREE**	**UNSURE**	**DISAGREE**	**STRONGLY DISAGREE**
1. The staff have not always understood the kind of help I want	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4
2. I have been well informed about decisions made about my treatment.	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0
3. The staff and I have had different ideas about what my treatment objectives should be.	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4
4. There has always been a member of staff available when I have wanted to talk.	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0
5. The staff have helped to motivate me to sort out my problems.	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0
6. I have not liked all of the treatment sessions I have attended.	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4
7. I have not had enough time to sort out my problems.	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4
8. I think the staff have been good at their jobs.	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0
9. I have received the help that I was looking for.	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0
10. I have not liked some of the treatment rules or regulations.	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4

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