

**The Australian Alcohol Treatment
Outcome Measure for clinicians
(AATOM-C)**

AER Final Report:

Results of the 12 month feasibility study

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EXECUTIVE SUMMARY

Increasing pressure is being placed on health care providers within the alcohol and other drugs (AOD) sector to demonstrate objective treatment outcomes and effectiveness of the services they provide. To respond to the needs of the treatment sector, current, comparable and accurate information is needed. Within the current Australian treatment field, there are a limited range of brief, multi-dimensional clinical instruments specific to the routine measurement of alcohol treatment outcomes. The Australian Alcohol Treatment Outcome Measure for Clinicians (AATOM-C) was created to assist in addressing this gap.

The aim of this study was to assess the feasibility of developing and evaluating the AATOM-C, a brief and psychometrical sound instrument, within the context of specialist alcohol treatment services in Australia over a period of 12 months.

The study involved both clinicians and researchers administering the AATOM-C interview to clients on a routine basis. Clinicians were required to administer the AATOM-C to clients at baseline, 3 and 12 months from baseline. Participants interviewed by researchers were randomly assigned to either minimal follow-up (MFU) or frequent follow-up (FFU) groups. Those in the MFU group were administered the AATOM-C at baseline and 12 months later, and those in the FFU group were administered the AATOM-C at baseline, 3, 6, 9 and 12 months from baseline.

There were three study hypotheses:

1. All client groups will demonstrate statistically significant improvements in outcome from baseline to three months and baseline to 12 months.
2. Clients interviewed by clinicians will report significantly greater improvement at three months than clients interviewed by researchers at three months.
3. Clients who were administered the full AATOM-C at 3, 6, 9 and 12 months will report significantly greater improvement in treatment outcome at 12 months than those who were interviewed only at baseline and 12 months.

A total of 348 clients new to alcohol treatment took part in this study. Of those, 148 were interviewed by clinicians in Sydney and 200 were interviewed by researchers in Sydney and Melbourne. Overall, the researcher FFU group were most successfully followed up over the 12 month period (63% at 12 months), with clinicians only successfully following-up 30% of clients at 12 months.

Results of the study indicate that clients receiving treatment for alcohol use exhibit significant improvement in treatment outcome over time across a range of core outcome variables measured by the AATOM-C instrument. This signifies that the instrument is capable of measuring clinically meaningful changes in client outcome over time.

Findings from the study also suggest that clients do not report significantly greater improvement in treatment outcome at follow-up when interviewed by their treating clinician

as opposed to an independent interviewer. It therefore can be assumed that changes in outcome detected using the AATOM-C are indicative of real changes, and not arising from a social desirability effect.

In addition to this, the frequency of follow-up was not found to play a significant role in improving treatment outcome over time. This suggests that the administration of the AATOM-C interview itself over time did not act as a type of brief intervention producing change and therefore the number of follow-up interviews administered to the client can be left to the discretion of the treating clinician who is monitoring the individual for case management purposes between three and 12 months post treatment.

Overall results of this study indicate that the AATOM-C can be used successfully and confidently within Australian alcohol treatment services as a routine measure of alcohol treatment outcome.

1.0 INTRODUCTION

The public health impact of alcohol use in Australia and across the developed world is substantial and costly, with alcohol use disorders ranking among the top ten leading causes of burden of disease for high income earning countries (Collins & Lapsley, 2008; Lopez et al., 2006). In 2004, the World Health Organisation (WHO) estimated that of the two billion people worldwide consuming alcohol; approximately 76.3 million have a diagnosable alcohol use disorder (World Health Organisation, 2004).

Given the substantial outlay of public and private funds, healthcare providers within the AOD sector are coming under increasing pressure to demonstrate objective treatment outcomes and effectiveness of the services they provide. Current, comparable and accurate information is needed to respond to the needs of the treatment sector. While there have been a number of initiatives to develop outcome monitoring tools for drug and alcohol treatment (for example, the Opiate Treatment Index, (Darke et al., 1992); Maudsley Addiction Profile, (Marsden et al., 1998); Addiction Severity Index, (McLellan et al., 1980) such tools have focused primarily on illicit drug use and treatment outcomes. In Australia, the Brief Treatment Outcome Measure (BTOM) was the first national initiative to introduce ongoing outcome monitoring into routine clinical practice. The BTOM however is not sufficient for use within alcohol treatment services due to its lack of detail on alcohol use patterns (i.e. binge drinking), concentrating again on the area of illicit drug. To date, a limited range of brief, multi-dimensional clinical instruments, specific to the routine measurement of alcohol treatment outcomes are available.

The Australian Alcohol Treatment Outcome Measure for clinicians (AATOM-C) was developed to fulfil the demand for a brief, standardised, psychometrically sound, and nationally consistent clinical tool specific to alcohol. To achieve this, key features in the design of the AATOM-C were that it: 1) be brief and easy to administer; 2) measure treatment outcome across a range of client functioning; 3) have good reliability, validity and sensitivity to measuring change in outcome over time; 4) be able to be integrated into existing data collection practices and reporting requirements; and 5) be broadly accepted, and appropriate for use by treatment providers across the AOD field.

Clinically focused, the AATOM-C was designed to measure treatment outcome across the domains of health and well-being, alcohol and drug use, alcohol dependence, treatment goals and health service utilisation, whilst taking into account differences in client characteristics, treatment settings and services. Additionally the AATOM-C was created to assist in documenting the effectiveness of treatment, informing changes in service provision and with the flexibility of its use for both “one off” and ongoing monitoring of treatment.

Psychometric testing of the AATOM-C has revealed the instrument has overall good psychometric properties. Please refer to Simpson et al (2007) for detailed information regarding the content, development and psychometric testing of the AATOM-C (Phase 1 and 2 of the study). This report will focus primarily on the findings of the 12 month feasibility study (Phase 3).

1.1 Aims and hypotheses

The overall aim of the AATOM project was to develop a reliable and valid alcohol treatment outcome measurement tool to serve the needs of health professionals and their clients, policy makers, funding bodies and the research community. In addition, the development of a standardised alcohol treatment outcome measure will substantially advance the evidence base for alcohol treatment, and provide comparability between different treatment outcome studies.

The AATOM project was divided into three stages of development: Phase One: Literature Review and Content Development; Phase Two: Reliability and Validity Testing and Phase Three: Feasibility study. The aims and hypotheses of Phase Three are outlined below.

1.1.1 Aim

To ascertain the feasibility of implementing and conducting the AATOM-C as a brief, valid and reliable alcohol treatment outcome measure within the context of specialist alcohol treatment services in Australia.

1.1.2 Hypotheses

1. All client groups will demonstrate statistically significant improvements in outcome from baseline to three months and baseline to 12 months.
2. Clients interviewed by clinicians will report significantly greater improvement at three months than clients interviewed by researchers at three months.
3. Clients who were administered the full AATOM-C at 3, 6, 9 and 12 months will demonstrate significantly greater improvement in treatment outcome at 12 months than those who were interviewed only at baseline and 12 months.

2.0 METHOD

2.1 Participants

To assess the feasibility of implementing the AATOM-C into routine clinical practice, a convenience sample of 348 participants was recruited from nineteen AOD treatment agencies in Sydney and Melbourne. The majority of participants came from residential rehabilitation services (59.8%). All participants were within their first two weeks of treatment and had a current concern for their alcohol use. Participant demographic characteristics are discussed in more detail in Section 3.2.

2.2 Materials

Materials used within the feasibility arm of the AATOM study are described below:

1. AATOM-C baseline interview (section 2.2.1)
2. AATOM-C follow-up interview (section 2.2.2)
3. The E-AATOM (section 2.2.3)
4. AATOM-C Administration and Procedure manuals (section 2.2.4)
5. Clinician assessment and feedback survey (section 2.2.5)

2.2.1 AATOM-C Baseline Interview

The AATOM-C interview is comprised of five sections assessing: client demographic and treatment information; health and well-being; alcohol use; other drug use; and health service utilisation. Please refer to the Simpson et al (2007) for a more detailed description of the baseline interview, including results of the psychometric testing of the AATOM-C.

Before commencing the AATOM-C baseline interview, all participants were provided with an information and consent form and informed verbally about the study. Participants were made aware that they would be contacted throughout the next 12 months to complete a number of follow-up interviews (ranging from one to four). Participants were also asked to complete a locator information form to facilitate follow-up. This form collected client details such as name, phone number, current address, where they expect to be living in the next 12 months and finally contact details of a relative or friend who would know how to contact them if need be. Participants were ensured privacy of all contact details, and that the storage of all forms would be kept separate from interview data. Signed consent was obtained before the interview began.

2.2.2 AATOM-C Follow-up Interview

The follow-up AATOM-C contained a number of additional items to that of the baseline interview in order to gauge a further understanding of the participant's treatment experiences over the following 12 months. The additional items are described briefly below.

Structure of the follow-up interview:

Section A:	Demographic Details
Section B:	Health and Well-being
Section C:	Treatment Specific
Section D:	Alcohol Use
Section E:	Other Drug Use
Section F:	Health Service Utilisation
Section G:	Personal Circumstances

Section D: Item 20

As an additional question to the alcohol use section, participants were asked to select a response for a list of three statements describing how they were currently feeling about their alcohol use.

Section F: Items 34-35.

Section C has been included to gain an understanding of the participant's treatment seeking and experiences over the three months prior to interview. During follow-up, participants were asked whether they had left their baseline treatment episode and if so were they referred onto a different treatment type. Participants who indicated they had left their baseline treatment were asked to select from a list of options of why they had left. Responses included: treatment completion, left against advice, involuntary discharge etc.

Section F: Item 36.

Participant treatment experiences during the three months prior to follow-up interview were recorded on a table adapted from the Australian Treatment Outcome Study (ATOS) follow-up questionnaire (Ross, et al., 2002).

Part A. Participants were asked to indicate how many times in the past three months they had started each of the listed treatment types (counselling, detoxification, residential rehabilitation, therapeutic communities and other).

Part B. If the participant had started one of the treatments listed in Part A, they were then asked to state how long each treatment episode lasted for.

Part C and D. Participants were also asked how long ago they had attended the stated treatment type and whether they had completed each of the treatment episode/s.

Section F: Item 37

This question was only applicable to participants who had received counselling for alcohol use in the three months prior to follow-up interview.

Part A. Participants were asked how many weeks they attended counselling for alcohol use in the past three months.

Part B. Participants were then asked to provide the average number of counselling sessions they had received per month

Part C. In addition, participants were also asked to specify the primary type of counselling they had received in the past three months as either a group program, individual or family counselling.

Section F: Item 38

This question was only applicable to participants who had received residential treatment for alcohol use in the three months prior to follow-up interview.

Part A. Participants were asked whether they had consumed any drinks containing alcohol since being admitted to residential treatment.

Part B. If the participant indicated they had a drink, they were then asked how many days from discharge this occurred. If the participant suggested that they had a drink whilst still in treatment, the number of days is recorded as "0".

Section G: Item 39

Part A. Participants were asked to indicate whether there had been a time in the past three months where they were unable to attend treatment for alcohol use. Such reasons could include being held in custody, gaol, being injured, incapacitated or other.

Part B. If the participant suggested that there was a time when they were unable to attend treatment during the previous three months, they were also asked to nominate the number of days they were unable to attend.

Section G: Item 40

If the participant had received any treatment in the previous three months, they were asked to give an overall treatment satisfaction rating on a Likert scale ranging from 0 (Not at all satisfied) to 10 (Completely satisfied).

2.2.3 The Electronic version of the AATOM-C (E-AATOM)

The E-AATOM was developed to assist in the facilitation of routine data collection. It was designed to automate data collection, collation and reporting and thereby substantially reducing the burden of administration on clinicians. Features of the E-AATOM include the automatic generation of a score summary sheet (which is printable), the de-identification of data and the ease of using a single secure database accessible across multiple treatment sites. Data collected using the E-AATOM was transferred with ease into statistical packages (i.e. Microsoft Excel and the Statistical Package for the Social Sciences) for data analysis purposes.

2.2.4 Administration and Procedure manuals

Administration and procedure manuals for both the paper and electronic version of the AATOM-C were developed to aide in the standardisation and facilitation of the instrument. The manuals were designed to act as step by step guides to the administration of the instrument, including how to conduct the interview and score relevant sections. Installation, troubleshooting and operational instructions were included within the E-AATOM guide. All agencies involved in the study were given copies of the manuals to keep for their own perusal.

2.2.5 Clinician assessment and feedback survey

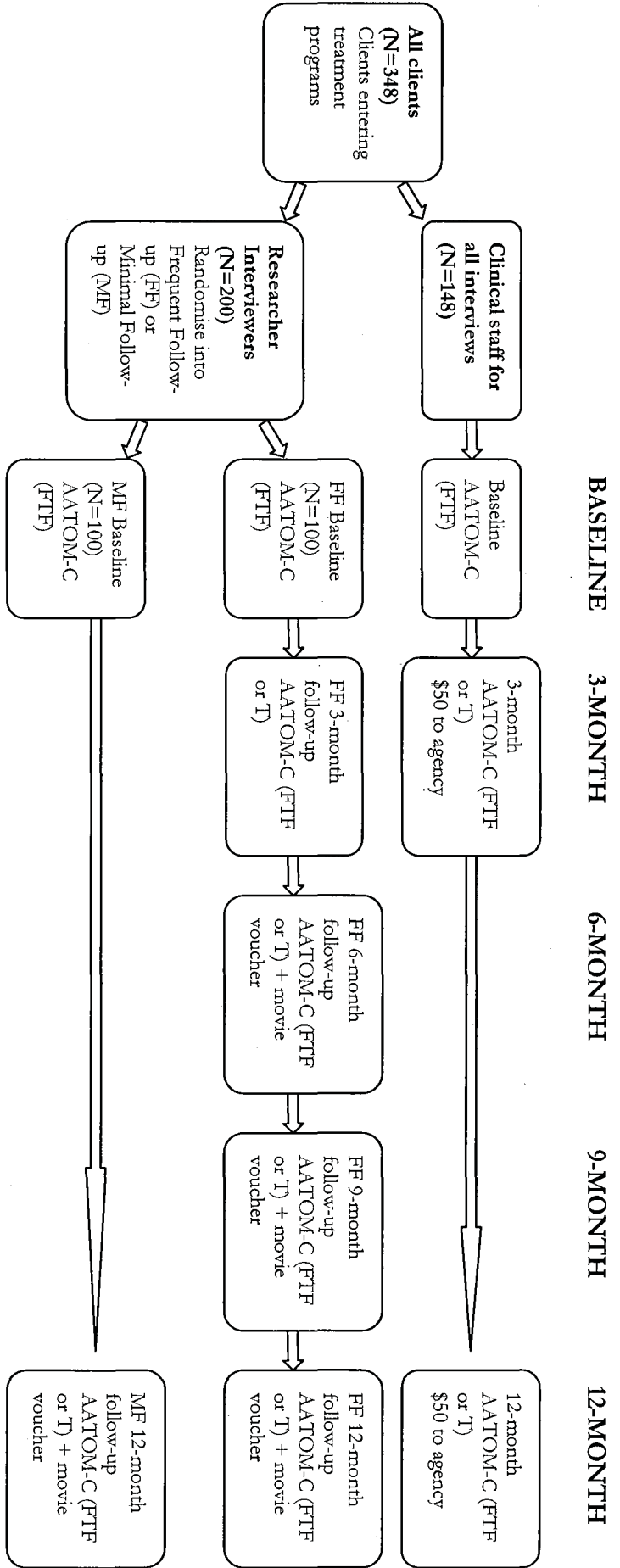
The clinician assessment and feedback survey was developed to assess the attitudes and experiences of clinical staff using the AATOM-C within alcohol treatment services. It was designed to elicit feedback about the usefulness of the instrument, the appropriateness of the content, any benefits associated with using the E-AATOM and strategies/barriers associated with implementing the outcome measure. In total the survey contained 34 questions, including eight free response questions and 26 five point Likert scale items (ranging from 1: “strongly disagree” to 5: “strongly agree”). Professional details including position title, relevant qualifications, number of years worked within the AOD field and number of AATOM-C interviews administered were also collected in addition to age and sex of the respondent.

2.3 Procedure

Participants were recruited from a total of nineteen AOD treatment agencies in Sydney and Melbourne; ten were residential rehabilitation services (some incorporating withdrawal programs), three therapeutic communities, two counselling services and four detoxification services. Participants were assigned to one of three groups: two groups (n=200) were interviewed by researchers (assigned randomly into frequent (n=100) and minimal (n=100) follow-up) and one group (n=148) was interviewed by clinicians trained in the administration of the AATOM-C. Please refer to the flow chart below (Figure 1). Recruitment procedures will be discussed in more detail in the sections below.

Institutional ethics approval was granted for the study from the University of New South Wales Human Research Ethics Committee and participating treatment agencies where required. Baseline data collection took place between April 2006 and February 2007.

Figure 1: Feasibility study outline



2.3.1 Recruitment of treatment agencies

Following the development of the AATOM-C instrument, a search for alcohol and other drug treatment agencies offering alcohol treatment within residential rehabilitation, therapeutic communities and counselling services was conducted. Primarily, the Network of Alcohol and Other Drugs (NADA) online database was used to identify agencies whose clients would be eligible to participate in the study. However, once this list had been exhausted, a general internet search for AOD agencies within the greater Sydney region and Melbourne was conducted.

Information packs (which included the offer of a free information session about the AATOM project) were sent either via email or post to co-ordinators of eligible AOD treatment agencies. Twenty agencies responded with interest to the offer and were provided with an information session outlining the project and the opportunity to be involved in either the psychometric or feasibility phase or both. If involvement in the feasibility study appealed to the agency, a further information session was conducted to explain the administration and implementation guidelines for the AATOM-C instrument in both paper and electronic format.

A total of 19 AOD treatment agencies across a range of treatment settings in Sydney (n=14) and Melbourne (n=5) became involved in the feasibility phase of the AATOM project. Treatment settings included ten residential rehabilitation services, three therapeutic communities, two counselling services and four detoxification services. Of those, nine agencies in Sydney expressed interest in collecting their own data as part of the "clinician-interviewed" component field testing of the AATOM-C.

2.3.1.1 Training of treatment agency staff

A further information and training session was conducted with treatment agencies interested in collecting their own data, to outline AATOM-C administration and data collection procedures. Both the paper and electronic versions of the instrument were examined step by step to ensure the AATOM-C was understood and correctly administered by agency staff. Copies of the administration and procedure manuals were provided to agency staff for future reference (Refer to Appendix 1, 2 & 3). To ensure the standardisation of data collection, training sessions were compulsory for all staff who intended on conducting AATOM-C interviews for the purposes of the AATOM project. NDARC research officers were available throughout the length of the project to contact for help regarding administration and technical issues.

2.3.2 Recruitment of participants

Participants recruited for the feasibility study came from a range of alcohol treatment services in Sydney and Melbourne. Before participating, all participants were advised that their decision of whether or not to participate in the study was voluntary and would not

affect their relationship with their treatment agency in any way. Eligible participants were required to:

- be within the first two weeks of treatment;
- have a current concern for their alcohol use (alcohol did not however need to be their primary drug of concern for treatment purposes);
- indicate they had not had treatment for alcohol related problems in the one month prior to interview (detoxification was not included as prior treatment); and
- give informed consent prior to being interviewed; clients under the age of 18 were required to have signed consent from a parent/guardian before participating.

Researchers attended 16 alcohol treatment agencies in Sydney and Melbourne to recruit participants face to face for the researcher-interviewed component of the study. A regular recruitment day was set each week for agencies with a large intake of clients, for all other agencies, the research interviewer would call each week to check if any new potential participants were available to interview before visiting. Once at the agency, participants were assessed for eligibility, informed about the study and were asked to provide consent for the baseline interview and follow-up interviews that would take place in the successive 12 months. Participants were also informed that they would not receive any reimbursement for completing the baseline and 3 month interviews, however for the six, nine and 12 month follow-up interviews they would receive two movie tickets. Clients interviewed in Melbourne (n=50) however did receive reimbursement at the three month follow-up time point.

To further assess the feasibility of implementing the AATOM-C into alcohol treatment services, clinicians and AOD workers also conducted the AATOM-C interview with clients on a regular basis. The process of implementing the AATOM-C was individualised to each treatment agency to best fit in with current admission practices. A number of participating agencies did however find it more feasible to incorporate the interview into their own assessments. Participating treatment agencies were fully trained in the administration of the instrument and were provided with support manuals. To ensure a true feasibility trial, treatment agencies were only reminded of the follow-up interviews that were due by researchers at the beginning of each month via email. Nine alcohol treatment agencies within the Sydney region took part in this component of the study.

Participants interviewed for the feasibility phase within NSW fell into three groups: researcher interviewed with frequent follow-up, researcher interviewed with minimal follow-up and clinician interviewed; these groups will be explored in more detail below.

2.3.2.1 Researcher interviewed participants - Frequent follow-up (n=100)

Half of the participants interviewed by trained researchers were randomly assigned to the frequent follow-up group (FFU). Interviews were conducted with participants every three months: at baseline, 3, 6, 9 and 12 months later. All interviews were conducted face-to-face if the client was still in treatment or over the phone if the client had left at the time of follow-up. As a last resort, a paper copy of the interview was posted to the client with a return-addressed, stamped envelope enclosed. To allow for a valid comparison between groups, no reimbursement was given for baseline and three month interviews, however for each interview completed after three months, participants received a double movie voucher valued at approximately \$30. If a participant didn't complete any one of the previous follow-up interviews, they were still eligible to complete later follow-up interviews.

2.3.2.2 Researcher interviewed participants - Minimal follow-up (n=100)

Half of the participants interviewed by researchers were randomly assigned to the minimal follow-up group (MFU). For this group, interviews were conducted at baseline and 12 months later. Similar to the frequent follow-up group, all interviews were conducted face-to-face if the client was still in treatment or over the phone if the client was not. Interviews were also posted in the mail if phone contact could not be made. Participants within this group received a double movie voucher for successful completion of the 12 month interview.

2.3.2.3 Clinician interviewed participants (n=148)

Clinicians trained in the administration of the AATOM-C, interviewed clients at baseline, 3 and 12 months later. All interviews were conducted face-to-face where possible or over the phone if the client had left treatment. For all successful follow-up interviews conducted by clinicians, the treatment agency was reimbursed \$50. This was an estimated amount to cover the cost of the clinician's time for contacting the client, conducting the interview, entering or submitting the completed data, and the cost of phone calls and stationary. Participants in this group did not receive any reimbursement for participating. If a participant didn't complete any one of the follow-up interviews, they were still eligible to take part in later follow-up interviews.

2.3.2.4 Clinician assessment and feedback survey

Upon completion of baseline data collection, a survey assessing the experiences and attitudes of clinicians and AOD workers using the AATOM-C within a clinical setting was distributed to all treatment agencies involved in the feasibility testing phase. The survey was distributed to all nine participating treatment agencies, of which thirty four staff were eligible to complete the survey. The majority of agencies participating in the feasibility study were residential rehabilitation services (71%). A designated staff member (typically the point of contact for the AATOM project) for each agency was responsible for issuing and retrieving completed surveys. It was ensured that all information contained within the surveys would remain confidential and individual respondent names were not recorded.

2.4 Data analysis:

Baseline and follow-up interviews

Descriptive and inferential statistics were generated for variables of interest. Where data was highly skewed medians were reported. Means were reported for normally distributed data. To assess differences between groups and over time, independent and paired samples t tests were used for non-skewed data. For skewed data, Mann Whitney U and Wilcoxon Signed Rank Tests were used. Chi square was used to assess categorical variables. All data was analysed using SPSS for Windows version 15.0 (SPSS, 2006).

Clinician assessment and feedback survey

A descriptive analysis of Likert scale (ordinal) data was conducted to assess the opinions and attitudes of clinical staff using the instrument in addition to a simple thematic analysis of the short response questions.

3.0 RESULTS: PART ONE

3.1 The Baseline Sample

A total of 348 participants were interviewed at baseline. Of those, 200 participants were interviewed by researchers in Sydney (n=150) and Melbourne (n=50), with a further 148 participants interviewed by clinicians and AOD workers in Sydney alcohol treatment services. The majority of participants interviewed at baseline by both researchers (56.5%) and clinicians (64.2%) were recruited from residential rehabilitation services.

Table 1: Baseline service type

Service type (%)	Clinician interviewed (n=148)	Researcher interviewed (n=200)		All participants (n=348)
		MFU (n=100)	FFU (n=100)	
Residential rehabilitation (RR)	64.2	60.0	53.0	59.8
Therapeutic community (TC)	20.9	10.0	20.0	17.5
Counselling (C)	14.9	2.0	3.0	7.8
Detoxification (D)	0.0	28.0	24.0	14.9

3.2 Demographic characteristics

At baseline, the mean age of the participants was 36.9 years (SD 12.2, range 14-77 years), and 55.1% were male. The majority of participants were born in Australia (84.8%) with 7.6% of participants indicating they had an Aboriginal or Torres Strait Islander background. The entire sample (n=348) preferred to speak English at home.

The majority of participants (57.6%) reported a government allowance to be their main source of income, with less than a third of participants (29%) receiving a wage/salary prior to being interviewed. Participants interviewed by researchers were more likely to report employment as their main source of income than those interviewed by clinicians ($\chi^2=5.929$, $p<0.015$).

Participants reported living alone (31.4%) or with their parents (20.5%) as their usual living arrangement. The two most common sources of accommodation were a rented house/flat (51.6%) and a privately owned house/flat (38.9%). By comparison, male were significantly more likely to be living alone ($\chi^2=4.091$, $p=0.043$) or with their parents ($\chi^2=10.308$, $p<0.001$) than females. Participants assigned to the MFU group were also significantly more likely to be living alone than those in the FFU group ($\chi^2=5.050$, $p=0.025$).

Table 2: Baseline demographic characteristics

	Clinician interviewed (n=148)	Researcher interviewed (n=200)		All participants (n=348)
		MFU (n=100)	FFU (n=100)	
Age (yrs)				
Mean yrs (SD)	35.5 (13.3)	37.8 (11.9)	38.2 (10.8)	36.9 (12.2)
Range (yrs)	14-66	19-77	18-62	14-77
Sex (%)				
Male	51.7	61.0	54.0	55.1
ATSI (%)				
Aboriginal	10.4	6.0	4.0	7.3
Aboriginal or Torres Strait Islander	0.7	0.0	0.0	0.3
Country of birth (%)				
Australia	84.5	85.0	85.0	84.8
Spoken language (%)				
English	100.0	100.0	100.0	100.0
Prior treatment for alcohol use (%)				
Yes, in the last 3 months	28.1	14.0	22.0	39.1
Yes, but more than 3 months ago	18.7	50.0	43.0	18.3
Yes, currently in additional treatment	19.4	2.0	2.0	9.2
Income (%)				
Employment	22.4	32.0	37.0	29.4
Temporary benefit*	31.3	35.0	30.0	32.0
Pension*	25.2	24.0	28.0	25.6
Other	21.1	9.0	5.0	12.9
Living arrangement (%)				
Alone	28.6	41.0	26.0	31.4
Parents	21.1	17.0	23.0	20.5
Spouse/partner	10.9	8.0	19.0	12.4
Spouse/partner/child(ren)	12.9	11.0	6.0	10.4
Alone with child(ren)	12.2	10.0	7.0	10.1
Other	14.3	13.0	19.0	15.3
Accommodation (%)				
Rented house/flat	54.4	54.0	45.0	51.6
Privately owned house/flat	36.7	38.0	43.0	38.9
Boarding house	3.4	3.0	5.0	3.7
Hostel	1.4	1.0	2.0	1.4
Other	4.1	4.0	5.0	4.4

* Government allowance (temporary benefit includes sickness, unemployment, newstart etc; pension includes aged, disability & parenting)

3.2.1 Previous alcohol treatment experiences

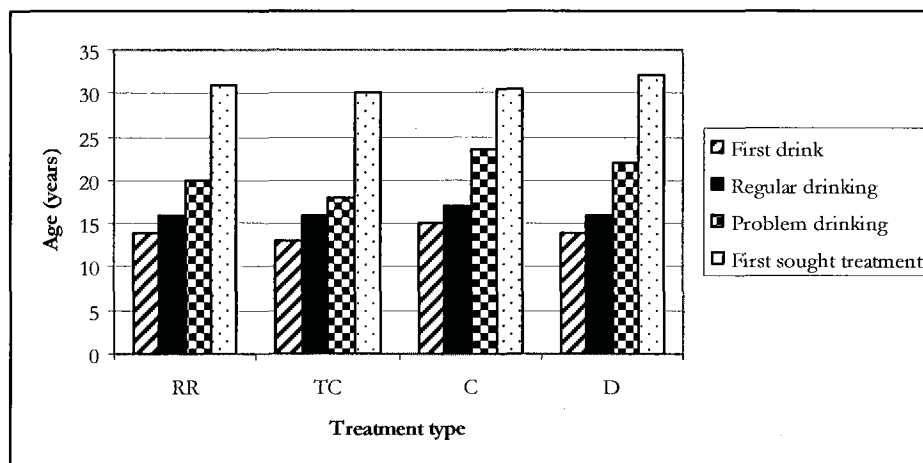
Two thirds of all participants had received treatment for alcohol related problems prior to their current treatment episode. Approximately 18% of all participants had attempted or completed a treatment episode within the last three months. To allow true baseline interview scores for the participant's current treatment, participants who had received treatment for alcohol use in the last month (30 days) were not eligible for the study.

3.3 Lifetime history of alcohol use

Participants reported drinking their first full serve of alcohol at a median age of 14 years, with regular drinking beginning during the participants mid to late teens (median age=16). The participants first recognised their alcohol use to be a problem at 20 years old (median), however did not access treatment for another 11 years, until 31 years old (median). The age at which participants experienced each alcohol time point (mentioned above) differed significantly: age of first drink to age of regular drinking ($z=-13.626$, $p<0.001$); age of regular drinking to age of problem drinking ($z=-13.641$, $p<0.001$); and age of problem drinking to age first sought treatment ($z=-14.878$, $p<0.001$). See figure 1 below.

Male participants (median age=14) were found to have been initiated to alcohol at a significantly younger age than the female participants (median age=15 years, $z=-2.180$, $p=0.029$) and were also found to have begun drinking regularly at a younger age (median=16 years) than female participants (median=17 years, $z=-2.031$, $p=0.021$).

Figure 2: Lifetime history of alcohol use



* RR = Residential rehabilitation services, TC = Therapeutic communities, C = Counselling services, D = Detoxification services

3.4 Baseline alcohol use and dependence

3.4.1 Baseline alcohol use

The majority of participants interviewed by both researchers and clinicians had used alcohol in the previous one month (n=291). Of those, participants reported drinking 20 standard drinks per day on 18 days in the past month (median scores). Overall, male participants reported drinking a significantly larger number of standard drinks per day in the past month (22 drinks) than female participants (11 drinks) ($z=-6.865$, $p<0.001$).

The number of drinking days and standard drinks consumed at baseline differed significantly across the four treatment types ($\chi^2=31.576$, $p<0.001$). Participants recruited from detoxification services were consuming alcohol more frequently and in larger amounts (median=25.5 drinks per day over 25.5 days) than those recruited from the other service types.

The majority of both males (96.2%) and females (95.6%) reported at least one day of binge drinking in the past 30 days. Males, who reported drinking seven or more standard drinks on the same day, did so on 21 days (median) in the past month. Females, who reported drinking five or more standard drinks on the same day, did so on 18 days (median) in the past month. Females interviewed by researchers reported a significantly higher number of binge drinking days (22.5 days) than those interviewed by clinicians (15.0 days) ($z=-2.021$, $p<0.001$). Both male and female participants recruited from detoxification services reported a significantly higher number of binge drinking days than participants from other service types (males: $\chi^2=21.143$, $p<0.001$; females: $\chi^2=15.769$, $p<0.001$).

Table 3: Baseline alcohol use

In the past 30 days:	Clinician interviewed (n=148)	Researcher MFU (n=100)	Researcher FFU (n=100)
Drinking alcohol (%)	84.5	85.0	81.0
Median days of alcohol use (range)	20.5 (1-30)	21.0 (1-30)	20.0 (1-30)
Median number of standard drinks consumed (range)	12.0 (1-114)	22.0 (2-73)	20.0 (3-58)
Binge drinking males (n)	59	48	43
Median days of binge drinking males (range)	22.0 (1-30)	23.0 (1-30)	20.0 (1-30)
Binge drinking female (n)	59	34	35
Median days of binge drinking females (range)	15.0 (1-30)	20.0 (1-30)	23.0 (1-30)

	Clinician interviewed (n=148)	Researcher MFU (n=100)	Researcher FFU (n=100)
In the past 30 days:			
Heavy drinking (%)	66.4	50.6	63.0
Days of heavy drinking (range)	5.0 (1-21)	5.0 (1-20)	5 (1-20)
Median number of standard drinks (range)	21.0 (3-140)	23.5 (7-60)	30 (6-144)

3.4.2 Baseline alcohol dependence

A total Severity of Dependence Scale (SDS) was used to determine the participant's level of dependence to alcohol. The median SDS total score for all participants was 10 out of a possible 15. This score indicates participants have a high dependence to alcohol (Lawrinson et. al, 2007). Participants interviewed by researchers were significantly more likely to report higher levels of alcohol dependence (median score=11) than those interviewed by clinicians (median score=9, $z=-2.300$, $p=0.021$). A significant difference between SDS total scores and service type was also found ($\chi^2=16.719$, $p<0.001$). Participants recruited from detoxification services were more likely to score higher on the SDS than participants from other services types. This indicates that the current sample of detoxification participants had higher levels of alcohol dependency than participants from other service types.

3.4.3 Baseline alcohol craving

The median alcohol craving score for all participants was 3 out of 10. This indicates that participants expressed a low desire for alcohol at the time of interview. No significant differences in alcohol craving scores were found to exist between participants.

3.5 Baseline drug use

In the 30 days prior to interview, over half of the participants (53.4%) had used an illicit drug at least once. The most commonly used illicit drug in the past month was cannabis (37.9%), with participant using on a median of 14 out of the past 30 days. Just under a quarter of participants (23.3%) had used amphetamines in the past month, using on a median of 6 days. Female participants reported using amphetamines on significantly more days ($n=9$) in the past month than male participants ($n=4$) ($z=-2.293$, $p=0.022$).

Table 4: Baseline “other” drug use

In past 30 days:	Clinician interviewed (n=148)	Researcher MFU (n=100)	Researcher FFU (n=100)
Used tobacco (%)	79.7	89.0	87.0
Median days tobacco use (range)	30.0 (2-30)	30 (4-30)	30 (3-30)
Median no. cigarettes per day (range)	20.0 (2-50)	20.0 (4-60)	20.0 (1-60)
Used heroin (%)	7.4	9.0	6.0
Median days heroin use (range)	5.0 (1-30)	2.0 (1-10)	10 (1-21)
Used opioids (%)	5.4	8	7
Median days opioid use (range)	15.0 (1-30)	15.0 (2-30)	3.0 (1-10)
Used cannabis (%)	31.1	46.0	40.0
Median days cannabis use (range)	20.0 (1-30)	14.0 (1-20)	12.0 (1-30)
Used cocaine (%)	10.1	6.0	3.0
Median days of cocaine use (range)	5 (1-20)	3.5 (1-10)	3.0 (1-3)
Used amphetamines (%)	23.6	24.0	22.0
Median days amphetamines use (range)	5.0 (1-30)	8 (1-30)	7.5 (1-30)
Used tranquilisers (%)	23.6	18.0	12.0
Median days tranquilisers use (range)	4.0 (1-30)	10 (1-30)	13.5 (1-30)

Of the participants using cannabis in the past month, those interviewed by clinicians reported using on significantly more days (n=20) than those interviewed by researchers (n=14) ($z=-2.058$, $p=0.040$). Of the participants using tranquilisers in the past month, those interviewed by researchers reported using on significantly more days (n=10) than those interviewed by clinicians (n=4) ($z=-2.331$, $p=0.020$). Participants from detoxification services reported using tranquilisers on significantly more days in the past month than those from other service types ($\chi^2=8.001$, $p=0.046$).

Approximately 85% of all participants reported using tobacco in the past 30 days, with participants using on a median of 30 days in the month. Male participants reported using tobacco on significantly more days per month ($z=-2.706$, $p=0.007$) and smoking significantly more cigarettes per day ($z=-1.983$, $p=0.047$) than female participants.

3.5.1 Baseline injecting drug use

Over a third of all participants (34.6%) reported ever injecting a drug in their lifetime, with 17.3% of all participants reporting injecting a drug in the past three months.

Table 5: Baseline injecting drug use

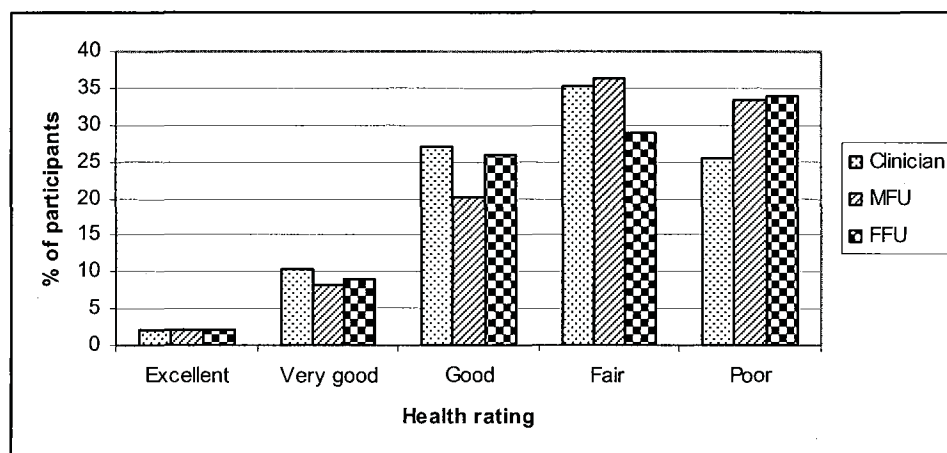
	Clinician Interviewed (n=141)	Researcher MFU (n=100)	Researcher FFU (n=100)
In the last 3 months	14.2	23.0	16.0
More than 3 but less than 12 months ago	7.8	6.0	10.0
12 months ago or more	5.7	11.0	13.0
Never injected	72.3	60.0	61.0

3.6 Baseline health and well-being

3.6.1 Baseline physical health

At baseline, the majority of participants (63.9%) rated their physical health as fair.

Figure 3: Baseline physical health rating



3.6.2 Baseline general well-being

The median well-being score for all participants was 5 out of 10, where 0 = my life is really awful right now to 10 = my life is really good right now. This indicates that the participants felt their life was quite average at the time of interview (i.e. at the beginning of treatment).

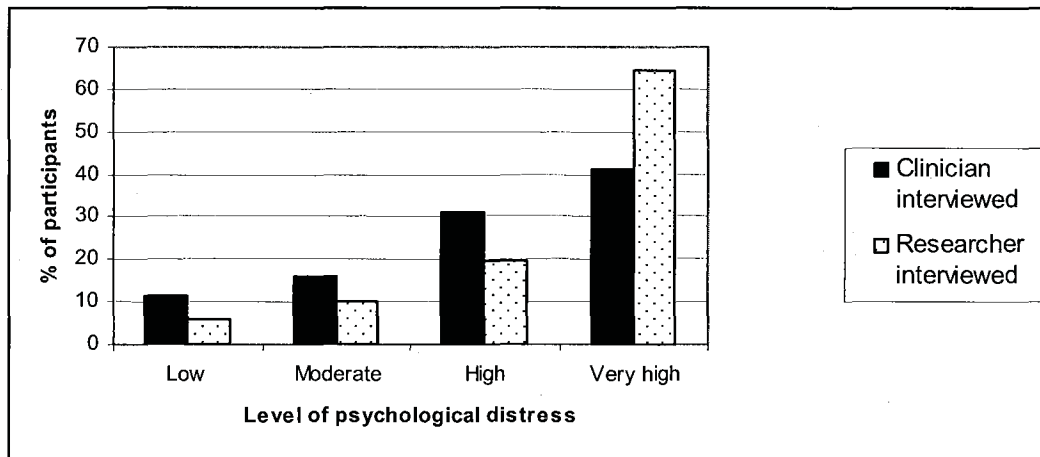
3.6.3 Baseline mental health

The mean K10 total score for all participants was 30.3 (SD 9.7, range 10-50). Participants interviewed by researchers scored higher on the K10 (M=32.3, SD=9.5) than those interviewed by clinicians (M=27.6, SD=9.2, $t(345) = 4.662, p < 0.001$). This indicates a significantly higher level of reported psychological distress among these participants.

A comparison between participants baseline service type and total K10 scores revealed significant differences across the four service types ($F(3, 343) = 6.931, p < 0.001$). A medium

effect size was found ($\eta^2=0.06$). Post hoc comparisons using the Tukey HSD test indicated that the mean K10 total score for participants at detoxification services ($M=34.6$, $SD=9.3$) was significantly higher than the participants from rehabilitation ($M=29.1$, $SD=9.7$) and counselling services ($M=26.8$, $SD=7.9$).

Figure 4: Baseline levels of psychological distress



3.6.4 Baseline hospital admission

At the time of the baseline interview, close to half of the participants (44.1%) had required hospital admission for treatment of alcohol related problems. Participants who have had previous treatment for alcohol use were also significantly more likely to have been previously admitted to hospital for alcohol related complications ($\chi^2=8.835$, $p=0.003$).

3.7 Baseline health service utilisation

Close to half of all participants had been in contact with the health service in the three months prior to interview. Forty-two percent of participants had presented to an accident and emergency department (A & E) on a median of one occasion in the past three months. One third of all participants (33.6%) had spent at least one night in hospital (median=3 nights). Participants interviewed by clinicians reported spending significantly more nights in hospital ($n=5$) than those interviewed by researchers ($n=2$) ($z=-2.548$, $p=0.011$).

Three quarters of all participants had visited a general practitioner (GP), on a median of 3 days in the past three months. Participants interviewed by researchers reported visiting a GP more regularly ($n=3$ days) than those interviewed by clinicians ($n=2$ days) ($z=-2.294$, $p=0.022$). Participants from detoxification services were also more likely to visit a GP than participants from other service types ($\chi^2=12.792$, $p=0.005$).

Just over two thirds of participants reported taking prescribed medication in the past three months, with participants interviewed by researchers reporting a significantly higher frequency of use than those interviewed by clinicians ($z=-3.395$, $p<0.001$). Female

participants were also more likely to report taking prescribed medication more frequently than male participants ($z=-2.393$, $p=0.017$).

Of those taking prescribed medications in the past three months ($n=235$), the two most commonly reported were anti-depressants (56.2%) and anti-anxiety (27.2%) medications. A further 12.3% of participants reported taking anti-psychotics, 10.2% were taking alcohol medication and 39.1% were taking “other” medications.

Table 6: Baseline health service utilisation

In the past 90 days:	Clinician interviewed (n=148)	Researcher MFU (n=100)	Researcher FFU (n=100)
Visited A & E (%)	37.8	40.0	49.0
Median times visited A & E (range)	1 (1-5)	1 (1-6)	2 (1-14)
Spent a night in hospital (%)	31.8	30.0	40.0
Median nights spent in hospital (range)	5 (1-90)	3 (1-42)	2 (1-35)
Visited a GP (%)	62.8	84.0	84.0
Median times visited GP (range)	2 (1-16)	3 (1-90)	3 (1-20)
Taking medication (%)	64.2	71.0	69.0
Median days taking medication (range)	90 (1-90)	90 (1-90)	90 (1-90)

3.8 Baseline goals and confidence in treatment

3.8.1 Baseline treatment goals and confidence in treatment

The majority of participants (73.8%) reported they wanted to achieve “complete abstinence from alcohol” as a result of their current treatment episode. At the time of the baseline interview, over two thirds of the participants were more than 70% confident of achieving their goal (median=8 out of 10, range 0-10).

Table 7: Baseline goals of treatment (%)

	Clinician interviewed (n=198)	Researcher MFU (n=99)	Researcher FFU (n=99)
Complete abstinence from alcohol	71.7	70.7	76.8
A break from alcohol use	6.2	2.0	4.0
A reduction in alcohol use	4.1	3.0	4.0
Control over alcohol use	15.9	1.0	0.0
No change	2.1	23.2	15.2

3.8.2 Baseline situational treatment confidence

Participants were overall less confident in achieving and maintaining their treatment goal three months into the future. Participants rated their future confidence of achieving and maintaining their treatment goal when facing negative emotional states as six (median) out of 10 (range 0-10), with just under half of the participants (46.8%) reporting they were more than 70% confident. Participants reported feeling slightly more confident about achieving and maintaining their treatment goal when faced with social situations (median=7, range=0-10), with 54.3% of participants reporting they were more than 70% confident.

3.9 Follow-up sample: Demographics and differences

This section provides an outline of the participants who were re-interviewed at the three and 12 month follow-up time-points by both clinicians and researchers. It will also describe any demographic differences that may exist between the clinician and researcher groups and any demographic differences between those successfully followed-up versus those lost to follow-up. As Table 7 illustrates, researchers were able to successfully follow-up a greater proportion of participants than clinicians at both three and 12 months.

Table 8: Follow-up rates (%)

Follow-up interval	Clinician interviewed (n=148)	Researcher interviewed (n=200)	
		MFU (n=100)	FFU (n=100)
3 month	49.3	N/A	67.0
6 month	N/A	N/A	63.0
9 month	N/A	N/A	55.0
12 month	29.7	54.0	63.0

3.9.1 Three month sample

Participants re-interviewed at three months (n=140) did not differ significantly from those lost to follow-up in terms of age, gender, demographics, previous treatment history, health and extent of alcohol use. This indicates that the three month sample is representative of the initial baseline sample. Researchers were however, significantly more likely to have conducted a 3 month follow-up interview with participants than clinicians ($\chi^2=7.322$, $p=0.007$). The baseline service type of those re-interviewed at 3 months is presented below (Table 9).

Table 9: Baseline service type of 3 month follow-up group

Service type (%)	Clinician interviewed (n=73)	Researcher interviewed (n=67)	All participants (n=140)
Residential rehabilitation (RR)	67.1	52.2	60.0
Therapeutic community (TC)	13.7	17.9	15.7
Counselling (C)	19.2	3.0	11.4
Detoxification (D)	0.0	26.9	12.9

Participants re-interviewed by researchers at three months (FFU group), scored significantly higher on the SDS at baseline (median=11) than participants who were lost to follow-up (median=9) ($z=-2.025$, $p=0.043$). Participants re-interviewed by researchers at three months were also significantly more likely to have higher baseline K10 total scores ($z=-3.717$, $p<0.001$) and higher SDS total scores ($z=-2.677$, $p=0.007$) than participants re-interviewed

by clinicians at three months. Researchers were also more likely to have re-interviewed participants whose main source of income was employment at baseline than participants interviewed by clinicians ($\chi^2=5.239$, $p=0.022$).

3.9.2 Twelve month sample

The baseline service type of those re-interviewed at 12 months is presented below (Table 10).

Table 10: Baseline service type of 12 month follow-up group

Service type (%)	Clinician interviewed (n=44)	Researcher MFU (n=54)	Researcher FFU (n=63)
Residential rehabilitation (RR)	90.9	57.4	50.8
Therapeutic community (TC)	9.1	5.6	12.7
Counselling (C)	0.0	0	3.2
Detoxification (D)	0.0	37.0	33.3

Participants reinterviewed at 12 months by clinicians (n=44) did not differ significantly from the initial baseline sample in terms of age, gender, accommodation, previous treatment history, health or extent of alcohol use. However, those lost to follow-up were more likely to have been working full-time at baseline ($\chi^2=4.088$, $p=0.043$) and living with their parents ($\chi^2=12.428$, $p<0.001$) than those successfully followed-up.

Participants re-interviewed at 12 months in the MFU group (n=54) also did not differ significantly from the initial baseline sample in terms of age, gender, employment, previous treatment, health or extent of alcohol use. However participants who lived in privately owned accommodation at baseline were significantly more likely to have been successfully followed-up at 12 months ($\chi^2=12.288$, $p<0.001$) than those who lived in rented accommodation than at baseline. This suggests overall the MFU group re-interviewed at 12 months was representative of the original baseline MFU group sample.

Participants re-interviewed at 12 months in the FFU group (n=63) did not differ significantly from the initial baseline sample in terms of age, gender, demographics, previous treatment history, health or extent of alcohol use. This suggests overall the FFU group re-interviewed at 12 months was representative of the original baseline FFU group sample

3.10 Treatment retention and experiences over time

Table 11 shows the percentage of participants still involved in their baseline treatment episode at the time of their follow-up interview (percentages are calculated as a proportion of those who were successfully followed-up at each time point). Clinicians were more likely to interview participants still in baseline treatment at three month follow-up than those interviewed by researchers ($\chi^2=6.308$, $p<0.012$). This difference can be related to a number of factors, one of which can be seen as the time and effort required to follow-up clients who have left treatment.

Table 11: Baseline treatment retention

	3 months	6 months	9 months	12 months
Clinician interviewed	45.8	N/A	N/A	11.4
Researcher MFU	N/A	N/A	N/A	3.8
Researcher FFU	25.4	6.3	1.8	3.2

As is expected, the majority of participants still participating in their baseline treatment episode at three months come from residential rehabilitation programs (Table 12). Generally, detoxification programs are a maximum of 10 days in duration with some residential rehabilitation and therapeutic community programs lasting up to one year in length.

Table 12: Baseline service type of those in treatment at 3 months

	Clinician interviewed (n=33)	Researcher interviewed (n=17)
Residential rehabilitation	54.5	47.1
Therapeutic communities	27.3	47.1
Counselling	18.2	5.8
Detoxification	0.0	0.0

At the three month interview the primary reason participants gave for leaving their baseline treatment episode was their "treatment was completed" (Clinician (C)=47.5% Vs Researcher (R)=58.0%), this was followed by participants leaving "because they wanted to" (i.e. left against the advice of the treatment provider, or left without giving the treatment provider any notice) (C=12.5% Vs R=28.0%).

The majority of participants who had left treatment at three months also reported being referred to another treatment type (C=75.0% Vs R=84.0%). Such a referral could have included aftercare, counselling and community groups such as Alcoholics Anonymous (AA) amongst other treatment programs.

Table 13 shows the percentage of participants involved in treatment for at least one day in the 3 months prior to the follow-up period (i.e. 3, 6, 9 or 12). Counselling was the most common treatment participants took part in following separation from their baseline treatment type.

Table 13: Treatment involvement over time (including baseline treatment) in the 3 months prior to follow-up period*

	Clinician interviewed	Researcher MFU	Researcher FFU
3 month (%)	(n=71)		(n=67)
Residential rehabilitation	40.8	N/A	25.4
Therapeutic community	18.3	N/A	13.4
Counselling	42.3	N/A	25.4
Detoxification	5.6	N/A	3.0
Other	33.8	N/A	13.4
6 month (%)			(n=62)
Residential rehabilitation	N/A	N/A	11.3
Therapeutic community	N/A	N/A	6.5
Counselling	N/A	N/A	32.3
Detoxification	N/A	N/A	14.5
Other	N/A	N/A	22.6
9 month (%)			(n=54)
Residential rehabilitation	N/A	N/A	11.1
Therapeutic community	N/A	N/A	5.6
Counselling	N/A	N/A	33.3
Detoxification	N/A	N/A	11.1
Other	N/A	N/A	22.2
12 month (%)	(n=44)	(n=54)	(n=63)
Residential rehabilitation	29.5	11.1	9.5
Therapeutic community	11.4	0.0	1.6
Counselling	31.8	33.3	27.0
Detoxification	4.5	16.7	11.1
Other	9.1	24.1	19.0

* Please note, participants may have been involved in more than one treatment, i.e. numbers do not add up to 100%

4.0 RESULTS: PART TWO

Did each client group demonstrate significant improvement in treatment outcome over time from baseline to 3 months and baseline to 12 months?

This section of the results is presented in two parts. To establish whether changes in AATOM-C scales and scores occurred over time, data from baseline to three months and baseline to 12 months is analysed. Only those successfully followed up are included in the analysis.

4.1 Changes in treatment outcome: Baseline to 3 months

4.1.1 Alcohol use and dependence: Baseline – 3 months

A significant reduction in past month alcohol use was found for participants interviewed by both researchers and clinicians at three months. The number of participants who reported drinking in the past month at baseline (n=206) decreased by 34% to n=70 at three month follow-up.

Abstinence from alcohol in the 30 days prior to interview increased greatly among both groups of participants from baseline to three months. At baseline, 13.7% of participants interviewed by clinicians reported they had not consumed alcohol in the past month, at three month follow-up abstinence rates increased to 43.8%. Of those interviewed by researchers, 17.9% of participants reported they had not consumed alcohol in the past month, at three month follow-up abstinence rates increased to 56.7%.

Of all participants interviewed by clinicians at follow-up, significant reductions from baseline to 3 month follow-up were reported for days of use ($z=-6.435$, $p<0.001$), number of drinks ($z=-5.183$, $p<0.001$), days of heavy drinking ($z=-5.345$, $p<0.001$) and number of drinks consumed on heavy drinking days ($z=-3.042$, $p=0.002$).

Similar reductions were observed for participants interviewed by researchers at follow-up: days of drinking ($z=-5.150$, $p<0.001$), number of drinks ($z=-5.611$, $p<0.001$), days of heavy drinking ($z=-4.278$, $p<0.001$) and number of drinks consumed on heavy drinking days ($z=-4.141$, $p<0.001$).

Table 14: Alcohol use: Baseline – 3 months

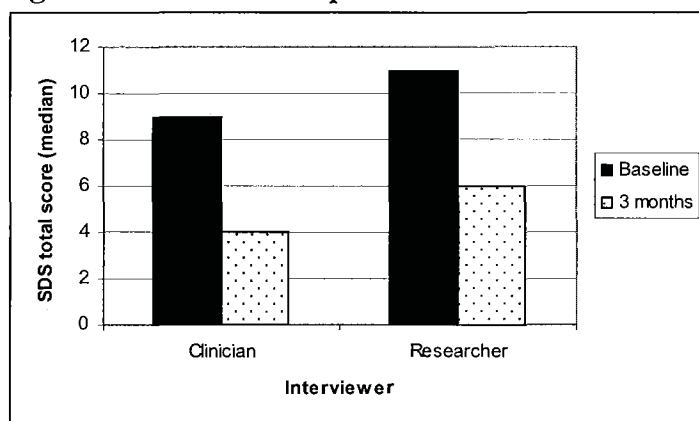
In the past 30 days:	Clinician interviewed (n=73)		Researcher interviewed (n=63)	
	Baseline	3 months	Baseline	3 months
Drinking alcohol (%)	86.3	56.2	82.1	43.3
Median days of drinking (range)	22.0 (1-30)	5.0 (1-30)	23.0 (2-30)	10.0 (1-30)
Median number of standard drinks (range)	14.0 (1-66)	5.0 (1-40)	20.0 (3-58)	6.0 (1-36)
Binge drinking males (n)	30	11	27	10
Median days binge drinking males (range)	23.0 (1-30)	8.0 (2-30)	23.0 (2-30)	17.5 (2-30)
Binge drinking females (n)	32	12	27	8
Median days binge drinking females (range)	14.5 (1-30)	4.0 (2-25)	24 (2-30)	8.5 (2-30)
Heavy drinking (%)	56.2	28.8	58.2	22.2
Median number of standard drinks heavy drinking (range)	20.0 (4-45)	7.0 (2-25)	30.0 (10-80)	17.5 (7-99)
Median days of heavy drinking (range)	7.0 (1-20)	4.0 (1-27)	5.0 (1-20)	2.0 (1-16)

* Median days and drinks calculated only for those drinking at each time point.

4.1.1.1 Alcohol dependence: Baseline – 3 months

Significant decreases in alcohol dependence (total SDS scores) were observed for both clinician interviewed ($z=-6.257$, $p<0.001$) and researcher interviewed participants ($z=-5.695$, $p<0.001$) from baseline to 3 months.

Figure 5: Alcohol dependence: Baseline – 3 months



* Clinician n=71

* Researcher n=67

4.1.1.2 Alcohol craving: Baseline – 3 months

Participants interviewed by both researchers and clinicians expressed a decreased desire for alcohol at three months. Clinician interviewed participants reported a significant decrease in

desire for alcohol from baseline (3) to three months (1) ($z=-3.281$, $p<0.001$), where 0 = no desire for alcohol and 10 = an uncontrollable desire for alcohol. Researcher interviewed participants also reported a decrease in their desire for alcohol from baseline (median=3) to three months (median=1.5), however this was not statistically significant.

4.1.2 “Other” drug use: Baseline – 3 months

A decrease in the number of participants using “other” drugs from baseline to three month follow-up was observed across all drug categories for both clinician and researcher interviewed participants (Table 15). The largest decrease in drug use was amongst the researcher interviewed participants using cannabis, the number of participants using cannabis in the past month decreased by 25.4% from baseline to follow-up. The use of tranquilisers among participants interviewed by clinicians also decreased greatly, by 19.2% from baseline to follow-up. This figure however needs to be interpreted with caution as it is believed that medical use of tranquilisers may have also been recorded by clinicians at baseline interview in addition to illicit use.

Table 15: “Other” drug use: Baseline – 3 months

In the past 30 days:	Clinician interviewed (n=73)		Researcher interviewed (n=67)	
	Baseline	3 months	Baseline	3 months
Used tobacco (%)	74.0	72.6	83.6	83.6
Median days tobacco (range)	30.0 (2-50)	30.0 (8-30)	30.0 (3-30)	30.0 (7-30)
Median no. of cigarettes (range)	20.0 (2-50)	15.0 (2-60)	20.0 (1-60)	15.0 (2-40)
Used heroin (%)	5.5	2.7	4.5	1.5
Median heroin days (range)	5.0 [#] (2-30)	4.5 [#] (1-8)	4.0 [#] (6-21)	9.0 [#] (N/A)
Used opioids (%)	5.5	6.8	6.0	0.0
Median opioid days (range)	15.0 [#] (7-30)	4.0 [#] (2-20)	6.0 [#] (1-10)	0.0 [#] (N/A)
Used cannabis (%)	20.5	13.7	43.3	17.9
Median cannabis days (range)	20.0 (1-30)	10.0 (2-30)	14.0 (1-30)	11.0 (1-30)
Used cocaine (%)	9.6	5.5	4.5	1.5
Median cocaine days (range)	5.0 [#] (1-20)	4.0 [#] (1-10)	3.0 [#] (1-3)	1.0 (N/A)
Used amphetamines (%)	23.3	9.6	19.4	9.0
Amphetamines (range)	5.0 (1-20)	10.0 [#] (1-20)	7.5 (1-23)	2.5 [#] (1-7)
Used tranquilisers (%)	28.8	9.6	13.4	1.5
Median days tranquilisers (range)	4.0 (1-30)	3.0 [#] (1-30)	10.0 [#] (1-30)	5.0 [#] (N/A)

* Days of use includes only participants using each drug category at each time point

[#] Interpret with caution, small numbers $n<10$

Of all participants interviewed by researchers at follow-up (n=67), significant decreases in “other” drug use days (in the past month) from baseline to three months were reported for cannabis (z=-2.700, p=0.044), amphetamines (z=-2.666, p=0.008), tranquilisers (z=-2.668, p=0.008) and the number of cigarettes smoked per day (z=-2.015, p=0.044).

Of all participants interviewed by clinicians at follow-up (n=73), significant decreases in “other” drug use days (in the past month) from baseline to three months were reported for cannabis (z=-2.301, p=0.021), tranquilisers (z=-2.763, p=0.006) and the number of cigarettes smoked per day (z=-2.986, p=0.003).

4.1.2.1 *Injecting drug use: Baseline – 3 months*

The proportion of participants who reported recent injecting decreased for both participants interviewed by clinicians and researchers from baseline to three months. However no statistically significant differences were observed.

Table 16: Injecting drug use: Baseline – 3 months (%)

	Clinician interviewed (n=73)		Researcher interviewed (n=67)	
	Baseline	3 months	Baseline	3 months
In the last 3 months	8.2	6.8	13.4	7.5
More than 3 but less than 12 months ago	8.2	11.0	9.0	11.9
12 months ago or more	5.5	6.8	10.4	13.4
Never injected	71.2	71.2	67.2	65.7
Not stated	6.8	4.1	0.0	1.5

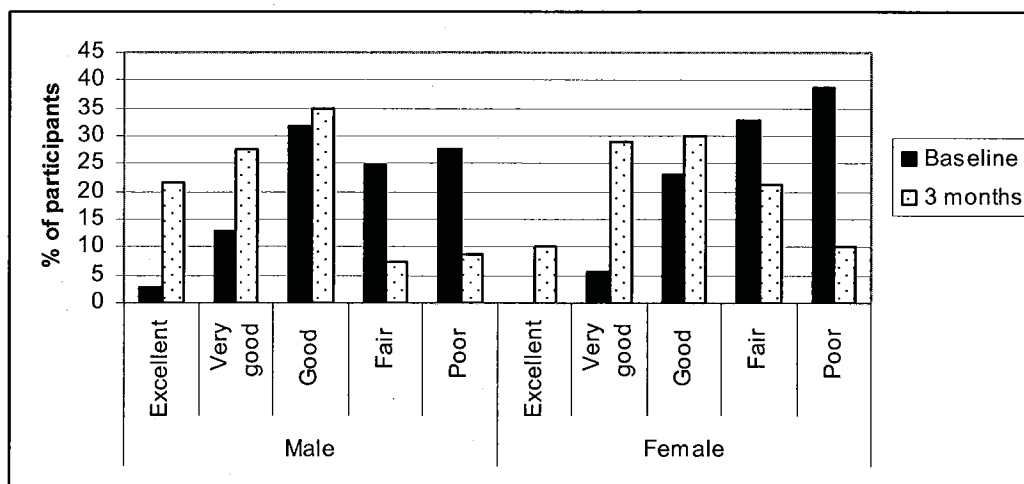
4.1.3 **Health and well-being: Baseline – 3 months**

4.1.3.1 *Physical health: Baseline – 3 months*

Participants re-interviewed at three months reported a vast improvement in their physical health. At baseline the majority of participants indicated their health was fair to poor, at three months the majority of participants reported their health to be very good to good. Participants interviewed by clinicians reported greater health improvements than those interviewed by researchers.

Figure five below depicts the change in health rating over time for both males and females. Females were more likely to report poorer health at both time points.

Figure 6: Physical health rating: Baseline – 3 months



* n=140

4.1.3.2 General well-being

Participant’s interviewed by both researchers and clinicians at three month follow-up reported significant improvements in their general well-being. Self-reported well-being ratings for clinician interviewed participants increased from a five to seven out of 10 at three months ($z=-4.739, p<0.001$). Self-reported well-being ratings for researcher interviewed participants increased from a four to seven out of 10 at three months ($z=-5.295, p<0.001$).

4.1.3.3 Mental health

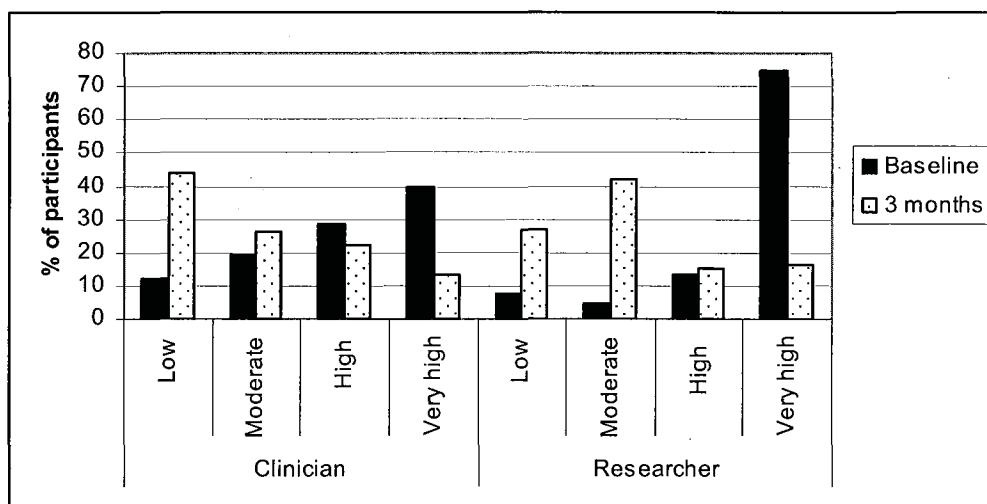
There was a statistically significant decrease in mean K10 total scores from baseline to three months for both participants interviewed by clinicians ($t(72)=7.599, p<0.001$) and researchers ($t(66)=10.417, p<0.001$) (Table 12). This indicates a reduction in psychological distress levels amongst the participants interviewed at follow-up.

Table 17: Changes in K10 total scores: Baseline – 3months

	Baseline mean (SD) Range	3 months mean (SD) range
Clinician interviewed (n=73)	27.7 (9.5) (11-47)	19.6 (8.7) (10-42)
Researcher interviewed (n=73)	34.0 (9.6) (13-47)	20.4 (7.7) (10-40)

Figure six below illustrates the change in psychological distress levels for participants over time (K10 cut-offs taken from the National Health Survey 2004-05).

Figure 7: Level of psychological distress: Baseline - 3 months



* Clinician N=73, Researcher N=67

4.1.4 Health service utilization: Baseline – 3 months

The number of participants accessing health services in the 90 days prior to interview decreased substantially at three month follow-up.

Of all participants interviewed by researchers at follow-up (n=67), significant decreases were reported for the number of: times accessed the accident and emergency department ($z=-3.072$, $p=0.002$); nights spent in hospital ($z=3.273$, $p<0.001$); and times visited a GP ($z=-2.453$, $p=0.014$).

Of all participants interviewed by clinicians at follow-up (n=73), a significant decrease was observed in the number of times accessed the accident and emergency department ($z=-2.944$, $p=0.003$). Caution must also be taken when looking at the number of nights spent in hospital for participants interviewed by clinicians as the participant's current hospital treatment episode for alcohol use may have been included for some residential rehabilitation services.

Table 18: Health service utilisation: Baseline – 3 months*

In the past 90 days:	Clinician interviewed (n=73)		Researcher interviewed (n=67)	
	Baseline	3 months	Baseline	3 months
Visited A & E (%)	35.6	15.1	47.8	17.9
Median times visited A & E (range)	1.0 (1-3)	1.0 (1-2)	1.0 (1-5)	1.0 (1-14)
Spent a night in hospital (%)	41.1	16.4	32.9	9.0
Median nights spent in hospital (range)	5.0 (1-90)	5.0 (1-84)	2.0 (1-35)	2.0 [#] (1-5)

In the past 90 days	Clinician interviewed (n=73)		Researcher interviewed (n=67)	
	Baseline	3 months	Baseline	3 months
Visited a GP (%)	64.4	64.4	88.1	68.7
Median times visited GP (range)	3.0 (1-16)	3.0 (1-24)	3.0 (1-12)	3.0 (1-24)
Taking medication (%)	60.3	57.5	73.1	70.1
Median days taking medication (range)	90.0 (2-90)	90.0 (2-90)	90.0 (3-90)	90.0 (3-90)

* Median days of use includes only participants who utilised each service at each time point months

Interpret with caution, small numbers n<10

4.1.4.1 Hospital admission

No new hospital admissions for the treatment of alcohol related complications were reported by the participants followed up at three months. However confusion around the wording and timeframe of the question may have influenced fewer participants to report “ever” being admitted to hospital for an alcohol related complication.

4.1.5 Goals and confidence in treatment: Baseline – 3 months

4.1.5.1 Goals and confidence in treatment

At both baseline and 3 month time points, the majority of participants from each group reported they wanted to achieve “complete abstinence from alcohol”. Participant’s confidence of achieving and maintaining their treatment goal remained stable for the clinician interviewed participants, however participants interviewed by researchers were significantly less confident in their ability to achieve their treatment goal at 3 months (median 7 out of 10) than at baseline (median 8) ($z=-3.077$, $p=0.002$).

Table 19: Treatment goals: Baseline – 3 months

	Clinician interviewed (n=71)		Researcher (n=66)	
	Baseline	3 months	Baseline	3 months
Complete abstinence	73.3	56.9	78.8	65.4
A break from alcohol use	5.6	2.8	1.5	1.5
A reduction in use	2.8	6.9	6.1	14.9
Control over use	15.5	22.2	13.6	18.2
No change	2.8	11.2	0.0	0.0

4.1.5.1 Situational confidence in treatment

Participant’s confidence of achieving and maintaining their treatment goal 3 months into the future changed with time from baseline to 3 month follow-up, however no statistically significant differences were observed.

Participants interviewed by clinicians were slightly less confident that they would achieve and maintain their goal when facing negative emotional states at 3 months (median 6 out of 10) than at baseline (median=7), however confidence of achieving and maintaining their goal when faced with social situations remained stable over time (median=7).

Participants interviewed by researchers however reported increased confidence of achieving and maintaining their treatment goals over time when facing both negative emotional states (baseline median=6, follow-up=8 out of 10) and social situations (baseline=6.5, follow-up=7 out of 10).

SUMMARY

Both client groups demonstrated significant improvement in treatment outcome from baseline to 3 months.

Alcohol use

- Significant reductions in days of alcohol use and number of drinks consumed per day for both the clinician and researcher interviewed groups from baseline to 3 months were reported.
- Both client groups indicated significant reductions in alcohol dependence at 3 months.
- Significant reductions in alcohol craving from baseline to 3 months were expressed by participants interviewed by clinicians.

Other drug use

- Both client groups reported smoking significantly less cigarettes per day at 3 months.
- Participants interviewed by clinicians reported significant decreases in days of use from baseline to 3 months for both cannabis and tranquilisers.
- Participants interviewed by researchers reported significant decreases in days of use for cannabis, tranquilisers and amphetamines at 3 months.

Health

- Significant improvements in physical health, general well-being and mental health from baseline to 3 months were reported for both client groups.

Health service utilisation

- Participants interviewed by clinicians reported a significant reduction in the number of times they accessed the A & E department from baseline to 3 months.
- Participants interviewed by researchers reported significant reductions in the number of times they accessed the A & E department, number of nights spent in hospital and times visited a GP.

4.2 Changes in treatment outcome: Baseline – 12 months

4.2.1 Alcohol use and dependence: Baseline – 12 months

A significant reduction in past month alcohol use was found for all participants re-interviewed at 12 months (by both clinicians and researchers).

Abstinence from alcohol in the 30 days prior to interview increased greatly among both groups of participants from baseline to 12 months. At baseline, 15.9% of participants interviewed by clinicians reported they had not consumed alcohol in the past month, at 12-month follow-up abstinence rates increased to 34.1%. Just fewer than 10% of participants in the MFU group (9.3%) reported they had not consumed alcohol in the past month, however at 12 month follow-up abstinence rates increased to 40.7%. In the FFU group, 11.1% of participants reported they had not consumed alcohol in the past month, at 12 months abstinence rates increased to 33.3%.

The number of participants who reported drinking at baseline (n=143) decreased by 28% to n=103 at 12 month follow-up. At 12 months, participants overall reported drinking on significantly less days ($z=-6.916$, $p<0.001$) and drinking a significantly smaller number of drinks per day ($z=-9.025$, $p<0.001$).

Table 20: Alcohol use: Baseline – 12 months

In the past 30 days:	Clinician interviewed (n=44)		Researcher MFU (n=54)		Researcher FFU (n=63)	
	Baseline	12 months	Baseline	12 months	Baseline	12 months
Drinking alcohol (%)	84.1	65.9	90.7	59.3	88.9	66.7
Median days of drinking (range)	20.5 (1-30)	10.0 (2-30)	23.0 (1-30)	8.0 (1-30)	23.5 (2-30)	20.0 (1-30)
Median number of standard drinks (range)	15.0 (1-44)	6.0 (1-22)	19.5 (3-73)	9.0 (2-38)	20.0 (3-58)	9.0 (2-27)
Binge drinking – males (n)	23	13	24	17	28	18
Median days binge drinking males (range)	21.0 (1-30)	5.0 (1-30)	23.5 (1-30)	11.0 (1-30)	26.0 (3-30)	20.0 (1-30)
Binge drinking – females (n)	15	4	21	9	26	18
Median days binge drinking females (range)	18.0 (2-30)	15.0 [#] (N/A)	23.0 (1-28)	0.0 (N/A)	23.0 (2-30)	0.0 (N/A)
Heavy drinking (%)	59.1	31.8	55.6	31.5	55.6	38.1
Median heavy drinking days (range)	7.5 (1-20)	2.5 (1-10)	5.0 (1-20)	4.0 (1-20)	5.0 (1-20)	2.5 (1-16)
Median number of standard drinks (range)	20.0 (6-48)	13.5 (2-36)	30.0 (10-60)	21.0 (6-60)	30.0 (10-80)	20.0 (4-40)

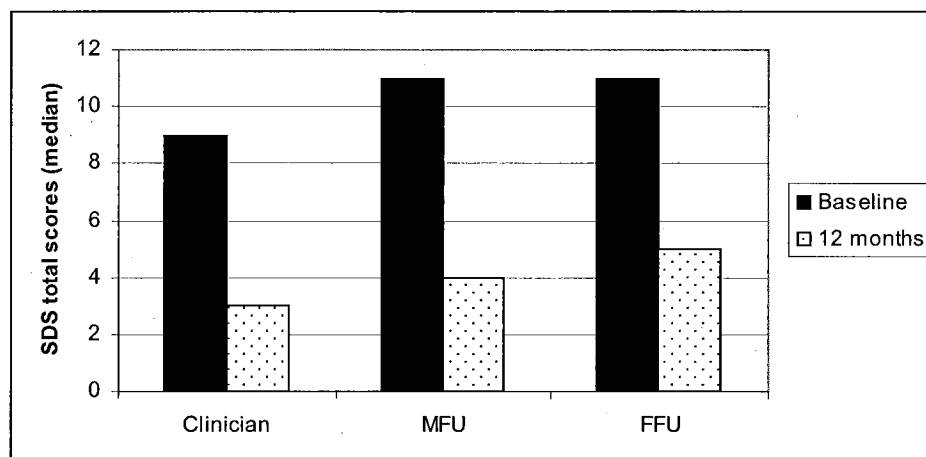
* Median days and drinks calculated only for those drinking at each time point.

[#] Interpret with caution small numbers n<10

4.2.1.1 Alcohol dependence: Baseline – 12 months

Significant decreases in alcohol dependence (total SDS scores) were observed for both clinician interviewed ($z=-4.294, p<0.001$), the researcher MFU group ($z=-5.335, p<0.001$) and the researcher FFU group ($z=-5.202, p<0.001$) from baseline to 12 months.

Figure 8: Alcohol dependence: Baseline – 12 months



* Clinician n=41

* Researcher MFU n=53

* Researcher FFU n=63

4.2.1.2 Alcohol craving: Baseline – 12 months

Alcohol craving scores remained relatively stable from baseline to 12 months for those interviewed at the 12 month follow-up point. No significant changes in scores (out of 10) were found.

Table 21: Alcohol craving: Baseline – 12 months

	Clinician interviewed (n=44)	Researcher MFU (n=54)	Researcher FFU (n=63)
Median baseline score	3.0	2.5	3.0
(range)	(0-10)	(0-10)	(0-10)
Median 12 months score	3.0	2.0	2.0
(range)	(0-8)	(0-10)	(0-10)

4.2.2 “Other” drug use: Baseline – 12 months

A decrease in the number of participants using “other” drugs from baseline to 12 month follow-up was observed across all drug categories for both clinician and researcher interviewed participants (Table 22). The exception to this was the number of participants using opioids in the researcher MFU group which seemed to increase over time. This increase however involves a very small number of participants. The use of cannabis amongst both the researcher MFU and FFU group decreased largely from baseline to follow-up (14.8% and 19.1% respectively). The reported use of tranquilisers among

participants interviewed by clinicians decreased by 25%, however this figure needs to be interpreted with caution as it is believed that medical use of tranquilisers may have also been recorded by clinicians at baseline interview in addition to illicit use.

Table 22: “Other” drug use: Baseline – 12 months*

	Clinician interviewed (n=44)		Researcher MFU (n=54)		Researcher FFU (n=63)	
	Baseline	12 months	Baseline	12 months	Baseline	12 months
Tobacco use (%)	81.8	75.0	81.5	77.8	87.3	79.4
Median days of tobacco use (range)	30 (10-30)	30.0 (20-30)	30 (4-30)	30.0 (3-30)	30 (3-30)	30.0 (6-30)
Median number cigarettes (range)	20 (2-50)	15 (5-30)	20 (6-60)	17 (3-45)	20 (1-60)	17 (2-60)
Heroin use (%)	9.1	2.3	9.3	0.0	3.2	3.2
Median days of heroin use (range)	4.5 [#] (2-30)	8.0 [#] (N/A)	2.0 [#] (1-10)	0.0 (N/A)	10.5 [#] (6-15)	8.0 [#] (1-30)
Opioids (%)	4.5	2.3	9.1	11.1	7.9	1.6
Median days of opioid use (range)	6.0 [#] (2-10)	5.0 [#] (N/A)	13 [#] (2-30)	7.0 [#] (4-30)	2.0 [#] (1-10)	7.0 [#] (N/A)
Cannabis (%)	31.8	25.0	46.3	31.5	39.7	20.6
Median days of cannabis use (range)	30 (1-30)	20.0 (6-30)	8 (1-30)	12.0 (2-30)	12 (1-30)	10.0 (1-30)
Cocaine use (%)	11.4	9.1	3.7	1.9	3.2	1.6
Median days of cocaine use (range)	5.0 [#] (1-15)	5.0 [#] (2-10)	6.0 [#] (2-10)	3.0 [#] (N/A)	3.0 [#] (N/A)	4.0 [#] (N/A)
Amphetamines use (%)	31.8	13.6	24.1	11.1	20.6	6.3
Median days of amphetamine (range)	5.5 (1-20)	5.5 [#] (1-15)	5.0 (1-28)	8.5 [#] (1-28)	6.0 (1-30)	3.5 [#] (1-6)
Tranquilisers (%)	29.5	4.5	20.4	7.4	12.7	7.9
Median days of tranquiliser use (range)	4.0 (1-30)	6.0 [#] (1-11)	6.0 (1-30)	6.5 [#] (3-15)	14.5 (1-30)	2.0 [#] (1-5)

* Days of use includes only participants using each drug category at each time point

Interpret with caution, small numbers n<10

Of all participants interviewed by researchers in the MFU group at follow-up (n=54), significant decreases in “other” drug use days (in the past month) from baseline to twelve months were reported for days of heroin use ($z=-2.032$, $p=0.042$) and the number of cigarettes smoked per day ($z=-2.032$, $p<0.001$).

Of all participants interviewed by researchers in the FFU group at follow-up (n=63), significant decreases in “other” drug use days (in the past month) from baseline to twelve months were reported for days of amphetamine use ($z=-3.147$, $p<0.002$) and the number of cigarettes smoked per day ($z=-1.965$, $p=0.049$).

Of all participants interviewed by clinicians in at follow-up (n=44), significant decreases in “other” drug use days (in the past month) from baseline to twelve months were reported for days of amphetamine use ($z=-2.791$, $p=0.005$), days of tranquiliser use ($z=-2.696$, $p=0.007$) and the number of cigarettes smoked per day ($z=-2.463$, $p=0.014$).

4.2.2.1 Injecting drug use: Baseline – 12 months

The proportion of participants who reported recent injecting decreased for both participants interviewed by clinicians and researchers from baseline to twelve months. No statistically significant differences were observed.

Table 23: Injecting drug use: Baseline – 12 months

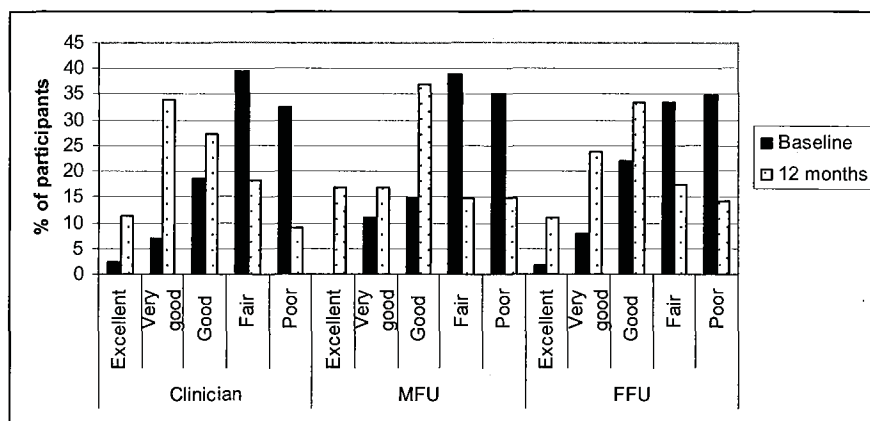
	Clinician interviewed (n=44)		Researcher MFU (n=54)		Researcher FFU (n=63)	
	Baseline	12 months	Baseline	12 months	Baseline	12 months
In the last 3 months	6.8	4.5	20.4	11.1	12.7	6.3
More than 3 but less than 12 months ago	2.3	9.1	3.7	9.3	4.8	7.9
12 months ago or more	0.0	4.5	11.1	13.0	11.1	15.9
Never injected	81.8	72.7	64.8	63.0	71.4	66.7
Not stated	9.1	9.1	0.0	3.7	0.0	3.2

4.2.3 Health and well-being: Baseline – 12 months

4.2.3.1 Physical health: Baseline – 12 months

Participants re-interviewed at 12 months reported significant improvement in their physical health. At baseline the majority of participants reported their health to be fair to poor, at 12 month follow-up the majority of participants reported their health to be very good to good.

Figure 9: Physical health: Baseline – 12 months



Clinician n=43
 MFU n=54
 FFU n=63

4.2.3.2 General well-being: Baseline – 12 months

Participants from all three groups reported significant improvements in their general well-being. Self-reported well-being ratings for clinician interviewed participants increased from five to 6.5 out of 10 at 12 months ($z=-2.131, p=0.033$). Self-reported well-being ratings for participants in the MFU group increased from five to seven out of 10 at 12 months ($z=-3.543, p<0.001$) and general well-being scores for those in the FFU group increased from four to 7 at 12 month follow-up ($z=-3.993, p<0.001$).

4.2.3.3 Mental health: Baseline – 12 months

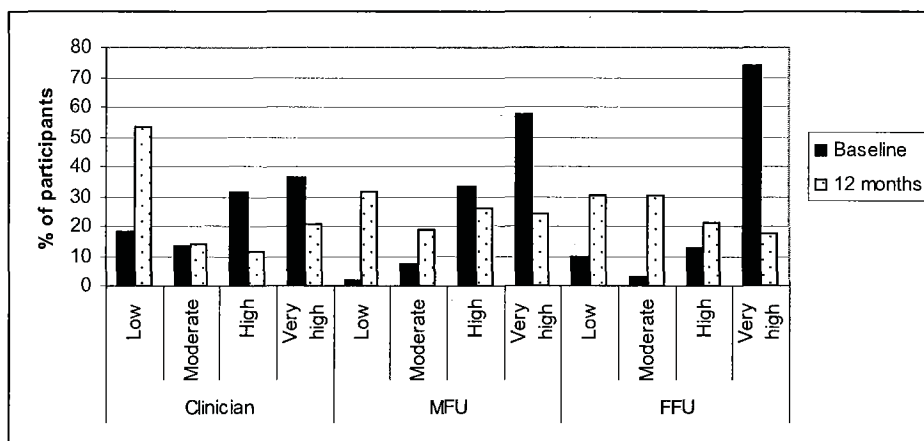
There was a statistically significant decrease in mean K10 total scores from baseline to 12 months for all participant groups (Table 24). This indicates that levels of psychological distress among the groups had decreased over time from baseline to follow-up.

Table 24: Changes in K10 total scores: Baseline – 12 months

	Baseline mean (SD) range	12 months mean (SD) range	Significance
Clinician interviewed (n=43)	26.9 (10.1) 10-47	19.1 (9.6) 10-42	$t(42)=3.984, p<0.001$
Researcher MFU (n=54)	31.4 (7.6) 15-45	22.4 (9.1) 10-44	$t(53)=6.620, p<0.001$
Researcher FFU (n=63)	33.8 (9.9) 11-50	21.4 (9.6) 10-50	$t(60)=7.789, p<0.001$

The figure below illustrates the change in psychological distress levels among the participants over time (K10 cut-offs taken from the National Health Survey 2004-05).

Figure 10: Level of psychological distress: Baseline – 12 months



Clinician n=43

Researcher MFU n=54

Researcher FFU n=62

4.2.4 Health service utilisation: Baseline – 12 months

The number of participants accessing health services in the 90 days prior to interview decreased substantially at 12 month follow-up.

Of all the participants interviewed by clinicians at follow-up (n=44), significant decreases were reported for the number of: times accessed the accident and emergency department (z=-1.722, p=0.085); nights spent in hospital (z=-2.286, p=0.022); and times visited a GP.

Of all the participants interviewed by researchers in the MFU group at follow-up (n=54), significant decreases were reported for the number of times: accessed the accident and emergency department (z=-2.326, p=0.020) and the times visited a GP (z=-2.178, p=0.029).

Of all the participants interviewed by researchers in the FFU group at follow-up (n=63), significant decreases were reported for the number of times: accessed the accident and emergency department (z=-4.304, p<0.001); nights spent in hospital (z=-1.952, p=0.051); and times visited a GP (z=-2.051, p=0.040).

Table 25: Health service utilization: Baseline – 12 months

In the past 90 days:	Clinician interviewed (n=44)		Researcher MFU (n=54)		Researcher FFU (n=63)	
	Baseline	12 months	Baseline	12 months	Baseline	12 months
Visited A & E (%)	25.0	15.9	46.3	24.1	49.2	19.0
Median times visited A & E (range)	2 (1-3)	1.0 (1-3)	1 (1-6)	1.0 (1-6)	2 (1-5)	1.0 (1-2)
Spent a night in hospital (%)	29.5	15.9	29.6	22.2	38.1	22.2
Median nights spent in hospital (range)	4 (1-13)	2.0 (1-10)	2 (1-21)	3.5 (1-14)	2 (1-26)	2 (2-25)
Visited a GP (%)	52.3	38.6	87.0	70.4	87.3	58.7
Median times visited GP (range)	3 (1-16)	2.0 (1-10)	3 (1-90)	2 (1-15)	3 (1-12)	2 (1-10)
Taking medication (%)	54.5	43.2	77.8	64.8	73.0	65.1
Median days taking medication (range)	90 (5-90)	90.0 (1-90)	90 (1-90)	90 (12-90)	90 (1-90)	90 (1-90)

4.2.5 Goals and confidence in treatment: Baseline – 12 months

4.2.5.1 Goals and confidence in treatment: Baseline – 12 months

At both baseline and 12 month time points, the majority of participants from each group reported they wanted to achieve “complete abstinence from alcohol”. Confidence of achieving and maintaining their treatment goal remained stable for both the clinician interviewed and MFU groups, however participants from the FFU group were significantly more confident in their ability to achieve this goal at 12 months (median 8 out of 10) than at baseline (median 6) (z=-3.001, p=0.003).

Table 26: Treatment goals: Baseline – 12 months

	Clinician interviewed (n=43)		Researcher MFU (n=53)		Researcher FFU (n=63)	
	Baseline	12 months	Baseline	12 months	Baseline	12 months
Complete abstinence	67.4	46.5	75.9	51.9	71.4	50.8
A break from alcohol use	4.7	2.3	3.7	3.8	3.2	12.7
A reduction in use	7.0	9.3	1.9	7.7	6.3	14.3
Control over use	16.3	16.3	16.7	1.9	19.0	7.9
No change	4.7	25.6	1.9	34.6	0.0	14.3

4.2.5.2 Situational confidence in treatment: Baseline – 12 months

Participant's confidence of achieving and maintaining their treatment goal 3 months into the future changed with time from baseline to 12 months, however no statistically significant differences were observed.

Participants interviewed by clinicians were slightly less confident that they would achieve and maintain their goal when facing negative emotional states at 12 months (median 6 out of 10) than at baseline (median=7), but were slightly more confident at 12 months (median=7) that that they would achieve and maintain their goal when faced with social situations than at baseline (median=5).

Participants interviewed by researchers reported different changes in confidence over time to those interviewed by clinicians. Both researcher interviewed groups were slightly more confident in their ability to achieve and maintain their goal when faced with negative emotional states at 12 months (MFU: median=8, FFU: median=6) than at baseline (median 7 and 6 respectively). Confidence of achieving and maintaining their goal when faced with social situations however remained stable over time.

SUMMARY

All 3 client groups (clinician interviewed and researcher MFU and FFU groups) demonstrated significant improvement in treatment outcome from baseline to 12 months.

Alcohol use

- Significant reductions in days of alcohol use and number of drinks consumed per day for both the clinician and researcher interviewed groups from baseline to 12 months were reported.
- All 3 client groups indicated significant reductions in alcohol dependence at 12 months.

Summary cont.

Other drug use

* Please note drug use among the participants at 12 months was considerably low.

- All 3 client groups reported smoking significantly less cigarettes per day at 12 months.
- Participants interviewed by clinicians reported significant decreases in days of use from baseline to 12 months for both amphetamines and tranquilisers.
- Participants in the MFU group reported significant decreases in days of use for heroin.
- Participants in the FFU group reported significant decreases in days of use for amphetamines.

Health

- Significant improvements in physical health, general well-being and mental health from baseline to 12 months were reported for all 3 client groups.

Health service utilisation

- Participants interviewed by clinicians reported a significant reduction in the number of times they accessed the A & E department, number of nights spent in hospital and times visited a GP.
- Participants in the MFU group reported significant reductions in the number of times they accessed the A & E department and times visited a GP.
- Participants in the FFU group reported significant reductions in the number of times they accessed the A & E department, number of nights spent in hospital and times visited a GP.

5.0 RESULTS: PART THREE

Do clients interviewed by clinicians report significantly greater improvement in treatment outcome at three months than clients interviewed by researchers?

5.1 Participants

To allow for a more valid comparison between clinician interviewed participants and researcher interviewed participants at three months, only participants re-interviewed at three months from residential rehabilitation services and therapeutic communities were used for this section of the results.

Similar to the entire baseline sample (see Table 2), the majority of participants came from residential rehabilitation services, had received treatment for alcohol use previously and were in the late 30's. Participants interviewed by clinicians in this sample however were significantly more likely to be males than those interviewed by researchers ($\chi^2=4.124$, $p<0.001$). Table 27 presents a summary of the participant's demographic characteristics.

Table 27: Demographic characteristics: Clinicians Vs Researcher interviewed

	Clinician interviewed (n=59)		Researcher interviewed (n=47)	
Treatment type %				
Residential rehabilitation	83.1		74.5	
Therapeutic community	16.9		25.5	
Age (years)				
Mean years (SD)	37.0 (15.3)		37.0 (10.4)	
Range (years)	14-66		18-58	
Sex %				
Male	60.3		40.4	
ATSI %				
Aboriginal and/or Torres Strait Islander	5.3		2.1	
Prior treatment for alcohol use %				
Yes	63.6		66.0	
	Baseline	3 months	Baseline	3 months
Income %				
Employment	22.4	19.3	48.9	17.0
Centrelink benefits	48.2	65.0	42.6	70.2
Living arrangement %				
Alone	27.6	22.0	27.7	10.6
Parents	27.6	11.9	17.0	19.1
Accommodation %				
Rented house/flat	51.7	27.1	53.2	29.8
AOD residence	0.0	39.0	0.0	40.4

5.2 Alcohol use at 3 months: Clinician Vs Researcher interviewed

Participants interviewed by clinicians were more likely to report having used alcohol in the past month at follow-up than those interviewed by researchers (50.8% Vs 31.9%). However, of those using alcohol, no significant differences in days of use or number of drinks consumed per day existed between the two groups. Participants interviewed by clinicians were also more likely to report “heavy” drinking in the past month than those interviewed by researchers (25.4% Vs 10.6%). Again no significant differences in heavy days or number of drinks consumed existed between the two groups.

Table 28: Alcohol use past 30 days at 3 months: Clinician Vs Researcher interviewed

	Clinician interviewed (n=59)	Researcher interviewed (n=47)
Drinking alcohol (%)	50.8	31.9
Median days of use	4.0	5.0
(range)	(1-30)	(1-30)
Median number of drinks	6.0	5.0
(range)	(1-18)	(1-30)
Binge drinking – males (n)	9	2
Median days binge drinking	5.0 [#]	18.0 [#]
– males (range)	(2-30)	(6-30)
Binge drinking – females (n)	7	5
Median days binge drinking	5.0 [#]	7.0 [#]
– females (range)	(1-25)	(3-15)
Heavy drinking (%)	25.4	10.6
Median days heavy drinking	4	1 [#]
(range)	(1-27)	(1-5)
Median number drinks	12	9 [#]
(range)	(2-25)	(7-44)

[#] Interpret with caution, small numbers n<10

5.2.1 Alcohol dependence at 3 months: Clinician Vs Researcher interviewed

Median total SDS scores differed significantly between the two groups. Participants interviewed by clinicians scored lower on the SDS (median=4) than those interviewed by researchers (median=6) ($z=-2.393$, $p<0.017$), indicating a lower dependence to alcohol. No differences between the two groups SDS total scores existed at baseline.

5.2.2 Alcohol craving at 3 months: Clinician Vs Researcher interviewed

A low desire for alcohol was expressed by both groups of participants at follow-up. No differences in craving scores existed between the clinician and researcher interviewed participants (median = 1 and 0.5 out of 10 respectively).

5.3 “Other” drug use at 3 months: Clinician Vs Researcher interviewed

The number of participants using “other” drugs in the past month at 3 month follow-up was very low within this sample. Only 18.6% (n=11) of participants interviewed by clinicians and 14.9% (n=7) of participants interviewed by researchers reported using illicit drugs in the past month. The table below presents the percentage of participants using “other” drugs at three months including tobacco. Days of drug use and significance testing has not been reported due to the small number of participants using each drug.

Table 29: “Other” drug use at 3 months: Clinician Vs Researcher interviewed

% of participants:	Clinician interviewed (n=59)	Researcher interviewed (n=47)
Tobacco use	76.3	57.6
Number of cigarettes (range)	20 (2-60)	17 (2-35)
Heroin use	3.4	2.1
Opioid use	5.1	0.0
Cannabis use	10.2	14.9
Cocaine use	5.1	2.1
Amphetamine use	8.5	8.5
Tranquiliser use	10.2	0.0

5.3.1 Injecting drug use at 3 months: Clinician Vs Researcher interviewed

No significant differences were observed between the two groups for recency of injecting drug use. The majority of both groups reported “never injecting” with less than 10% of both groups (R=8.5% Vs C=5.4%) reported injecting in the last three months.

5.4 Health and well-being at 3 months: Clinician Vs Researcher interviewed

5.4.1 Physical health at 3 months: Clinician Vs Researcher interviewed

The majority of participants from both groups rated their health as good (C=33.9% Vs R=34.0%). Participants interviewed by clinicians were no more likely to report better health at three months than those interviewed by researchers.

5.4.2 General well-being at 3 months: Clinician Vs Researcher interviewed

Participants from both the clinician interviewed and researcher interviewed group rated their well-being at three months as 7 out of 10. No differences between the groups existed.

5.4.3 Mental health at 3 months: Clinician Vs Researcher interviewed

At baseline participants interviewed by researchers reported scored significantly higher on the K10 than those interviewed by clinicians ($t(104)=3.284, p<0.001$). At follow-up

however, no significant difference in total K10 scores between the two groups existed (Clinician mean=18.8, SD=8.5 Vs. Researcher mean=18.8, SD=7.7). This suggests that the participants had similar levels of psychological distress at three month follow-up.

5.4 Health service utilization at 3 months: Clinician Vs Researcher interviewed

Slightly more participants within the researcher interviewed group reported visiting a GP and taking prescribed medication in the past three months than those interviewed by clinicians. However, no significant differences existed between the two participant groups for days or number of times accessed the health services.

Table 30: Health service utilization at 3 months: Clinician Vs Researcher interviewed

In the past 90 days:	Clinician interviewed (n=59)	Researcher interviewed (n=47)
Visited A & E (%)	13.6	14.9
Median times visited A & E (range)	1.0# (1-2)	1.0# (1-2)
Nights spent in hospital (%)	15.3	6.4
Median nights in hospital (range)	4.0# (1-84)	3.0# (1-3)
Visited GP (%)	59.3	70.2
Median times visited GP (range)	3.0 (1-24)	3.0 (1-20)
Taking medication (%)	54.2	68.1
Median days take medication (range)	90.0 (2-90)	90.0 (3-90)

Interpret with caution, small numbers n<10

5.6 Goals and confidence in treatment at 3 months: Clinician Vs Researcher interviewed

The majority of participants in both groups wanted to achieve “complete abstinence from alcohol” (C=58.6% Vs R=74.5%). Approximately one fifth of participants interviewed by clinicians wanted to be able to “control” their alcohol use whereas considerably less researcher interviewed participants (12.8%) wanted to achieve this.

Table 31: Goals of treatment at 3 months: Clinician Vs Researcher interviewed

% of participants	Clinician interviewed (n=58)	Researcher interviewed (n=47)
Complete abstinence	58.6	74.5
A break from alcohol use	1.8	0.0
A reduction in alcohol use	8.6	10.6
No change in alcohol use	10.3	2.1
Control over alcohol use	20.7	12.8

No significant differences were observed between the clinician and researcher interviewed groups in their: confidence of achieving their treatment goal (C median=8 Vs R median=7), confidence of achieving and maintaining treatment goal when faced with negative emotional states (C=6.5 Vs R=7), or their confidence of achieving and maintaining their treatment goal when faced with social situations (C=7 Vs R=8). All confidence scores were rated on a scale out of 10.

SUMMARY

Clients interviewed by clinicians at 3 months did not report significantly greater improvement in treatment outcome than clients interviewed by researchers at 3 months.

Alcohol use

- Abstinence at 3 months was higher amongst the researcher interviewed group
- No differences existed in days of use or number of drinks consumed per day between the groups.
- Clients interviewed by clinicians were significantly less dependent on alcohol than researchers at 3 months.
- No differences existed between the participants desire for alcohol at 3 months.

Other drug use

- Days of other drug use amongst the two groups at 3 months was particularly low, no statistically significant differences existed.

Health

- Clients interviewed by clinicians were no more likely to report better physical health, well-being or improved levels of psychological distress at 3 months than those interviewed by researchers.

Health service utilisation

- No significant differences existed between the two groups for days or times accessed the health services.

*Please note this section only includes participants re-interviewed at 3 months from residential rehabilitation services and therapeutic communities

6.0 RESULTS: PART FOUR

Do clients interviewed more frequently demonstrate significantly greater improvement in treatment outcome at 12 months than those interviewed minimally?

6.1 Participants

To determine whether there is any subject reactivity effects of frequent follow-up on outcome, participants re-interviewed at 12 months from the MFU and FFU group will be compared in this section of the results.

Similar to the entire baseline sample (see Table 2), the majority of participants came from residential rehabilitation services, had received treatment previously and were in their late 30's. As can be seen from Table 32 below, the two groups of participants re-interviewed by researchers at 12 months have remarkably similar demographic characteristics to each other.

Table 32: Demographic characteristics: MFU Vs FFU

	MFU (n=54)	FFU (n=63)		
Treatment type %				
Residential rehabilitation	57.4	50.8		
Therapeutic community	5.6	12.7		
Counselling/outpatient	0.0	3.2		
Detoxification	37.0	33.3		
Age (years)				
Mean years (SD)	39.2 (10.7)	39.3 (10.4)		
Range (years)	21-77	18-62		
Sex %				
Male	55.6	52.4		
ATSI %				
Aboriginal and/or Torres Strait Islander	7.4	0.0		
Prior treatment for alcohol use %				
Yes	72.2	68.3		
	Baseline	12 months	Baseline	12 months
Income %				
Employment	37.0	35.2	39.7	39.7
Centrelink benefits	51.9	53.7	54.0	54.0
Living arrangement %				
Alone	37.0	29.6	25.4	32.3
Parents	20.4	22.2	27.0	19.0

	MFU (n=54)		FFU (n=63)	
	Baseline	12 months	Baseline	12 months
Accommodation %				
Rented house/flat	42.6	37.0	39.7	44.4
Privately owned house/flat	53.7	51.9	49.2	36.5

6.2 Alcohol use at 12 months: MFU Vs FFU

Participants within the FFU group were more likely to report having used alcohol in the past month at follow-up than those within the MFU group (66.7% Vs 59.3%). However, of those using alcohol, no significant differences in days or number of drinks consumed per day existed between the two groups. Participants within the FFU group were also more likely to report “heavy” drinking in the past month at follow-up than those in the MFU group (38.1% Vs 29.6%). Again, no significant differences in heavy days or number of drinks consumed existed between the two groups.

Table 33: Alcohol use at 12 months: MFU Vs FFU

	MFU (n=54)	FFU (n=63)
Drinking alcohol (%)	59.3	66.7
Median days of use	8.0	20.0
(range)	(1-30)	(1-30)
Median number of drinks	9.0	9.0
(range)	(9-28)	(2-27)
Binge drinking – males (n)	18	18
Median days binge drinking	14.0	20.0
– males (range)	(1-36)	(1-30)
Binge drinking – females (n)	9	18
Median days binge drinking	8.0	20.5
– females (range)	(5-30)	(1-30)
Heavy drinking (%)	29.6	38.1
Median days heavy drinking	3.5	2.5
(range)	(1-20)	(1-6)
Median number drinks	21.0	17.5
(range)	(6-60)	(4-30)

6.2.1 Alcohol dependence at 12 months: MFU Vs FFU

Mean total SDS scores did not differ significantly between the two groups. Participants within the MFU group scored slightly lower on the SDS (M=4.6, SD=3.9) than those within the FFU group (M=6.3, SD=5). No differences existed between the two groups total SDS scores at baseline either.

6.2.2 Alcohol craving at 12 months: MFU Vs FFU

A low desire for alcohol was expressed by both groups of participants at 12 month follow-up. No significant differences in craving scores existed between the MFU and FFU groups, with both groups producing a median of 2 out of 10 (range 0-10).

6.3 “Other” drug use at 12 months: MFU Vs FFU

The number of participants using drugs at 12 months within this sample was considerably lower than at baseline. At follow-up, 35.2% (n=19) of participants in the MFU group and 27.0% (n=17) of participants in the FFU group reported using illicit drugs in the past month. The table below presents the percentage of participants using “other” drugs at 12 months including tobacco. Days of use and significance testing has not been reported due to the small number of participants using each drug (days of cannabis use was tested, however no differences were found).

Table 34: “Other” drug use at 12 months: MFU Vs FFU

	MFU (n=54)	FFU (n=63)
% of participants		
Tobacco use	77.8	79.4
Median number of cigarettes (range)	17.0 (3-45)	18.5 (2-60)
Heroin use	0.0	3.2
Opioid use	11.1	1.6
Cannabis use	31.5	20.6
Cocaine use	1.9	1.6
Amphetamine use	11.1	6.3
Tranquiliser use	7.4	7.9

6.3.1 Injecting drug use at 12 months: MFU Vs FFU

No significant differences were observed between the two groups for recent injecting drug use. The majority of both groups reported “never injecting” (MFU=65.4% Vs FFU=68.9%), with only 11.5% of the MFU group and 6.6% of the FFU group reporting injecting in the past three months.

6.4 Health and Well-being at 12 months: MFU Vs FFU

6.4.1 Physical health at 12 months: MFU Vs FFU

The majority of participants from both groups rated their health at 12 months as good (MFU=37.0% VS FFU=33.3%). Participants in the FFU group were no more likely to report better health at 12 months than those in the MFU group.

6.4.2 General well-being at 12 months: MFU Vs FFU

Participants from both the MFU and FFU groups rated their general well-being at 12 months as 7 out of 10. No differences existed between the groups.

6.4.3 Mental health at 12 months: MFU Vs FFU

No significant differences existed between the two groups and their mean K10 total scores at 12 months (MFU=22.4, SD=9.1 Vs FFU=21.4, SD=9.6). This suggests both participant groups had similar levels of psychological distress at 12 month follow-up.

6.5 Health service utilization at 12 months: MFU Vs FFU

Slightly more participants in the MFU group reported attending the accident and emergency department and visiting a GP in the past three months than those in the FFU group, whereas slightly more participants in the FFU group were taking prescribed medications. However no significant differences existed between the two groups for days or number of times accessed the health services.

Table 35: Health service utilisation at 12 months: MFU VS FFU

	MFU (n=54)	FFU (n=63)
In the past 90 days:		
Visited A & E (%)	24.1	19.0
Median times visited A & E (range)	1.0 (1-6)	1.0 (1-2)
Nights spent in hospital (%)	22.2	22.2
Median nights in hospital (range)	3.5 (1-14)	2.0 (1-25)
Visited GP (%)	70.4	58.7
Median times visited GP (range)	2.0 (1-15)	2.0 (1-83)
Taking medication (%)	64.8	65.1
Median days take medication (range)	90.0 (12-90)	90.0 (1-90)

6.6 Goals and confidence in treatment at 12 months: MFU Vs FFU

The majority of participants in both groups wanted to achieve a “complete abstinence from alcohol” (MFU=50% Vs FFU=50.8%). A third of participants in the MFU group (33.3%) wanted to achieve “control” over their alcohol use whereas a considerably lower number of participants in the MFU group reported this as their goal (14.3%).

Table 36: Goals of treatment at 12 months: MFU Vs FFU

% of participants	MFU (n=54)	FFU (n=63)
Complete abstinence	50.0	50.8
A break from alcohol use	3.7	12.7
A reduction in alcohol use	7.4	14.3
No change in alcohol use	1.9	7.9
Control over alcohol use	33.3	14.3

The MFU group overall reported higher confidence in achieving and maintaining treatment goals. However, no significant differences were observed between the two groups in their: confidence of achieving their treatment goal (MFU=8 Vs FFU=6); confidence of achieving and maintaining treatment goal when faced with negative emotional states (MFU=8 Vs FFU=6); or their confidence of achieving and maintaining their treatment goal when faced with social situations (MFU=8 Vs FFU=6). All confidence scores were rated out of 10.

SUMMARY

Clients within the FFU group at 12 months did not report significantly greater improvement in treatment outcome than clients within the MFU group at 12 months.

Alcohol use

- Abstinence at 12 months was higher amongst the MFU group
- No differences existed in days of use or number of drinks consumed per day between the groups.
- No differences in alcohol dependence or craving was found between the two groups

Other drug use

- Days of other drug use amongst the two groups at 12 months was particularly low (with the exception of cannabis), no statistically significant differences existed.

Health

- Clients in the FFU group were no more likely to report better physical health, well-being or improved levels of psychological distress at 12 months than those in the MFU group.

Health service utilisation

- No significant differences existed between the two groups for days or times accessed the health services.

* Please note this section only includes participants re-interviewed by researchers at 12

7.0 Results: Clinician assessment and feedback survey

7.1 Description of participants

A total of 17 completed interviews were returned (50% response rate) representing seven out of the nine treatment agencies involved in the feasibility study. The majority of respondents were male (53%) and worked within residential rehabilitation services (59%). The median age of respondents was 43 years (range 25–55 years) and they had worked approximately 4 years (median) in the AOD field (range 1–22 years). The qualifications of those who participated in the survey are represented below.

Table 37: Qualification of respondents

Qualification*	%
AOD counsellor/worker	59
Nurse	43
Psychologist	29
Doctor	6

* Please note the total does not add up to 100% as some respondents reported more than one qualification relevant to their position.

Seventy-one percent of respondents reported administering the AATOM-C on a regular basis, whilst 59% had also conducted at least one follow-up interview prior to survey completion. Approximately 80% of AOD counsellors administered the interview on a regular basis compared to 40% of “other” professional staff.

7.2 Usefulness of the AATOM-C

Table 38 illustrates that the majority of clinical staff using the AATOM-C felt that it was a clinically relevant instrument (82%), measured key outcomes (83%) and was useful for assessing new clients (69%). Thirty-five percent of respondents however were unsure whether the instrument would be helpful for tracking client progress throughout treatment.

Table 38: Usefulness of the AATOM-C (N = 17)

	Disagree	Neither agree nor disagree	Agree	Median score
1. The AATOM-C is a clinically relevant instrument	12%	6%	82%	4.0
2. The AATOM-C measures key alcohol treatment outcome variables	12%	6%	83%	4.0
3. The AATOM-C helps demonstrate objective outcomes*	12%	19%	69%	4.0
4. The AATOM-C was helpful for assessing new clients	12%	6%	83%	5.0
5. The AATOM-C scores are helpful for tracking client progress whilst in treatment	12%	35%	54%	4.0

* N = 16

7.3 Content of the AATOM-C

Two-thirds of all clinical staff using the AATOM-C believed the instrument covered relevant information and the core of what they needed to know about each client's general health and well-being, alcohol use/history and goals of treatment (Table 39). However a quarter of participants (25%) did not believe that Section D and E adequately covered what they would like to know about their clients.

Table 39: Content of the AATOM-C (N = 17)

	Disagree	Neither agree nor disagree	Agree	Median score
6. Section A – Demographic details	30%	0%	71%	4.0
7. Section B – Health and well-being	18%	12%	71%	4.0
8. Section C – Alcohol use	12%	0%	88%	5.0
9. Section C – Treatment goals	12%	0%	88%	5.0
10. Section D – Other drug use	24%	6%	71%	4.0
11. Section E – Health service utilization	24%	12%	64%	4.0

7.4 What do AOD workers find most useful about the AATOM-C?

Comments on the usefulness of the AATOM-C instrument focused primarily on its potential role as a baseline assessment tool with an ability to track client progress over time. One respondent states “[the AATOM-C] indicates where client is at in early treatment and if follow-up is accurate can see progress in many areas”.

Other comments focused on the value of including client treatment goals and the Likert scale questions assessing perceived success at achieving the indicated goal in the future, whilst encountering particular situations. A counsellor within a residential rehabilitation facility recalls: “...it was very useful when it asked clients perceived success whilst in different situations and different emotions”. Such information was also found useful for incorporating relapse prevention strategies into treatment programs.

The simplicity involved in the administration of the AATOM-C and the favoured: “more interactive than more paperwork” approach of the E-AATOM were also deemed useful attributes of the instrument and its components. The objectivity of the AATOM-C was also mentioned.

7.5 What do AOD workers find least useful about the AATOM-C?

A number of concerns were raised regarding the content and structure of the AATOM-C. For example, concerns included questioning the relevance of including Section E (health service utilisation questions), the sole use of client self-report measures and the limited number of questions examining the client's use of other drugs. Suggestions for improvement however, were limited and contradictory, either focusing on the inclusion of additional measures, as one psychologist states: “include measures such as family members report, physiological indicators such as liver function test results” in addition to requests for

more background information, or alternatively the removal of a number questions as the instrument was found to be too time consuming. A few respondents also expressed concerns about the feasibility of the instrument and its ability to accurately measure change/effect of treatment.

Structural concerns were focused more on hindrances that had been uncovered during the administration of the instrument, for example two suggestions for improvement included: 1. the addition of an extra response category into Qn. 12c of the Follow-up AATOM-C, (types of counselling received) as a detoxification worker recalls: “there was no availability for group and counselling only one or the other as out clients participate in both” and 2. “adding room for prior to custody if not in community to get an accurate idea of drinking patterns”.

7.6 Administration, implementation and structure of the AATOM-C

The majority of those using the instrument were happy with the structure of the AATOM-C interview, with approximately 41% of the respondents considering the continued use of the instrument once the study is over (Table 40). Thirty percent of those participating in the feasibility study felt they did not receive enough support and training for the administration of the AATOM-C. However it was not specified whether support was lacking from agency management or from research staff of the AATOM-C project.

Table 40: Administrative support and structure of the AATOM-C (N = 17)

	Disagree	Neither agree nor disagree	Agree	Median score
12. The AATOM-C is brief and took on average 15 minutes to administer	18%	0%	82%	4.0
13. The order and arrangement of questions contribute to the flow of administration	12%	12%	76%	4.0
14. I received sufficient support and training for administration of the AATOM-C	30%	0%	71%	5.0
15. I found the AATOM-C administration and procedure manuals useful*	19%	25%	56%	4.0
16. I was able to integrate information obtained from the AATOM-C into client case management	18%	6%	77%	4.0
17. I will continue to use the AATOM-C instrument even after the study is finished	25%	18%	47%	3.0

*N = 16

7.7 Strategies used for improving implementation and administration of the AATOM-C

A number of key approaches were identified as contributing to the successful implementation and administration of the AATOM-C within the agencies. The most

commonly reported strategy was incorporating the AATOM-C into currently mandated items such as the BTOM or the agencies own assessments. Other strategies included: designating one person to conduct the interviews and completing the AATOM-C interview at the time of admission: “one person to administer, always the person doing the admission paperwork”. Respondents from residential rehabilitation services believed supportive managers: “...who were very helpful in the sense of willingness to do the research” and trained staff/clinicians: “... [who] were comfortable with administering these tests” also reportedly encouraged compliance. Suggested strategies for future use of such measures included employment of a research assistant for “extra help when necessary” and the continued reminders of when follow-up’s were due.

7.8 Main barriers to successful implementation of the AATOM-C

Staff turnover and time were reported to be the most commonly encountered barriers to successful implementation of the AATOM-C within the participating agencies. The two issues were often linked with one another, for instance additional time was often needed to train new staff. Administering the interview was often viewed as “another survey to fill out”, with a few respondents indicating “some questions were already covered in our assessment [and] some were repeated in slightly different wording”. Technical issues relating to the E-AATOM were reported as barriers to implementation, for example the safeguards to maintain participant confidentiality often made it difficult for clinical staff to match information from the E-AATOM to their own records. Participant follow-up at baseline was also of concern to clinical staff as an AOD worker reports: “a lot of our clients had moved on before the follow-ups could be done”, implying that contact is lost once treatment ceases.

7.9 Plans to make use of the AATOM-C data

Approximately a third of respondents administering the AATOM-C were unsure whether their agency as a whole were planning on using the data obtained from the instrument, whereas others at the individual level could see themselves incorporating such information into case management, treatment planning, relapse prevention strategies and client assessment summaries. One respondent was also interested in looking at AATOM-C scores pre and post treatment. A few respondents however did report that their agency did not have any plans for using the data from the AATOM-C at the time the survey was completed.

7.10 The E-AATOM

In total, five of the nine participating treatment agencies chose to use the E-AATOM for at least a period of time during the feasibility phase of the AATOM study. Of those using the E-AATOM, over half of the respondents preferred to use it over the paper version (55%), found it to save time (50%) and was easy to use (66%) (Table 41).

Table 41: The E-AATOM (N = 12)

	Disagree	Neither agree nor disagree	Agree	Median score
18. Our agency had the equipment to introduce the E-AATOM	17%	17%	66%	4.0
19. The E-AATOM was appropriate to use within our agency*	10%	10%	80%	4.5
20. I prefer to use the E-AATOM over the paper version [#]	9%	36%	55%	4.00
21. The E-AATOM is easy to use	17%	17%	66%	5.0
22. The E-AATOM saves time and resources	17%	33%	50%	4.0
23. The ability to export data into excel files for analysis is useful [#]	9%	27%	69%	4.0

* N = 10

N = 11

7.11 General views on outcome measures

The vast majority of respondents possessed a positive attitude towards outcome measures in general, the benefits they provided and believed that a standardised alcohol treatment tool was necessary within the AOD sector (Table 42).

Table 42: General views on outcome measures (N = 16)

	Disagree	Neither agree nor disagree	Agree	Median score
24. It is important to be able to monitor treatment outcomes across different settings, allowing for comparison between treatment types	12%	0%	88%	4.50
25. A standardised alcohol treatment outcome tool is much needed within the AOD sector	19%	13%	68%	4.50
26. Data obtained from outcome measures should influence treatment decision making	13%	0%	87%	4.00

8.0 DISCUSSION AND CONCLUSION

The AATOM-C was developed for routine clinical use to monitor treatment outcomes of clients receiving treatment for problems arising from their alcohol use. It was created to be a multi-dimensional, standardised and psychometrically sound instrument for use by health professionals within the Australian context. Clinically focused the AATOM-C was designed to measure treatment outcome across the domains of health and well-being, alcohol and drug use, alcohol dependence, treatment goals and health service utilisation.

The aim of this study was to assess the feasibility of implementing the AATOM-C on a routine basis within alcohol treatment services over a 12 month period. The study hypotheses stated that: clients would demonstrate significant improvement in outcome over time; clients interviewed by clinicians would report greater improvement than those interviewed by researchers; and clients interviewed more frequently would report greater improvement than those interviewed less frequently.

A total of three hundred and forty-eight clients new to AOD treatment with a current concern for their alcohol use were recruited to take part in the study. Of those, 148 clients were interviewed by clinicians and AOD workers at baseline, 3 and 12 months and 200 were interviewed by researchers either at baseline and 12 months (MFU) or at baseline, 3, 6, 9 and 12 months (FFU). An electronic version of the AATOM-C, the E-AATOM was used by a number of agencies to assist in the facilitation of data collection.

The majority of all participants interviewed at baseline were male (55.1%), received a government allowance as their main source of income (57.6%), lived alone (31.4%) and were currently receiving treatment at a residential rehabilitation service (59.8%). The mean age of all participants was 36.9 years.

Follow-up rates differed amongst the interviewer groups, with the researcher FFU group re-interviewing the greatest number of clients at both 3 and 12 months from baseline. Clinicians were remarkably less successful in following up clients at 12 months. Following up clients once they had left treatment posed a significant problem for clinicians who took part in the study. The most common barrier to successful follow-up was the amount of time needed to track down clients once they have left treatment. Often multiple phone calls were needed to secure a follow-up interview. Other barriers have included failure to obtain client follow-up and third party contact details, and a lack of interest in the study.

Alternatively, the frequency of contact between the interviewer and the client within the 12 month study period may have contributed to the higher follow-up rate for those in the researcher FFU group, where those in the researcher MFU and clinician interviewed groups had longer periods of time between interviews in which the client may have moved house or changed phone number etc. However, it is worth noting that the researcher MFU group had the least contact between interviews yet still had a higher follow-up rate than the clinician interviewed group at 12 months.

The majority of participants interviewed by both researchers (74.6%) and clinicians (54.2%) at three months had left their baseline treatment episode. Of those, 75% of participants in the researcher interviewed group and 84% of participants in the clinician interviewed group reported being referred to another treatment type after leaving. Counselling was the most common treatment participants engaged in following separation from their baseline treatment type.

Results of the study indicate that each client group did demonstrate significant improvement in treatment outcome over time. As a primary outcome of alcohol treatment, the percentage of clients using alcohol decreased significantly at both three and 12 months from baseline. Days of use and number of drinks consumed on "typical" and "heavy" drinking days also decreased significantly from baseline to three and baseline to 12 months for all client groups. Over the 12 month period, reported levels of alcohol use remained much lower (on average) than pre treatment/baseline levels with over a third of all those re-interviewed at 12 months reporting abstinence from alcohol in the 30 days prior to interview.

All client groups reported significant reductions in their level of alcohol dependence from baseline to three months and baseline to 12 months. Participant's interviewed by clinicians reported a significant reduction in their desire for alcohol (alcohol craving scale) at three months. However at 12 months, no significant differences in alcohol craving were found to exist for any of the client groups, indicating desire for alcohol 12 months was similar to pre-baseline levels.

A decrease in the number of participants using "other" drugs was observed across all drug categories at both three and 12 months from baseline. More specifically, at three months significant reductions in days of use were found for: cannabis (Clinician & Researcher interviewed), tranquilisers (C & R), amphetamines (R) and the number of cigarettes smoked per day (C & R). Participants interviewed twelve months from baseline reported significant reductions in days of use for: amphetamines (R – FFU group & C), heroin (R – MFU), tranquilisers (C) and number of cigarettes smoked per day. Caution must be taken when interpreting changes in "other" drug use amongst this sample due to the small number of participants reporting use of other drugs at both follow-up time-points.

Over time, levels of general health and mental well-being were found to improve for all client groups. At both three and 12 months, participants were more likely to rate their health as very good or excellent than at baseline. All participants reported significant increases in their general well-being at both follow-up time points. Levels of psychological distress amongst the participants also decreased significantly.

Changes in health service utilisation over time were found to occur over the study period. Participants interviewed by researchers in the MFU group reported a reduction in the number of times they visited the A & E department and the number of times they visited a doctor. Participants within the FFU group reported significant reductions from baseline to both 3 and 12 month follow-up, in the number of times they visited the A & E department, the number of nights spent in hospital and the number of times they visited a doctor. Participants interviewed by clinicians only reported significant reductions in the number of times they visited the A & E department at three months, however at 12 months, significant

reductions were found for the number of times they visited the A & E department, the number of nights spent in hospital and times visited a doctor.

Overall, findings from this part of the study indicate that the AATOM-C instrument is capable of measuring change in client outcome over time. Such findings also highlight that clients receiving treatment for alcohol use exhibit significant improvement over time and across a range of core outcome variables contained within the AATOM-C instrument.

It was hypothesised that clients interviewed by clinicians would demonstrate significantly greater improvement in outcome at three months than those interviewed by researchers (exhibiting a social desirability effect). To ensure a more valid comparison between the two groups, only participants recruited from residential rehabilitation services and therapeutic communities were analysed for this part of the study.

Overall, findings from this part of the study did not indicate a strong social desirability effect to be present among this sample. At three months, a higher number of participants within the clinician interviewed group reported drinking alcohol in the 30 days prior to interview. However no significant differences in days of use or number of drinks consumed per day were found amongst the two groups. Level of alcohol dependence at three months was found to be lower amongst the clinician interviewed group, however no differences were found between participants desire for alcohol.

The number of participants using "other" drugs at three months was very low for this particular sample and therefore days of use was not calculated. However the percentage of participants using each drug was very similar between the two groups. The greatest observed difference was the larger number of participants using tranquilisers amongst the clinician interviewed group (C=10.2% Vs R=0%). The higher use of tranquilisers amongst the clinician interviewed group needs to be interpreted with caution, as it is believed that the medical use of tranquilisers may have been mistakenly recorded as illicit drug use.

Levels of general health and mental well-being amongst the two groups were very similar at three months, with both groups reporting significant improvement from baseline. Participants in the clinician interviewed group did not report better outcomes than those interviewed by researchers. Overall, levels of health service utilisation amongst the two groups decreased from baseline to three months, however no significant differences in access to these services existed between the two groups at three months.

It was also hypothesised that those who were interviewed more frequently (FFU group) would demonstrate significantly greater improvement in outcome at 12 months than those interviewed minimally (MFU group). Overall findings from this component of the study indicate that the frequency of follow-up did not play a significant role in improving treatment outcome over time within this sample.

At twelve months, a higher number of participants within the FFU group reported drinking alcohol in the 30 days prior to interview, however no significant differences in days of use or number of drinks consumed per day were found between the FFU and MFU groups. The number of participants who reported heavy drinking was also lower amongst the MFU

group. Also, no significant differences were found between the two groups in regards to alcohol dependence or craving at 12 months.

Similar to the three month sample, the number of participants using "other" drugs at 12 months was very small, however overall the percentage of participants in the FFU group reporting use of other drugs was lower than the MFU group.

Levels of general health and mental well-being were amongst the two groups at 12 months were also very similar, with no significant differences existing between the groups. No differences were again observed between the MFU and FFU groups for level of health service utilisation measures.

The final component of the study involved eliciting the attitudes and experiences of clinicians and AOD workers utilising the AATOM-C during the 12 month feasibility study. The majority of those who provided feedback on the AATOM-C were male, in their early forties and worked in residential rehabilitation services. Overall, the AATOM-C was viewed as a clinically relevant and useful instrument that covered the core of what those working in the alcohol treatment field wanted to know. Identified strategies to improve implementation and administration of the instrument on a routine basis included having supportive managers who encouraged the use of the instrument and incorporating the instrument into already existing data collection practices. The main barriers identified which were felt to impede on the successful use of the AATOM-C included staff turnover, time constraints and lack of interest.

Conclusion

The AATOM-C was created to provide a brief, multi-dimensional and psychometrically sound clinical instrument to the Australian treatment field that was specific to the routine measurement of alcohol treatment outcomes. The current study was conducted to determine the feasibility of implementing the AATOM-C on a routine basis within alcohol treatment services over a period of 12 months. Overall results of this study indicate that the AATOM-C can be used successfully and confidently within Australian alcohol treatment services as a routine measure of alcohol treatment outcome.

During the psychometric testing phase the AATOM-C instrument was found to be brief to administer and have overall good reliability and validity. In addition to this, the current 12 month feasibility study has extended such findings to show that the AATOM-C is sensitive to measuring change in key treatment outcome indicators over time regardless of whether clients are interviewed by their treating clinician or by independent interviewers.

Results of the current study also indicate that clients interviewed using the AATOM-C do not report better outcomes to clinicians involved with their treatment when compared to clients administered the interview by independent interviewers. This suggests the AATOM-C is capable of measuring real changes in outcome without being subject to social desirability effects. In addition to this, frequency of follow-up was not found to play a significant role in improving treatment outcome over time. This also suggests that the administration of the AATOM-C interview itself over time did not act as a type of brief intervention producing

change and therefore the number of follow-up interviews administered to the client can be left to the discretion of the treating clinician who is monitoring the individual for case management purposes.

The scope of the 12 month feasibility study was limited in a number of ways: 1. clinicians administering the AATOM-C interview came primarily from non-government AOD treatment agencies within the greater Sydney region, and 2. the majority of clients were recruited from non-government Sydney AOD treatment agencies (only 50 clients were recruited from Melbourne). Replication studies extending to both private and public AOD agencies outside of the Sydney region need to be conducted to enable the AATOM-C to be considered a nationally appropriate routine measure of alcohol treatment outcomes. Further reliability and validity testing also needs to be conducted with specific focus on those variables subject to change within the early days of entering treatment.

9.0 REFERENCES

- Collins, D. J. and Lapsley, H. M. (2008) *The cost of tobacco, alcohol and illicit drug abuse to Australian society in 2004/05*. National Drug Strategy Monograph Series No. 64, Commonwealth of Australia, Canberra.
- Darke, S., Hall, W., Heather, N., Wodak, A., and Ward, J. (1992) Development and validation of a multi-dimensional instrument for assessing outcome of treatment among opioid users: The Opiate Treatment Index. *British Journal of Addiction* **87**, 593-602.
- Lawrinson, P., Copeland, J., Gerber, S., & Gilmour, S. (2007). Determining a cut-off on the Severity of Dependence Scale (SDS) for alcohol dependence. *Addictive Behaviors* **32**, 1474-1479.
- Lopez, A., Mathers, M., Ezzati, Jamison, D., and Murray, C. (2006) Global and regional burden of disease and risk factors, 2001: systematic analysis of population health data. *Lancet* **367**, 1747-1757.
- Marsden, J., Gossop, M., Stewart, D., Best, D., Farrell, M., Lehmann, P., Edwards, C., and Strang, J. (1998) The Maudsley Addiction Profile (MAP): a brief instrument for assessing treatment outcome. *Addiction* **93**, 1857-1868.
- McLellan, A. T., Luborsky, L., O'Brien, C. P., & Woody, G. E. (1980) An improved diagnostic instrument for substance abuse patients: The Addiction Severity Index. *Journal of Nervous and Mental Disease* **168**, 26-33.
- Simpson, M. A., Lawrinson, P., Copeland, J., and Gates, P. (2007) *The Australian Alcohol Treatment Outcome Measure (AATOM-C): Psychometric Properties*. NDARC Technical Report No. 288. National Drug and Alcohol Research Centre, University of New South Wales, Sydney.
- World Health Organisation. (2004) *Global Status Report on Alcohol 2004*. World Health Organisation, Department of Mental Health and Substance Abuse, Geneva.