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# Outcomes for Dutch patients at Castle Craig Hospital

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the 2010 evaluation for all Dutch patients admitted between 07.05.07 to 16.12.08

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Independent analysis of outcome data  
Christo Research Systems

10<sup>th</sup> December 2010

**Castle Craig Hospital**

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## Summary of findings

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- One patient with a primary gambling addiction, 89 drug and 66 alcohol dependent patients from the Netherlands entered Castle Craig Hospital between 7<sup>th</sup> May 2007 to 16<sup>th</sup> December 2008 and stayed in treatment for more than 1 day.
- Most patients were alcohol or cocaine addicts.
- Patients were generally quite dysfunctional at intake. The average intake CISS total score of the 156 patients was 11.0 and their greatest problems were with drug or alcohol use, lack of support, psychological problems, lack of occupation, and poor health.
- Drug dependent patients tended to have greater problems with social functioning, viral risk, and criminality.
- Alcohol dependent patients tended to have greater problems with health and working relationships.
- Patients were generally more dysfunctional than those attending outpatient alcohol or drug services (based on the CISS comparison scores see Appendix).
- The patients' average wait between referral to treatment entry was 7.3 weeks.
- 62% of patients completed treatment, 32% of patients prematurely self-discharged against medical advice, 6% of patients were prematurely discharged for rule violations, and one patient was prematurely discharged on medical grounds.
- The average treatment duration for patients' taking a planned discharge was 21 weeks, and the average treatment duration for prematurely discharged patients was 9 weeks.
- Premature treatment discharge was a little more likely among the drug users.
- Follow-ups were successfully completed on 113 of the 156 patients (72.4% response rate). Thirty nine patients could not be contacted and four patients had died.
- The average follow-up period was 67 weeks.
- 92% of followed-up patients improved, 8% remained the same, none got worse.
- 63% of patients completing treatment did well, whereas only 35% of patients taking an unplanned discharge (for whatever reason) had a good outcome.

- Good outcome was predicted by
  - Shorter time taken to enter treatment
  - Completion of treatment
  - Longer treatment duration
  - Fewer social functioning problems
  - Fewer viral risk behaviour problems
  - Fewer occupational problems
  - Less criminal involvement
  - Fewer compliance problems
- The average intake CISS score of the 113 followed-up patients was 10.6 and the average follow-up CISS score was 4 indicating a highly significant improvement in general functioning.
- Reductions in drug / alcohol use at follow-up were accompanied by improvements in all other CISS domains.
- Even those who were not totally abstinent at follow-up appeared to have benefited from their experience in treatment, probably by gaining a period of respite during which to recover from the consequences of their excessive drinking or drug use.
- The following success rates are conservatively based by including all 156 patients on the assumption that the 43 patients not followed-up (response rate = 72.4%) showed no improvement or otherwise had poor outcomes.
  - Being totally abstinent from all drugs or alcohol at follow-up  
46%
  - Achieving low problem severity at follow-up (CISS < 6, see appendix)  
52%
  - Showing any reduction in measured levels of dysfunction  
69%

In reality the success rates are most likely to be higher because some of the missing patients would not have been contactable due to having recovered and being in full time occupation.

- The following success rates are thus more liberally based by including the 4 patients that died but not including the other 39 patients that could not be contacted for follow-up ( $n = 117$ ).
  - Being totally abstinent from all drugs or alcohol at follow-up  
61%
  - Achieving low problem severity at follow-up (CISS < 6, see appendix)  
69%
  - Showing any reduction in measured levels of dysfunction  
89%

# Treatment Overview

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## General approach

Castle Craig Hospital provides an abstinence oriented residential treatment for alcohol or drug dependent individuals. It uses an established treatment model developed in the US around 1950 and first imported to the UK in 1974 (Cook, 1988a). Outcomes generated by this approach are very good (Cook, 1988b) and have recently been shown to be at least equal to and in some cases better than other commonly used treatments for substance misuse (Project MATCH, 1997; Ouimette et al, 1997; Longabaugh et al, 1998).

It is an intensive psychologically oriented approach consisting of regular group work, one to one counselling, lectures and written assignments. Many similar therapeutic communities are well established throughout the UK and their programme facilitates engagement with the independent free after care resource provided by Alcoholics Anonymous and Narcotics Anonymous (AA & NA) groups. Regular attendance of AA and NA has been shown to be associated with reduced drug or alcohol use (Emrick, 1987; McLatchie & Lomp, 1988; Alford et al, 1991; Christo & Franey, 1995; Gossop et al, 2003), improved psychological health (Christo & Sutton, 1994; DeSoto et al, 1989; DeSoto et al, 1985; McCown, 1989; McCown, 1990), and with improved physical health (Mann et al, 1991).

## Services offered

Castle Craig Hospital offers detoxification from alcohol, tranquillisers, or opiates. Patients are encouraged to engage with all aspects of the programme during detoxification because it serves as a useful distraction from withdrawal symptoms and assists in their orientation. Patients are also assessed to identify specific medical (e.g. liver dysfunction), psychological (e.g. cognitive deficits, anxiety, abuse or traumatic events), or psychiatric (e.g. dual diagnosis, suicide risk, epilepsy) problems that may need to be addressed in their individual care plans.

The first phase of treatment includes comprehensive assessment, detoxification, stabilisation, treatment planning and intensive individual and group psychotherapy. The duration of this phase is about six weeks. Therapy staff employ a full range of psychotherapeutic approaches depending upon their training and interests (e.g. Twelve Step Facilitation, Rational Emotive Behavioural Therapy, Cognitive Behavioural Therapy, Reality Therapy, and Transactional Analysis).

This phase continues with a second phase of short to medium term treatment with a further duration of from 8 to 24 weeks. This additional period of treatment is especially suitable for those patients with co morbid psychiatric disorders such as personality disorder, depressive disorders, phobias, generalised anxiety, poor support networks or social functioning. Addiction complicated by a psychiatric diagnosis is generally associated with worse outcomes. Such patients have more complex needs and need longer in treatment. The treatment in the second phase remains intensive, continuing to address those factors which have an immediate bearing on relapse. As well as using the same elements found in the primary phase of treatment, this second phase of care also assists patients to re-integrate with society by focusing on practical

issues of occupation, and family problems.

Castle Craig Hospital can offer aftercare group therapy held in a number of locations in Scotland and in the Netherlands at Amsterdam and Den Haag. All clients are encouraged to attend one or more of these aftercare sessions weekly for a period of up to two years after completing their residential treatment.

### **Aims of treatment**

- Detoxification and stabilisation, abstaining from alcohol and other drugs.
- Creating a therapeutic bond to facilitate engagement with support from staff, peers, and AA or NA.
- Separating from people, places and things that promote substance use and establishing a new social network that supports recovery.
- Identifying recurrent problems, resolving painful / traumatic memories.
- Stopping compulsive self-defeating behaviours that suppress awareness of painful feelings and irrational thoughts.
- Relapse warning sign identification and management strategies. Identifying past causes of lapse and appropriate future coping strategies.
- Learning how to manage feelings and emotions responsibly without resorting to compulsive behaviour or the use of chemicals.
- Identifying and changing dysfunctional core beliefs (about self, others, and the world) that promote the use of irrational thinking and create painful feelings and self-defeating behaviours.
- Learning to change maladaptive behaviour patterns developed during childhood in dysfunctional families of origin.
- Increasing self-esteem by feeling worthwhile to self and helping others, promoting engagement with society, dealing with practical problems and establishing meaningful occupation.

## Outcome measures & methods

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### How outcome was measured

Outcome was measured by the Christo Inventory for Substance-misuse Services (CISS) which is a standardised, validated tool (Christo, Spurrell & Alcorn, 2000, Christo, 2000a) now commonly used in Scotland (Effective Interventions Unit, 2001), England & Wales (Audit Commission, 2002; Christo, 1999a,b,c; Christo, 2000b,c,d,e,f, Christo, 2001), and abroad (Christo & Da Silva, 2002). The CISS is a single page outcome evaluation tool completed by drug / alcohol service workers either from direct client interviews or from personal experience of their client supplemented by existing assessment notes. Its purpose is to elicit workers' impressions of their clients in a quick, quantitative, standardised and reliable way. The 0 to 20 scale consists of 10 items reflecting clients' problems with:

Social functioning	Criminal involvement
General health	Drug / alcohol use
Sexual / injecting risk behaviour	Ongoing support
Psychological functioning	Compliance
Occupation	Working relationships

These outcome areas are scored on a three point scale of problem severity (0 = none, 1 = moderate, 2 = severe), each point is illustrated with relevant examples for guidance. Thus, a CISS score of 0 would indicate no problems and a score of 20 would indicate severe problems in all outcome areas.

### Evaluation procedure

CISS is incorporated as a regular part of Castle Craig Hospital's intake and follow-up procedures. Baseline CISS forms were completed by staff from information gathered at the first assessment. They were then completed again during follow-up interviews on average about 67 weeks after admission to treatment. A table of relevant dates, CISS information and other data for all Dutch patients was delivered to Christo Research Systems for analysis.

### Sample

The sample comprised of all patients from the Netherlands who entered treatment between 7<sup>th</sup> May 2007 to 16<sup>th</sup> December 2008 and stayed in treatment for more than 1 day. One hundred and fifty six patients met these criteria, attempts were made to follow up all of them and 113 patients (72.4%) were successfully contacted in order to obtain the detailed information presented below. This evaluation thus details the outcomes for the 113 patients (90 males, 23 females) who were followed-up.

# Findings regarding all 156 patients

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## Statistical information

- **n** indicates the number of individuals contributing to each statistical sample.
- **m** indicates a mean value, all averages in this report are means.
- **sd** indicates a standard deviation, thus giving an idea of the spread of scores around the mean. (In a normal distribution, 68% of all data points lie plus or minus one sd about the mean.)
- **range** indicates the total range of values within a measured variable (minimum - maximum).
- **t**, **f**,  $\chi^2$  and **U** are statistical tests to show if two groups are significantly different from each other.
- **p** indicates the level of significance of a statistical test, the smaller the better.

## Gender

128 males	82.1 %
28 females	17.9 %

## Nationality and ethnic origins

The vast majority (149) of patients were Dutch nationals from the Netherlands.  
In addition there was:

- 1 Dutch national from Somalia
- 1 Dutch national from Morocco
- 1 British national
- 1 Australian national
- 1 German national
- 1 Spanish national
- 1 Israeli national

## Drugs / behaviours of choice

66 patients using alcohol	42.3%	Alcohol 42.3%
65 patients using cocaine	41.7%	Drugs 57.1%.
15 patients using heroin	9.6 %	.
5 patients using cannabis	3.2 %	.
4 patients using amphetamines	2.6 %	.
1 patient gambling	0.6 %	Other 0.6%

## Secondary drugs of choice

Among the 66 drinkers, 33 of them had a secondary drug recorded as follows:

10 also using benzodiazepines

9 also using cocaine

5 also using cannabis

5 also using nicotine (although the majority of patients also smoke nicotine)

1 also using heroin

3 polydrug users

Among the 65 cocaine users, 55 of them had a secondary drug recorded as follows:

35 also using alcohol

9 also using cannabis

4 also using nicotine (although the majority of patients also smoke nicotine)

4 polydrug users

2 also using opiates

1 also using benzodiazepines

Among the 15 heroin users, 15 of them had a secondary drug recorded as follows:

9 also using cocaine

2 also using alcohol

2 polydrug users

1 also using benzodiazepines

1 also using methadone

The above distributions illustrate heroin users' preference for cocaine, the primary cocaine users' preference for alcohol, and the primary alcohol users' preference for benzodiazepines.

**Table 1, Gender distribution by drug type**

	<b>Alcohol dependent</b>	<b>Cocaine dependent</b>	<b>Other</b>	<b>Total</b>
<b>Females</b>	22 (78.6%)	1 (3.6%)	5 (17.9%)	28
<b>Males</b>	44 (34.4%)	64 (50.0%)	20 (15.6%)	128
<b>Total</b>	66	65	25	156

As highlighted in table 1 above, over three quarters of the females were primarily alcohol dependent and only one female was primarily cocaine dependent. The trend for females to be primarily alcohol dependent and not to be among the cocaine users is statistically significant ( $\chi^2 [2] = 22.6, p < .001$ ).



**Table 2, Average Age by Drug type by Gender**

The patients' average age was 37.3 years ( $n = 156$ ,  $sd = 10.8$ ,  $range = 18 - 68$ )

	Alcohol dependent	Cocaine dependent	Other	Total
<b>Females</b>	46.6 yrs ( $n=22$ )	33.8 yrs ( $n=1$ )	30.2 yrs ( $n=5$ )	43.2 yrs ( $n=28$ )
<b>Males</b>	41.9 yrs ( $n=44$ )	31.4 yrs ( $n=64$ )	38.0 yrs ( $n=20$ )	36.0 yrs ( $n=128$ )
<b>Total</b>	43.5 yrs ( $n=66$ )	31.4 yrs ( $n=65$ )	36.4 yrs ( $n=25$ )	37.3 yrs ( $n=156$ )

As illustrated in table 2 above, females were generally older than males ( $t [154] = 3.2$ ,  $p = .001$ ). Drinkers tended to be older and cocaine users tended to be younger ( $f [2] = 27.4$ ,  $p < .001$ ).

**Table 3, Concurrent Psychiatric Diagnoses by Gender by Drug type**

Eighty eight of the patients had been formally diagnosed with another mental health condition in addition to their substance misuse.

Concurrent General Diagnosis	Detailed Diagnoses	$n$	% female	% primary alcohol
Nil		46	13%	32%
<b>Depressive Disorders</b>	Mostly major depressive disorder, and some dysthymic disorder and bipolar disorder	29	27%	58%
<b>Personality Disorders</b>	Mostly Cluster B: Dramatic or Erratic Behaviours Borderline, narcissistic and antisocial	25	28%	56%
<b>Not Assessed</b>		22	0%	42%
<b>Anxiety Disorders</b>	Generalised anxiety, social phobia, panic attacks, post traumatic stress syndrome	17	23%	59%
<b>Attention Deficit</b>	Mostly attention deficit hyperactivity disorder, some with secondary mood disorders or personality disorders	16	13%	19%
<b>Eating Disorder</b>	Bulimia nervosa	1	100%	100%
<b>Total</b>		156	18%	42%

As illustrated in table 3 above; none of the females were un-assessed and they appeared a little less likely to have no diagnosis or attention deficit disorder. Alcohol users appeared more likely to be diagnosed with Anxiety, depression or personality disorders. Attention deficit disorder appeared more associated with males and drug use.

**Table 4, Referral sources by Gender by Drug type**

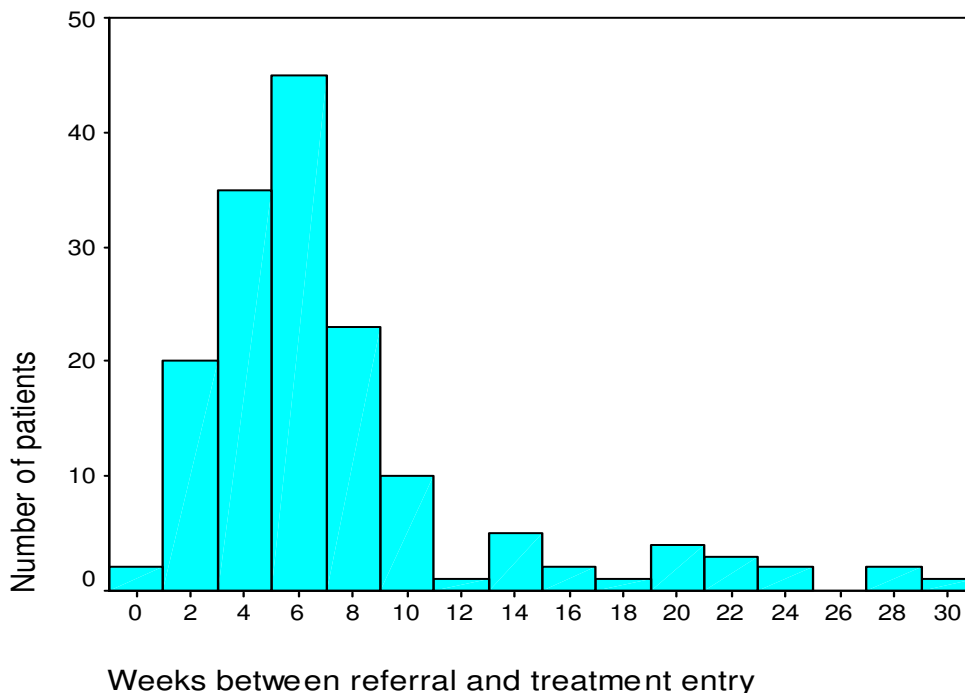
The majority of patients were self-referred. These patients were instructed to get a referral letter from their GP, given that a GP referral is compulsory before treatment can begin.

Referral Source	<i>n</i>	% female	% primary alcohol
Self-referred	53	11%	34%
Mental health or addictions service (GGZ clinic)	46	24%	43%
General Practitioner (GP)	41	17%	39%
Psychiatrist	16	25%	75%
Total	156	18%	42%

As illustrated in table 4 above; drug users appeared disproportionately likely to self-refer, females appeared less likely to self-refer, and psychiatrists appeared to refer a high proportion of alcohol users.

**Time from referral to treatment entry**

Figure 1 below shows the patients' average time between referral and treatment entry was 7.3 weeks ( $n = 156$ ,  $sd = 5.6$ ,  $range = 0.7 - 29.8$ ). Entry time was unrelated to gender, referral source, or drug of choice. The longer delays between referral to treatment entry were generally due to patients' issues.



## Patients' problems at intake

The average intake CISS total score of the 156 patients was 11.0 ( $sd = 2.7$ , range 4 - 18) and there was no significant relationship between gender, drug of choice and average total score. This figure is indicative of a high level of dysfunction and suggests that these patients are generally more dysfunctional than drinkers and drug users attending outpatient alcohol services (based on the CISS comparison scores for these groups, see Appendix). Patients' greatest problems were with drug or alcohol use, lack of support, psychological problems, lack of occupation and poor health.

For 89 drug dependent patients:

- 1.1 % of patients had low problem severity (CISS score 0 to 5)
- 70.0% of patients had average problem severity (CISS score 6 to 12)
- 29.2% of patients had high problem severity (CISS score 13 to 20)

For 66 alcohol dependent patients:

- 1.5% of patients had low problem severity (CISS score 0 to 4)
- 62.1% of patients had average problem severity (CISS score 5 to 11)
- 36.4% of patients had high problem severity (CISS score 12 to 20)

Figure 2, Baseline CISS item scores by drug type

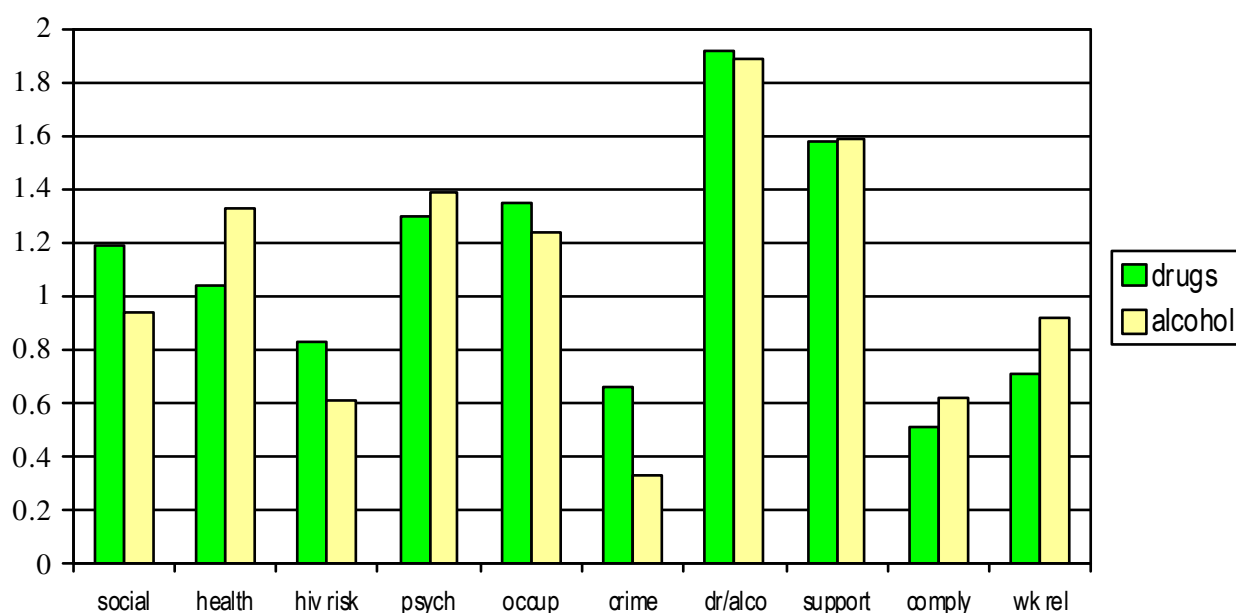


Figure 2 compares the average CISS item scores (0 to 2 scale) as assessed at intake between the 89 drug and the 66 alcohol dependent patients. The taller the bars in the figure, the greater the average degree of problem within the relevant CISS domain. Alcohol dependent patients tended to have.....

- Fewer social functioning problems ( $U = 2348$ ,  $p = .014$ )
- Greater health problems ( $U = 2218$ ,  $p = .002$ )
- Fewer viral risk problems ( $U = 2371$ ,  $p = .017$ )
- Fewer criminality problems ( $U = 2130$ ,  $p = .001$ ).
- Greater working relationship problems ( $U = 2408$ ,  $p = .025$ )

### Reasons for discharge from Castle Craig

- 96 Planned discharges (patients completing treatment) 61.5 %
- 60 Unplanned discharges (premature discharge) 38.5 %
- of which...
  - 50 patients prematurely self-discharged against medical advice 32.1 %
  - 9 patients were prematurely discharged for rule violations 5.8 %
  - 1 patient was prematurely discharged on medical grounds 1.7 %

The average treatment duration for patients' taking a planned discharge was 21.0 weeks ( $n = 96$ ,  $sd = 7.4$ ), it was significantly longer than the prematurely discharged patients' average treatment duration of 8.6 weeks ( $n = 60$ ,  $sd = 6.0$ ), ( $t [154] = 10.9$ ,  $p < .001$ ).

- There was no relationship between intake CISS scores and premature discharge.
- There was no relationship between age and premature discharge.
- There was no relationship between gender and premature discharge.
- There was no relationship between referral source and premature discharge.

**Table 5, Drug of choice and discharge status**

	Alcohol	Drugs	total
% planned	71.2	53.9	61.3
% unplanned	28.8	46.1	38.7
Total number	66	89	155

The expected split in table 5 above should be 61 planned : 39 unplanned for both drug types. There is a slight trend for alcohol users to complete treatment and for drug users to leave prematurely. This finding is statistically significant ( $\chi^2 [1] = 4.7$ ,  $p = .03$ ).

### Dropout rate during the first six weeks

Only 28 of the 156 patients (17.9%) stayed less than 6 weeks which is the usual duration of primary treatment.

## Outcome

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Attempts were made between 24.03.08 and 28.12.09 to contact all 156 patients. Those who could be contacted were interviewed using the CISS outcome measure. Follow-ups were successfully completed on 113 of the 156 patients (72.4%). Thirty nine patients could not be contacted and four patients died.

In treatment outcome follow-up studies such as this one it is not unreasonable to assume that the majority of patients not accessible, will have relapsed.

Christo, Spurrell & Alcorn (2000) found a CISS cut-off score of 6 or less can be used to indicate "good outcome" for abstinence based treatment among drug users. This correctly identified 88% of outcomes where drug use was assessed only in month before follow-up, and 84% of outcomes where drug use was assessed over their entire six-month follow-up period. Alcoholics are generally expected to score one CISS point less than drug addicts.

So due to the large number of alcoholics in this sample, a conservative cut-off score of 5 or less was used to indicate "good outcome" for abstinence based treatment among the Castle Craig Patients.

The patients could thus be categorised under the following outcomes:

81 had a follow-up CISS score of 5 or less	51.9 %	Good outcome 52 %
32 had a follow-up CISS score of 6 or more	20.5 %	Poor outcome 48 %
39 could not be contacted	25.0 %	.
4 patients died	2.5%	.

**Table 6, Outcome by CISS entry score, treatment entry time, and treatment duration**

Outcome	Mean CISS entry score	Mean weeks between referral to entry	Mean weeks in treatment
Good ( <i>n</i> = 81)	10.1 ( <i>sd</i> = 2.6)	1.2 ( <i>sd</i> = 0.8)	17.9 ( <i>sd</i> = 8.3)
Poor ( <i>n</i> = 75)	12.0 ( <i>sd</i> = 2.4)	2.5 ( <i>sd</i> = 4.5)	14.4 ( <i>sd</i> = 9.7)
<b>Significance</b>	<i>t</i> [154] = 4.7, <i>p</i> < .001	<i>t</i> [78.5] = 2.5, <i>p</i> = .016	<i>t</i> [145.7] = 2.5, <i>p</i> = .015

Table 6 above illustrates that 'good outcome' is associated with a lower level of dysfunction at intake, a shorter time taken to enter treatment, and a longer stay in treatment.

Patients' drug of choice, referral source, age or gender, were unrelated to outcome.

### CISS scores at treatment entry and subsequent outcome

The average CISS score for patients with a good outcome was 10.1 ( $n = 81$ ,  $sd = 2.6$ ), it was significantly lower than the poor outcome patients' average CISS score of 12.0 ( $n = 75$ ,  $sd = 2.4$ ), ( $t [154] = 4.7$ ,  $p < .001$ ).

Figure 3, Baseline CISS item scores by outcome

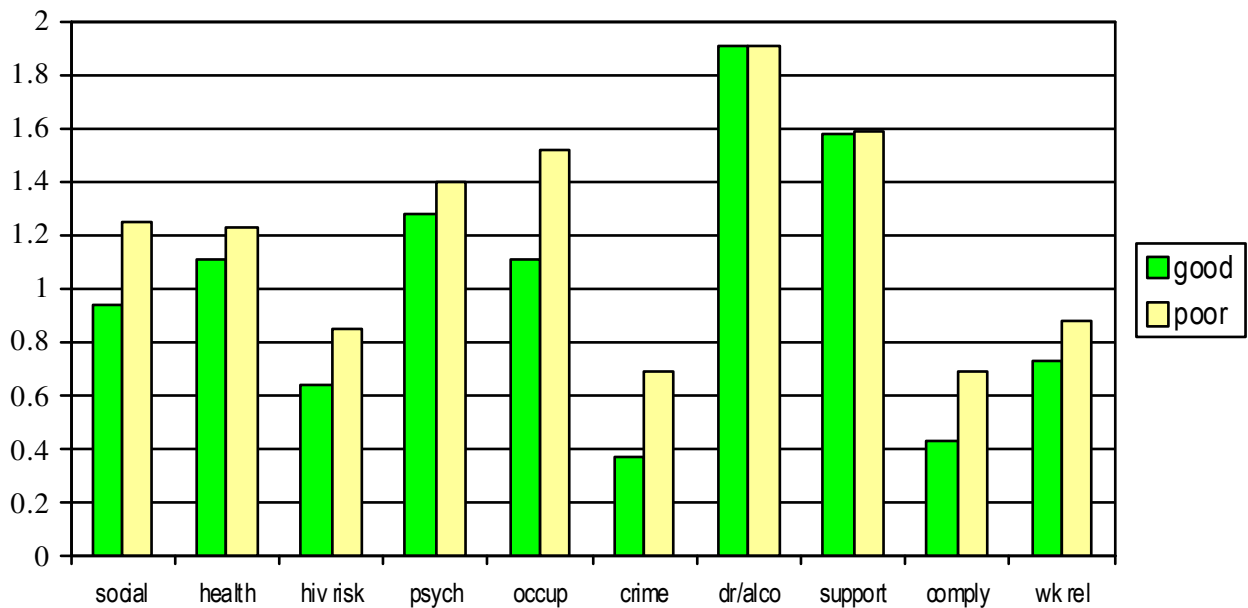


Figure 3 compares the average CISS item scores (0 to 2 scale) as assessed at intake between the 81 good and the 75 poor outcome patients. The taller the bars in the figure, the greater the average degree of problem within the relevant CISS domain. Patients with good outcomes tended to have lower scores in all but one CISS domain, and five domains reached a statistically significant difference.....

- Fewer social functioning problems ( $U = 2250$ ,  $p = .001$ ).
- Fewer viral risk behaviour problems ( $U = 24201$ ,  $p = .011$ ) (No patients were recent injectors, so viral risk would have been entirely due to sexual behaviour).
- Fewer occupational problems ( $U = 2126$ ,  $p < .001$ ).
- Fewer criminal involvement problems ( $U = 2212$ ,  $p = .001$ ).
- Fewer compliance problems ( $U = 2302$ ,  $p = .003$ ).

Table 7, Referral source and outcome

	GP	GZZ	Psychiatrist	Self	total
% good	56.1	47.8	62.5	49.1	51.9
% poor	43.9	52.2	37.5	50.9	48.1
Total number	41	46	16	53	156

The expected split in table 7 above should be 52% good : 48% poor for all referral sources. There were no statistically significant departures from the expected split.

**Table 8, Discharge status and outcome**

	<b>Completed treatment</b>	<b>Left AMA</b>	<b>Rule violation</b>	<b>Medical discharge</b>	<b>total</b>
% good	62.5	34.0	33.3	100	51.9
% poor	37.5	66.0	66.7	0	48.1
Total number	96	50	9	1	156

The expected split in table 8 above should be 52% good : 48% poor for all discharge types. Notable departures from this indicate that 63% of patients taking a planned discharge do well, whereas only 35% of patients taking unplanned discharges (for whatever reason) have a good outcome. This finding is statistically significant ( $\chi^2 [1] = 11.2, p = .001$ ). Future patients thinking of quitting treatment early should be made aware of this statistic.

### **Summary, predictors of unplanned discharge and poor outcome**

Premature discharge from treatment was associated with shorter treatment durations and poorer outcomes. But there were few predictors of premature discharge, only a slight tendency for alcohol users to complete treatment and for drug users to leave prematurely. However the patients' drug of choice did not predict eventual treatment outcome.

Eventual good outcome was predicted by

- Shorter time taken to enter treatment
- Completion of treatment
- Longer treatment duration
- Fewer social functioning problems
- Fewer viral risk behaviour problems
- Fewer occupational problems
- Less criminal involvement
- Fewer compliance problems

However, it should be remembered that these are only statistical trends and many clients without the above qualities will have good outcomes in any case. For example, 35% of patients taking unplanned discharges went on to have a good outcome anyway.

## Findings regarding 113 patients followed-up

Attempts were made between 24.03.08 and 28.12.09 to contact all 156 patients. Those who could be contacted were interviewed using the CISS outcome measure. Follow-ups were successfully completed on 113 of the 156 patients (72.4%). Thirty nine patients could not be contacted and four patients had died.

Figure 4, follow-up periods



Figure 4 indicates the number of patients falling within each follow-up period. The majority of patients were followed-up after 50 weeks and the distribution is skewed to the longer follow-up periods on the right.

Standard follow-up times were hard to implement due to the long sampling period required to capture all the Dutch patients' treatment entry dates.

- Treatment entry took place between 07.05.07 to 16.12.08
- Follow-up interviews took place between 24.03.08 and 28.12.09
- The average follow-up period was 66.9 weeks ( $n = 113$ ,  $sd = 15.9$ ,  $range = 7.0 - 88.6$ ).



## Changes in patient dysfunction at follow-up

Figure 5, reductions of patient dysfunction

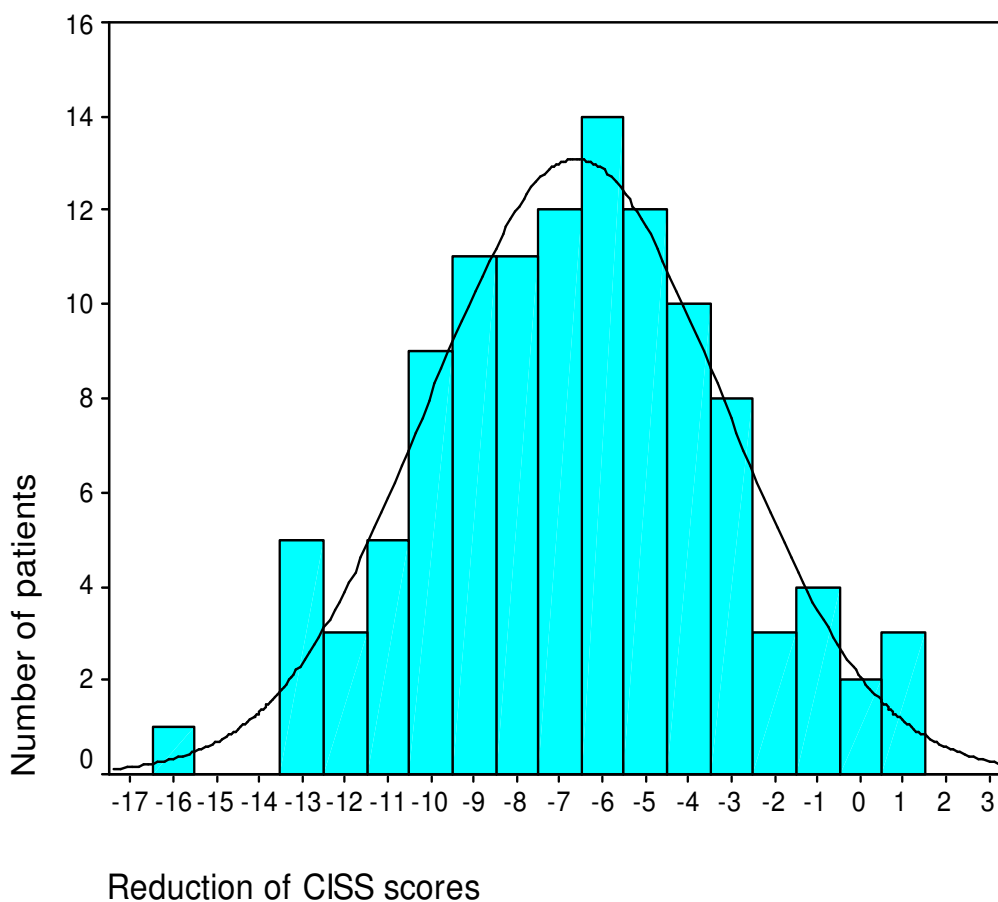


Figure 5 illustrates the reductions in CISS total scores achieved by the 113 patients who were followed-up. The inter-rater reliability of the CISS (Christo et al., 2000) would indicate that a score fluctuation of plus or minus one point is attributable to variations of CISS interpretation between raters. As such, only changes of 2 or more points are recognised as 'genuine' and on that basis:

- 92% of patients improved
- 8% of patients remained the same
- None of the patients got worse

Twenty-three patients achieved reductions of 10 CISS points or more. Changes of this magnitude are not uncommon among those who achieve total abstinence but would likely be perceived by the patients and their significant others as nothing short of miraculous.

Figure 6, the process of change

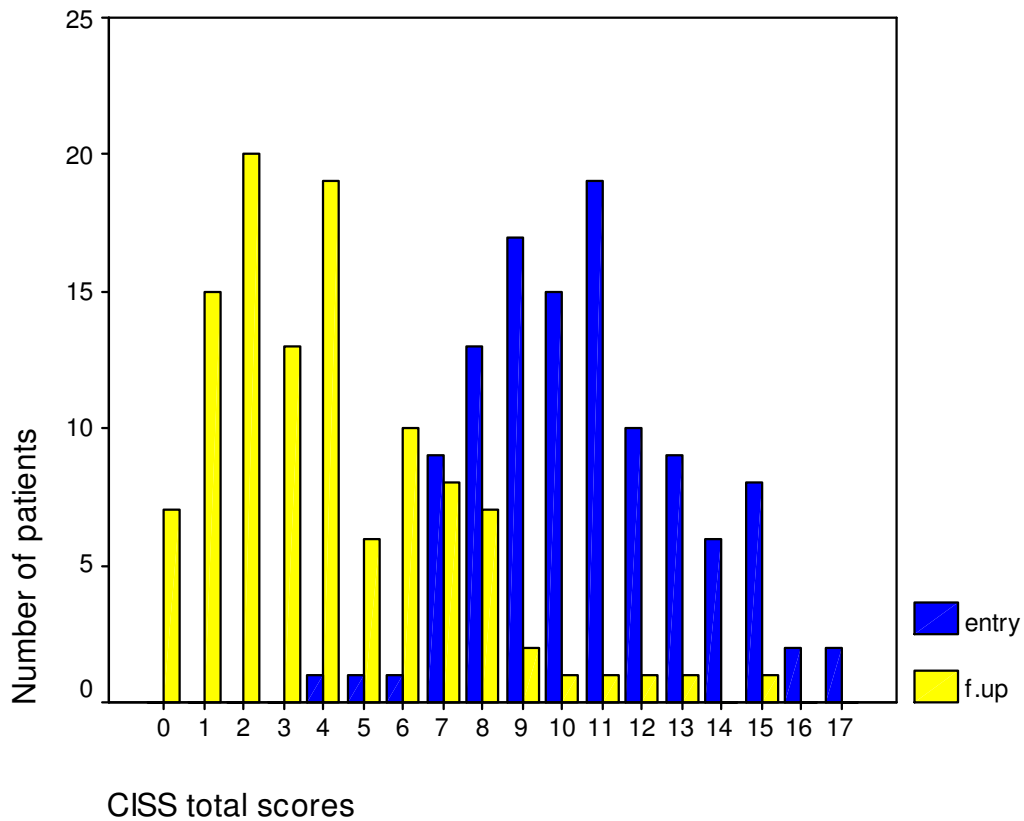


Figure 6 displays how CISS total scores are distributed among the 113 patients. Dark bars indicate the score distributions at intake and the light bars indicate score distributions at follow-up.

The average intake CISS total score of the 113 patients was 10.6 ( $sd = 2.6$ , range 4 - 17)

The average follow-up CISS total score of the 113 patients was 4.0 ( $sd = 3.0$ , range 0 - 15)

A paired sample t-test indicates this reduction to be highly significant ( $t [112] = 20.5$ ,  $p < .001$ )

Figure 7, Changes in individual CISS item scores

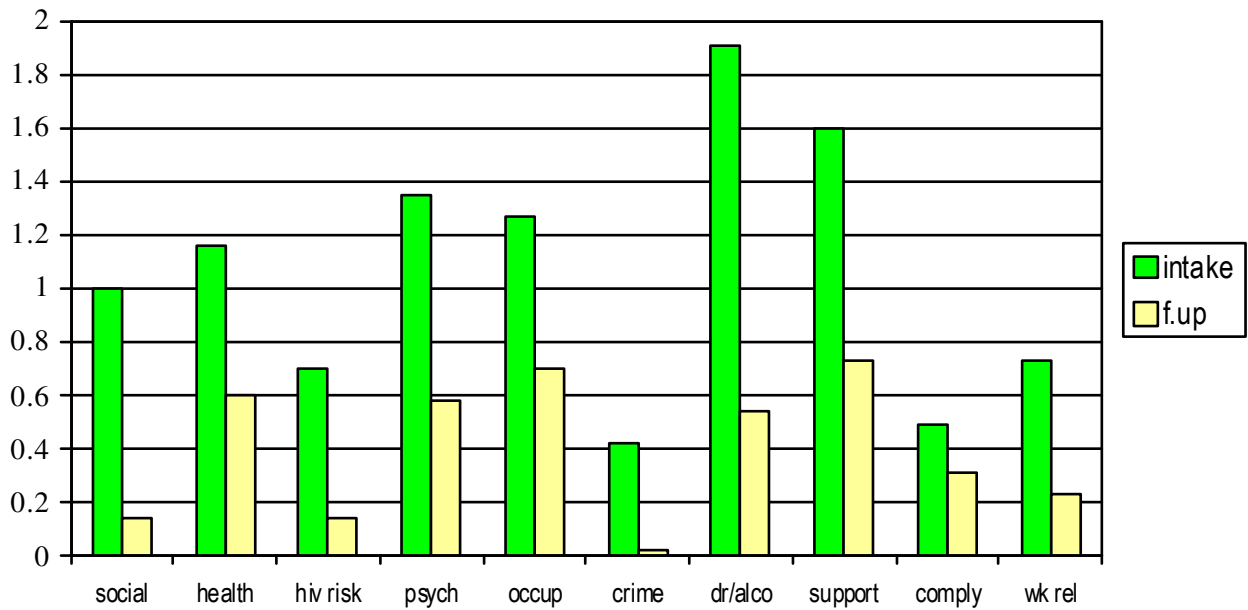


Figure 7 compares the average CISS item scores (0 to 2 scale) as assessed at intake and then again at follow-up. The taller the bars in the figure, the greater the average degree of problem within the relevant CISS domain. As can also be seen in figure 2, the greatest problems at intake were with drug or alcohol use, lack of support, psychological problems, lack of occupation and health problems.

Ten Wilcoxon Signed Ranks statistical tests indicated that the reductions in all of the 10 CISS outcome domains were highly significant. Thus indicating that reductions in drug / alcohol use were generally accompanied by improvements in all other aspects of the patients' lives.

### Detailed outcomes and what they mean for the patients

The CISS form is a rough indicator of professional impression of recent drug / alcohol related problems in the past month. Specific situations / behaviours are listed only as guiding examples and may not reflect the exact situations / behaviours of the patient. The CISS wording has been left intact in the following tables to give an idea of the actual type of dysfunction an item score of 0, 1, or 2 might indicate within each domain. The tables below illustrate the percentage of 113 patients rated as having none, moderate or severe problems within each CISS domain at intake and then again at follow-up.

<b>Social functioning</b>	e.g.	Intake	Follow-up
No problem	client has a stable place to live and supportive friends or relatives who are drug / alcohol free	17.7%	86.7%
Moderate problem	client's living situation may not be stable, or they may associate with drug users / heavy drinkers	64.6%	12.4%
Severe problem	living situation not stable, and they either claim to have no friends or their friends are drug users / heavy drinkers	17.7%	0.9%

<b>General health</b>	e.g.	Intake	Follow-up
No problem	client has reported no significant health problems	8.0%	47.8%
Moderate problem	teeth/sleep problems, occasional stomach pain, collapsed vein, asymptomatic hep B / C / HIV	68.1%	44.2%
Severe problem	extreme weight loss, jaundice, abscesses / infections, coughing up blood, fever, overdoses, blackouts, seizures, significant memory loss, neurological damage, HIV symptoms	23.9%	8.0%

<b>Sexual or injecting risk behaviour</b>	e.g.	Intake	Follow-up
No problem	client claims not to inject, or have unsafe sex (except in monogamous relationship with longstanding partner, spouse)	38.1%	87.6%
Moderate problem	may admit to occasional "unsafe" sexual encounters, or suspected to be injecting but denies sharing injecting equipment	54.0%	10.6%
Severe problem	client may admit to regular "unsafe" sexual encounters, or has recently been injecting and sharing injecting equipment	8.0%	1.8%

<b>Psychological</b>	e.g.	Intake	Follow-up
No problem	client appears well adjusted and relatively satisfied with the way their life is going	1.8%	46.9%
Moderate problem	client may have low self-esteem, general anxiety, poor sleep, may be unhappy or dissatisfied with their lot	61.1%	47.8%
Severe problem	client has a neurotic disorder e.g., panic attacks, phobias, OCD, bulimia, recently attempted or seriously considered suicide, self-harm, overdose or may be clinically depressed. Or client may have psychotic disorders, paranoia (e.g., everybody is plotting against them), deluded beliefs or hallucinations (e.g. hearing voices)	37.2%	5.3%

<b>Occupation</b>	e.g.	Intake	Follow-up
No problem	client is in full time occupation e.g., homemaker, parent, employed, or student	19.5%	47.8%
Moderate problem	client has some part time parenting, occupation or voluntary work	34.5%	34.5%
Severe problem	client is largely unoccupied with any socially acceptable pastime	46.0%	17.7%

<b>Criminal involvement</b>	e.g.	Intake	Follow-up
No problem	no criminal involvement (apart from possible possession of illicit drugs for personal use)	61.9%	96.5%
Moderate problem	client suspected of irregular criminal involvement, perhaps petty fraud, petty theft, drunk driving, small scale dealing	33.6%	3.5%
Severe problem	suspected of regular criminal involvement, or breaking and entering, car theft, robbery, violence, assault	4.4%	0.0%

<b>Drug / alcohol use</b>	e.g.	Intake	Follow-up
No problem	no recent drug / alcohol use	1.8%	62.8%
Moderate problem	client suspected of periodic drug / alcohol use, or else may be socially using drugs that are not considered a problem, or may be on prescribed drugs but not supplementing from other sources	5.3%	20.4%
Severe problem	client suspected of bingeing or regular drug / alcohol use	92.9%	16.8%

<b>Ongoing support</b>	e.g.	Intake	Follow-up
No problem	regular attendance of AA / NA, drug free drop in centre, day centre, counselling, or treatment aftercare	4.4%	49.6%
Moderate problem	patchy attendance i.e., less than once a week contact with at least one of the above	31.0%	28.3%
Severe problem	client not known to be using any type of structured support	64.6%	22.1%

<b>Compliance</b>	e.g.	Intake	Follow-up
No problem	attends all appointments and meetings on time, follows suggestions, or complies with treatment requirements	56.6%	69.9%
Moderate problem	not very reliable, or may have been reported as having an "attitude" problem or other difficulty with staff	38.1%	29.2%
Severe problem	chaotic, may have left treatment against staff advice or been ejected for non-compliance e.g. drug use, attitude problem	5.3%	0.9%

<b>Working Relationship</b>	e.g.	Intake	Follow-up
No problem	relatively easy going e.g., interviews easily, not time consuming or stressful to work with	33.6%	77.9%
Moderate problem	moderately challenging e.g., a bit demanding or time consuming, but not excessively so	60.2%	21.2%
Severe problem	quite challenging e.g., very demanding, hard work, time consuming, emotionally draining or stressful to see	6.2%	0.9%

## Conclusions

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- The following success rates are conservatively based by including all 156 patients on the assumption that the 43 patients not followed-up (response rate = 72.4%) showed no improvement or otherwise had poor outcomes.
  - Being totally abstinent from all drugs or alcohol at follow-up  
46%
  - Achieving low problem severity at follow-up (CISS < 6, see appendix)  
52%
  - Showing any reduction in measured levels of dysfunction  
69%

In reality the success rates are most likely to be higher because some of the missing patients would not have been contactable due to having recovered and being in full time occupation.

- The following success rates are thus more liberally based by including the 4 patients that died but not including the other 39 patients that could not be contacted for follow-up ( $n = 117$ ).
  - Being totally abstinent from all drugs or alcohol at follow-up  
61%
  - Achieving low problem severity at follow-up (CISS < 6, see appendix)  
69%
  - Showing any reduction in measured levels of dysfunction  
89%

## Discussion

Castle Craig Hospital provides a service to people with a range of addiction severity. Those in this group are significantly drug or alcohol dependent people and often have the additional complications of varying degrees of co-morbidity, lack of support, poor health, and psychological problems. However, good outcomes are achieved, despite overall high levels of associated problems at intake. Their patients are generally more dependent and less functioning than those attending outpatient drug or alcohol services and it is unlikely that many of them would have been able to engage with an outpatient treatment intervention. Although the goal of Castle Craig's treatment is abstinence, it should be noted that those who fail to achieve that goal still report reduced levels of problem severity at follow-up. Thus, even the treatment 'failures' appeared to have benefited from their experience in treatment, possibly by gaining a period of respite during which to recover from the consequences of their excessive drinking or drug use.

Castle Craig Hospital continues to demonstrate their ability to produce high quality research within the limitations of a busy service setting. The notion of evidence led practice is frequently discussed, but it could be argued that experienced practitioners already make best use of their resources. Thus, the purpose of such research could only be to illustrate that the experts know what they are doing (e.g., practice led evidence). This view may well be partially justified, as many of the findings in this study are obvious to those who are familiar with the field. However, some findings here are obvious only with the benefit of hindsight and others may yet inform better practice and commissioning.

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# Appendix, CISS comparison scores

## Comparisons for interpreting CISS total score (sum of item scores)

**Abstinence based treatment outcomes:** Six-month outcomes for 90 treated drug users from abstinence based treatment centres

In the month before follow-up:	Good outcome: 48 were abstinent Poor outcome: 42 had used drugs	and average CISS score was 2.9 (sd = 1.9) and average CISS score was 10.6 (sd = 4.3)
Over entire six month period:	Good outcome: 33 remained abstinent* Good outcome: 22 had a lapse* Poor outcome: 35 had a relapse*	and average CISS score was 2.9 (sd = 2.0) and average CISS score was 4.5 (sd = 2.9) and average CISS score was 11.2 (sd = 4.5)

\* Lapse status was assessed using an eight-level scaling of lapse / relapse outcomes (as defined by Walton et al., 1994). Drug use over the entire six-month follow-up period was assessed using the principle of Timeline Follow Back (Sobell et al., 1988), as adapted for drug use by Walton et al. (1994).

N.B. a CISS cut-off score of 6 or less can be used to indicate "good outcome" for abstinence based treatment. This correctly identified 88% of outcomes where drug use was assessed only in month before follow-up, and 84% of outcomes where drug use was assessed over the entire six-month follow-up period.

### **Harm minimisation prescribing based service score distribution:**

Average CISS score among 243 clients at a London community drug service = 9.1 (sd = 3.4)  
16%obtained CISS scores in range 0 to 5 = low problem severity  
67%obtained CISS scores in range 6 to 12 = average problem severity  
17%obtained CISS scores in range 13 to 20= high problem severity

### **Outpatient alcohol service score distribution:**

Average CISS score among 102 clients at a London community alcohol service = 8.1 (sd = 3.4)  
15%obtained CISS scores in range 0 to 4 = low problem severity  
70%obtained CISS scores in range 5 to 11 = average problem severity  
15%obtained CISS scores in range 12 to 20= high problem severity

Alcohol users generally score one CISS point less than drug users. Alcohol users are less likely to score on problems of social functioning, HIV risk behaviour and criminal involvement, but they are more likely to score on psychological problems.

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