
Outcomes for Dutch patients at Castle Craig Hospital



the 2003 evaluation for all Dutch patients admitted between 30.10.1998 to 21.7.2003

Independent analysis of outcome data
Christo Research Systems

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Castle Craig Hospital

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Summary of findings

- 34 drug and 33 alcohol dependent patients from the Netherlands entered Castle Craig Hospital between 30th October 1998 to 21st July 2003 and stayed in treatment for more than 3 days.
- Their average length of stay in primary treatment was 5 weeks. 48% then went on to extended care where their average length of stay was 10 weeks.
- 46 of 67 patients were followed-up on average about 39 weeks later. 94% improved, 4% remained the same, and 2% got worse.
- These patients were generally quite dysfunctional at intake. The average intake CISS total score of the 46 patients was 11.5 and their greatest problems were with lack of support, drug or alcohol use, psychological problems and lack of occupation.
- Drug dependent patients tended to have greater problems with social functioning, viral risk, and criminality. They were also significantly more likely to go into extended care.
- Patients were generally more dysfunctional than those attending outpatient alcohol or drug services (based on the CISS comparison scores see Appendix).
- The average follow-up CISS score was 2.7, thus indicating highly significant improvement.
- Higher CISS scores at intake did not predict poorer treatment outcome. This indicates that patients can benefit from this treatment intervention regardless of their initial levels of dysfunction.
- 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 for all Dutch patients are conservatively based on the assumption that the 21 patients not followed-up all showed no improvement or otherwise had poor outcomes.
 - Being totally abstinent from all drugs or alcohol at follow-up
51%
 - Achieving low problem severity at follow-up (CISS < 6, see appendix)
61%
 - Showing any reduction in measured levels of dysfunction
64%

Treatment Overview

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) problems that may need to be addressed in their individual care plans.

The primary stage of treatment is quite intensive and is of about six weeks' duration. Counselling staff employ a full range of psychotherapeutic approaches depending upon their training and interests (e.g. Rational Emotive Behavioural Therapy, Cognitive Behavioural Therapy, Reality Therapy, and many others).

Individuals with poor support networks or social functioning may then go on to a less intensive secondary stage of rehabilitation usually at Castle Craig's Extended Care Unit. As well as using the same elements found in primary treatment, extended care also assists patients to re-integrate with society by focusing on practical issues of occupation, housing, financial, legal and family problems.

Castle Craig Hospital can offer aftercare group therapy held in four locations in Scotland and two 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 repetitive 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 maladaptive 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

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 39 weeks later. A table of entry and exit dates for all Dutch patients was extracted from the hospital database and delivered to Christo Research Systems for analysis along with relevant CISS forms.

Sample

- The sample comprised of all patients from the Netherlands who entered treatment between 30th October 1998 to 21st July 2003 and stayed in treatment for more than 3 days. Sixty-seven patients met these criteria, attempts were made to follow up all of them and 46 patients were successfully contacted in order to obtain the detailed information presented below. This evaluation thus concentrates on outcomes for the 46 patients (40 males, 6 females) who were followed-up.

Findings regarding all 67 patients

Statistical information

- **n** indicates the number of data points incorporated in each variable description, some assessments were incomplete.
- **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**, χ^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.

Treatment course

All 67 patients entered treatment via the primary care programme. Thirty two patients with poor support networks or social functioning then went on to a less intensive secondary stage of rehabilitation at Castle Craig's Extended Care Unit.

Table 1 The course of patients through treatment

	No. entered treatment	% dropout form primary	% entering extended care	No. entered extended care	% dropout from extended
Males	51	17.6%	50.1%	26	19.2%
Females	16	50%	37.5%	6	16.6%
Drug dependent	34	17.6%	70.6%	24	25.0%
Alcohol dependent	33	33.3%	24.2%	8	0%
All patients	67	25.4%	47.8%	32	18.8%

Table 1 indicates that of the 67 patients entering treatment, 25.4% failed to complete primary treatment and 47.8% completed primary and went on to extended care. The remaining 26.8% completed primary and no further treatment was necessary. Of the 32 patients entering extended care, only 18.8% failed to complete extended care, however a further 34.4% were still in extended care at the time of follow-up so their eventual discharge status remains unknown at this point. The highlighted sections of table 1 indicate that females were significantly less likely to complete primary care ($\chi^2 [1] = 6.7, p = .009$), and drug dependent patients were significantly more likely to go into extended care ($\chi^2 [1] = 14.4, p < .001$). No other statistically significant differences were found in the above table and the majority of non-completing females were not among the more recent patients.

Treatment duration

The average length of stay in primary treatment was 5 weeks. 48% of patients then went on to extended care where their average length of stay was 10 weeks.

Table 2 treatment duration by discharge status

	Average total treatment duration (days)	No. of patients	Average primary treatment duration (days)	No. of patients entering extended care	Average extended care treatment duration (days)
Completers	81.9	39	41.7	15	85.3
Still in extended	103.1	11	44.2	11	58.9
Premature leavers	15.0	17	15.0	6	48.3
All patients	68.4	67	35.3	32	69.3

Table 2 indicates the average number of days in treatment for patients who completed treatment, for those still in extended care at the time of follow-up, and for those who left treatment prematurely. None of the 17 patients who decided to leave primary treatment prematurely went on to extended care, and they left on average about a third of the way through their primary treatment.

Follow-ups

Attempts were made between 14.7.03 and 6.9.03 to contact all 67 Dutch patients. Those who could be contacted were interviewed using the CISS outcome measure. Follow-ups were successfully completed on 46 of the 67 patients (68.7%).

Table 3 Factors associated with successful follow-up contacts

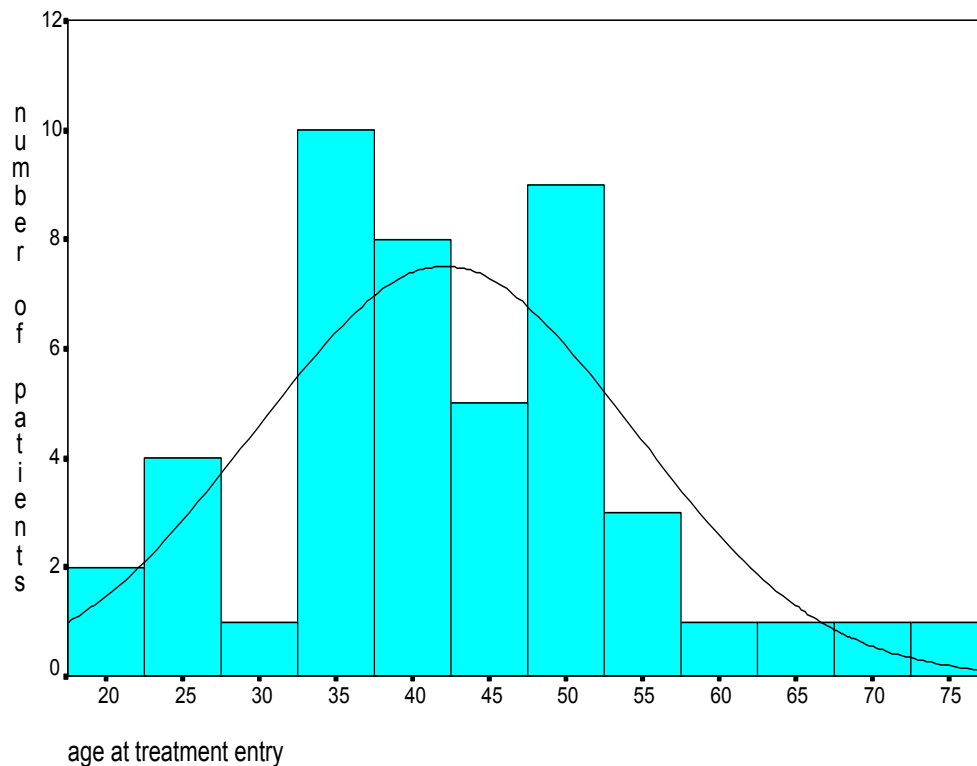
	All patients	Males	Females	Drug dependent	Alcohol dependent	Completed primary treatment	Entered extended care	Average total treatment duration (days)
% followed-up	68.7	78.4	37.5	73.5	63.6	74.0	75.0	73.2 days
% lost	31.3	21.6	62.5	26.5	36.4	26.0	25.0	58.0 days
Total number	67	51	16	34	33	50	32	

Table 3 lists details of available baseline information in order to explore if clients lost to follow-up were in any way different from those that were successfully followed-up. The highlighted sections of table 3 indicate that females were significantly less likely to be followed-up than males ($\chi^2 [1] = 9.5, p = .002$). No other statistically significant differences were found in the above table.

Findings regarding 46 patients followed-up

The following details were not available for the 21 patients (11 males and 10 females) lost to follow-up, so this section reports only on the sample of 46 patients (40 males and 6 females) that were successfully followed-up.

Figure 1 Age



The patients' average age was 42.1 years ($n = 46$, $sd = 12.2$, $range = 18 - 75$), there was no difference in the average age of males and females.

However the drug dependent patients' mean age of 35.1 ($n = 25$, $sd = 8.6$) was significantly lower than the alcohol dependent patients' mean age of 50.5 ($n = 21$, $sd = 10.4$), ($t [44] = 5.5$, $p < .001$). This difference is illustrated in the bimodal distribution evident in figure 1 above and this is as would be expected from a mixed sample of drug and alcohol dependent patients.

Patients' problems at intake

The average intake CISS total score of the 46 patients was 11.5 ($sd = 3.4$, range 3 - 17) and there was no significant difference between males' and females' total scores. 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).

For 25 drug dependent patients:

- 0% of patients had low problem severity (CISS score 0 to 5)
- 48.0% of patients had average problem severity (CISS score 6 to 12)
- 52.0% of patients had high problem severity (CISS score 13 to 20)

For 21 alcohol dependent patients:

- 9.5% of patients had low problem severity (CISS score 0 to 4)
- 47.6% of patients had average problem severity (CISS score 5 to 11)
- 42.9% of patients had high problem severity (CISS score 12 to 20)

The drug dependent patients' mean CISS score of 12.4 ($n = 25$, $sd = 3.0$) was significantly higher than the alcohol dependent patients' mean score of 10.3 ($n = 21$, $sd = 3.7$), ($t [44] = 2.2$, $p = .03$). This difference is explored in figure 2 below and is as would be expected from a mixed sample of drug and alcohol dependent patients.

Figure 2 Baseline CISS item scores by drug type

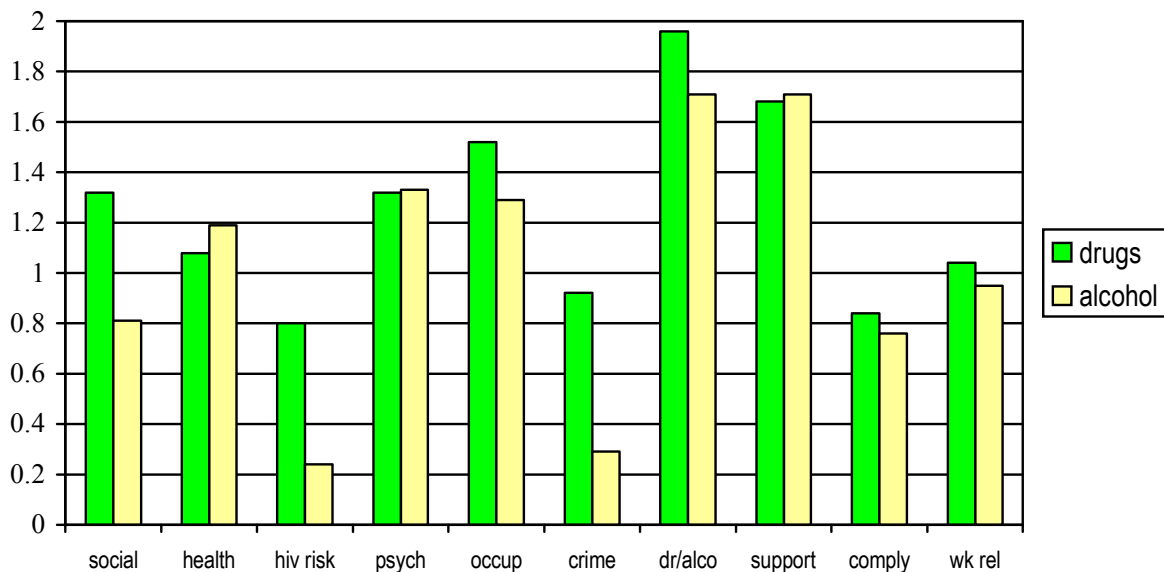


Figure 2 compares the average CISS item scores (0 to 2 scale) as assessed at intake between the 25 drug and the 21 alcohol dependent patients. The taller the bars in the figure, the greater the average degree of problem within the relevant CISS domain. Alcohol dependent patients tended to have.....

- Fewer social functioning problems ($U = 164.5$, $p = .02$)
- Fewer viral risk problems ($U = 139.0$, $p = .002$)
- Fewer criminality problems ($U = 133.5$, $p = .002$).

Follow-up periods

Figure 3 follow-up periods

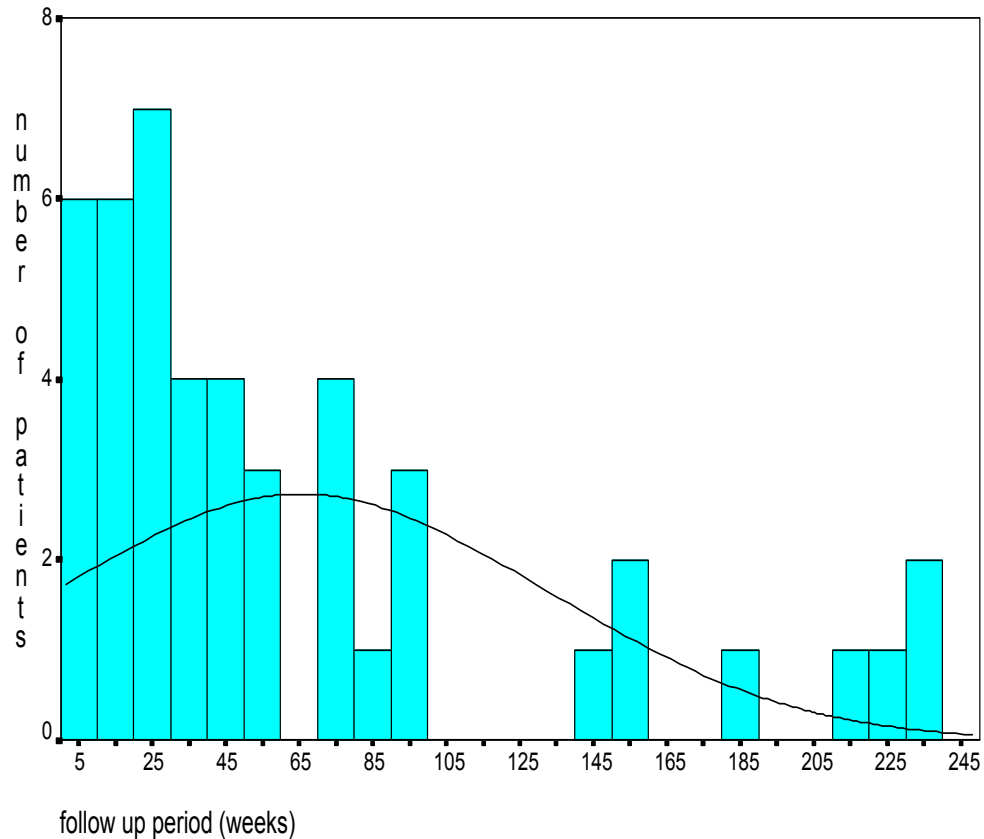


Figure 3 indicates the number of patients falling within each follow-up period. The majority of patients were followed-up after less than 105 weeks and the distribution is skewed to the shorter follow-up periods on the left.

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

- Intake interviews took place between 30.10.98 to 21.7.03
- Follow-up interviews took place between 14.7.03 and 6.9.03
- The average follow-up period was 65.5 weeks ($n = 46$, $sd = 67.1$, $range = 6.7 - 239.7$).
- However, since the follow-up periods did not follow a 'normal' distribution, the median value of 38.9 weeks is a more representative average follow-up period.

Changes in patient dysfunction at follow-up

Figure 4 reductions of patient dysfunction

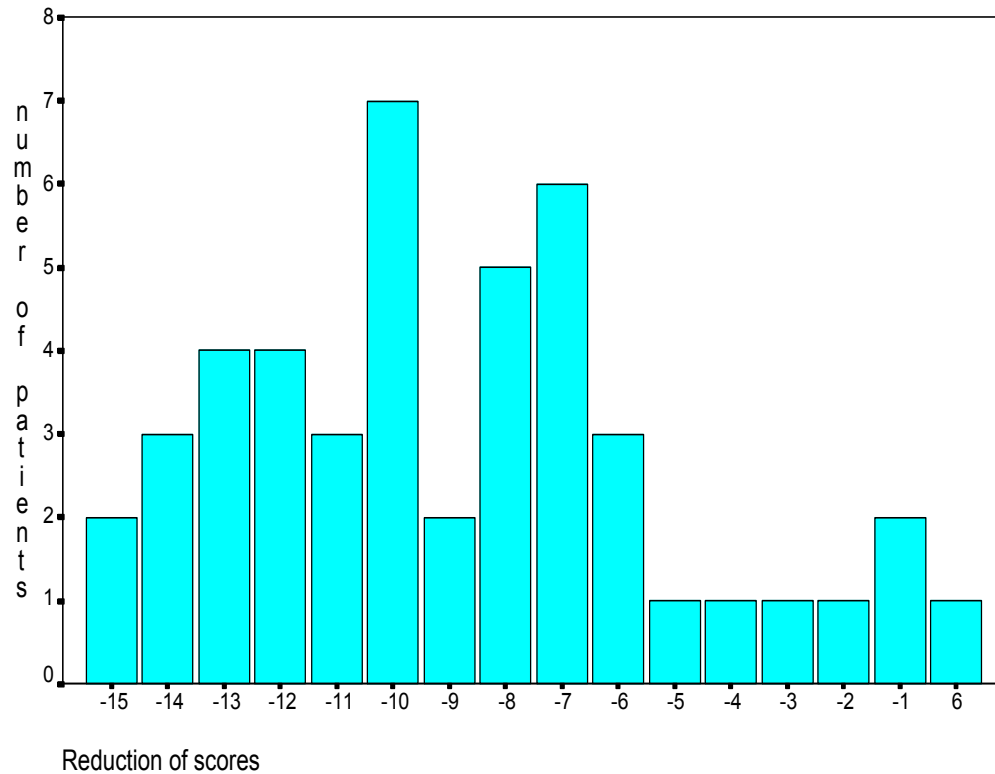


Figure 4 illustrates the reductions in CISS total scores achieved by the 46 patients who were followed-up. The inter-rater reliability of the CISS (Christo et al., 2000) would indicate that a score fluctuation of plus or minus one point is attributable to variations of CISS interpretation between raters. As such, only changes of 2 or more points are recognised as 'genuine' and on that basis:

- 94% of patients improved
- 4% of patients remained the same
- 2% of 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 5 the process of change

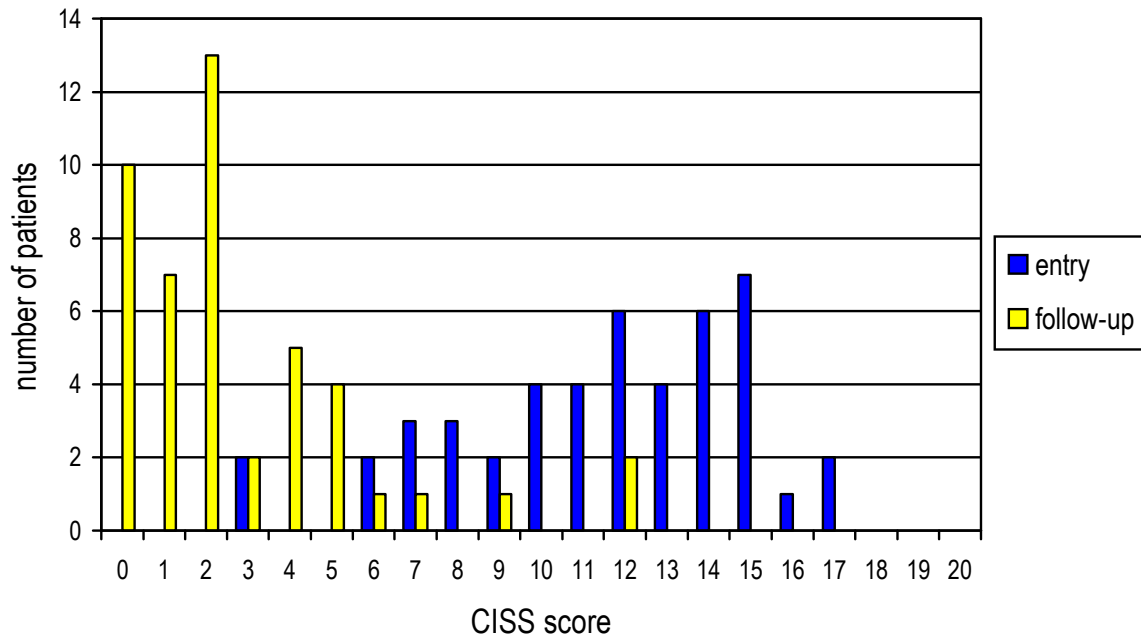


Figure 5 displays how CISS total scores are distributed among the 46 patients. Dark bars indicate the score distributions at intake and the light bars indicate score distributions at follow-up.

The average intake CISS total score of the 46 patients was 11.5 (*sd* = 3.5, *range* 3 - 17)

The average follow-up CISS total score of the 46 patients was 2.7 (*sd* = 2.9, *range* 0 - 12)

A paired sample t-test indicates this reduction to be highly significant ($t [45] = 14.1, p < .001$)

The correlation between intake and follow-up scores is not significant ($r [45] = .13, p = .4$). This indicates that all patients can potentially achieve abstinence after this treatment intervention, regardless of their initial levels of dysfunction.

Figure 6 Changes in individual CISS item scores

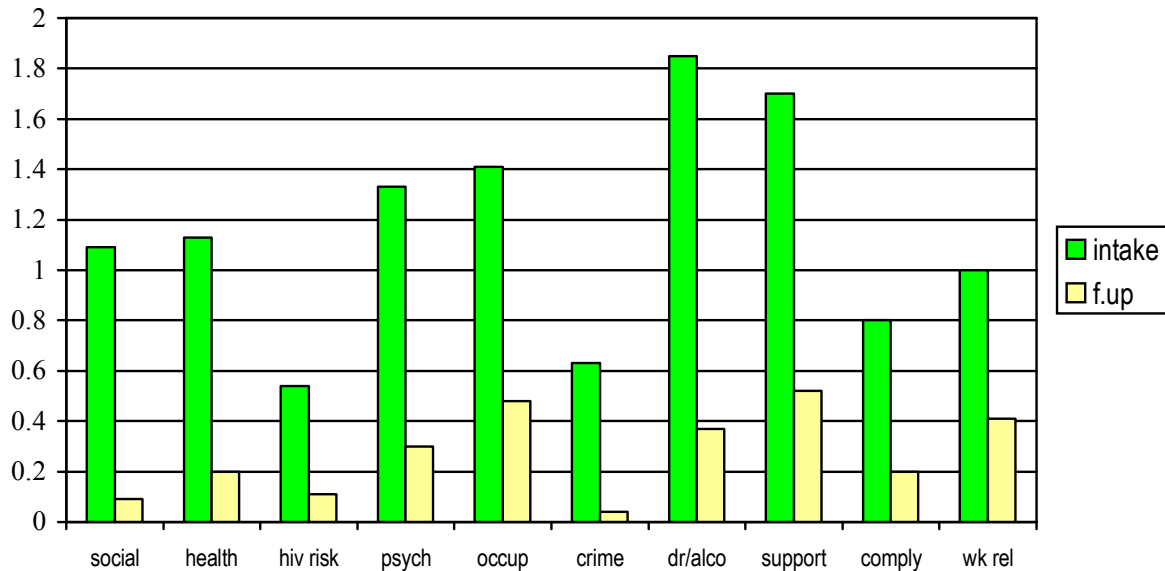


Figure 6 compares the average CISS item scores (0 to 2 scale) as assessed at intake and then again at follow-up. The taller the bars in the figure, the greater the average degree of problem within the relevant CISS domain. As can also be seen in figure 2, the greatest problems at intake were with lack of support, drug or alcohol use, psychological problems and lack of occupation.

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 (tables 4 to 14) 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 patients rated as having none, moderate or severe problems within each CISS domain at intake and then again at follow-up.

Social functioning	e.g.	Intake	Follow-up
No problem	client has a stable place to live and supportive friends or relatives who are drug / alcohol free	21.7%	91.3%
Moderate problem	client's living situation may not be stable, or they may associate with drug users / heavy drinkers	47.8%	8.7%
Severe problem	living situation not stable, and they either claim to have no friends or their friends are drug users / heavy drinkers	30.4%	0%

General health	e.g.	Intake	Follow-up
No problem	client has reported no significant health problems	15.2%	82.6%
Moderate problem	teeth/sleep problems, occasional stomach pain, collapsed vein, asymptomatic hep B / C / HIV	56.5%	15.2%
Severe problem	extreme weight loss, jaundice, abscesses / infections, coughing up blood, fever, overdoses, blackouts, seizures, significant memory loss, neurological damage, HIV symptoms	28.3%	2.2%

Sexual or injecting risk behaviour	e.g.	Intake	Follow-up
No problem	client claims not to inject, or have unsafe sex (except in monogamous relationship with longstanding partner, spouse)	52.2%	89.1%
Moderate problem	may admit to occasional "unsafe" sexual encounters, or suspected to be injecting but denies sharing injecting equipment	41.3%	10.9%
Severe problem	client may admit to regular "unsafe" sexual encounters, or has recently been injecting and sharing injecting equipment	6.5%	0%

Psychological	e.g.	Intake	Follow-up
No problem	client appears well adjusted and relatively satisfied with the way their life is going	4.3%	71.7%
Moderate problem	client may have low self-esteem, general anxiety, poor sleep, may be unhappy or dissatisfied with their lot	58.7%	26.1%
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)	37.0%	2.2%

Occupation	e.g.	Intake	Follow-up
No problem	client is in full time occupation e.g., homemaker, parent, employed, or student	13.0%	67.4%
Moderate problem	client has some part time parenting, occupation or voluntary work	32.6%	17.4%
Severe problem	client is largely unoccupied with any socially acceptable pastime	54.3%	15.2%

Criminal involvement	e.g.	Intake	Follow-up
No problem	no criminal involvement (apart from possible possession of illicit drugs for personal use)	47.8%	95.7%
Moderate problem	client suspected of irregular criminal involvement, perhaps petty fraud, petty theft, drunk driving, small scale dealing	41.3%	4.3%
Severe problem	suspected of regular criminal involvement, or breaking and entering, car theft, robbery, violence, assault	10.9%	0%

Drug / alcohol use	e.g.	Intake	Follow-up
No problem	no recent drug / alcohol use	4.3%	73.9%
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	6.5%	15.2%
Severe problem	client suspected of bingeing or regular drug / alcohol use	89.1%	10.9%

Ongoing support	e.g.	Intake	Follow-up
No problem	regular attendance of AA / NA, drug free drop in centre, day centre, counselling, or treatment aftercare	2.2%	63.0%
Moderate problem	patchy attendance i.e., less than once a week contact with at least one of the above	26.1%	21.7%
Severe problem	client not known to be using any type of structured support	71.7%	15.2%

Compliance	e.g.	Intake	Follow-up
No problem	attends all appointments and meetings on time, follows suggestions, or complies with treatment requirements	39.1%	80.4%
Moderate problem	not very reliable, or may have been reported as having an "attitude" problem or other difficulty with staff	41.3%	19.6%
Severe problem	chaotic, may have left treatment against staff advice or been ejected for non-compliance e.g. drug use, attitude problem	19.6%	0%

Working Relationship	e.g.	Intake	Follow-up
No problem	relatively easy going e.g., interviews easily, not time consuming or stressful to work with	30.4%	63.0%
Moderate problem	moderately challenging e.g., a bit demanding or time consuming, but not excessively so	39.1%	32.6%
Severe problem	quite challenging e.g., very demanding, hard work, time consuming, emotionally draining or stressful to see	30.4%	4.3%

Conclusions

'Success' rates among all 67 Dutch patients

The following rates are conservatively based on the assumption that the 21 patients not followed-up all showed no improvement or otherwise had poor outcomes.

- Being totally abstinent from all drugs or alcohol at follow-up
51%
- Achieving low problem severity at follow-up (CISS < 6, see appendix)
61%
- Showing any reduction in measured levels of dysfunction
64%

Discussion

Castle Craig Hospital appears to be providing a service for very dysfunctional drug or alcohol dependent people with complications from lack of support, psychological problems and lack of occupation. However, good outcomes are achieved despite these high levels of dysfunction at intake. Their patients are generally more dysfunctional 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 dysfunction 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 has demonstrated how easy it is 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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