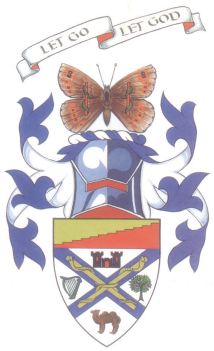
Outcomes for alcohol dependent patients at Castle Craig Hospital



the 2002 evaluation for patients of Fife Health Board admitted between 12.12.1999 to 12.3.2002

Independent analysis of outcome data
Christo Research Systems

7th July 2002

Castle Craig Hospital
Medical director: Dr Margaret McCann MB, Bch, BAO.
Treatment director: Dr. Alasdair Young, MB, ChB (Glas.), MRCPsych
Address: Blyth Bridge, West Linton, Peeblesshire, Scotland EH46 7DH.
Tel: 01721 722763
E-mail: enquiries@castlecraig.co.uk

Christo Research Systems
Director: Dr George Christo DipHE, BSc, PhD, PsychD.
Address: 27 Purley Avenue, London NW2 1SH.
Tel: 020 8452 3012
E-mail: DrGeorgeChristo@breathemail.net
Website: http://users.breathemail.net/drgeorgechristo/

Summary of findings

- 60 alcohol dependent patients from the Fife area entered Castle Craig Hospital between 12th December 1999 to 12th March 2002 and stayed in treatment for more than 3 days.

- 49 of these were followed-up on average about 1.3 years later. 90% improved, 6% remained the same, and 4% got worse.

- Their average length of stay in primary treatment was 5.3 weeks. 20% then went on to extended care were their average length of stay was 10.4 weeks.

- These patients were generally quite dysfunctional at intake. The average intake CISS total score of the 49 patients was 11 and their greatest problems were with alcohol use, lack of support, poor health, psychological problems and lack of occupation.

- Few patients had problems with criminal involvement and sexual risk behaviour.

- Females were more likely than males to have psychological problems and males were more likely than females to be unoccupied and criminally involved. There were no other significant differences between average CISS item scores of males and females.

- Patients were generally more dysfunctional than those attending an outpatient alcohol service (based on the CISS comparison scores for drinkers, average = 8 see Appendix).

- The average follow-up CISS score was 4, 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 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.

- The following 'success' rates for all patients from Fife are conservatively based on the assumption that the 11 patients not followed-up all showed no improvement or otherwise had poor outcomes.
    - Being totally abstinent from all drugs or alcohol at follow-up 45%
    - Achieving low problem severity at follow-up (CISS < 6, see appendix) 55%
    - Showing any reduction in measured levels of dysfunction 73%

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), 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 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 also offers aftercare group therapy held at four locations including Fife across Scotland. 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

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, *in press*). 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 1.3 years later. A table of CISS scores and interview dates was extracted from the hospital database and delivered to Christo Research Systems for analysis.

Sample

The sample comprised of all drinkers from the Fife area who entered treatment between 12th December 1999 to 12th March 2002 and stayed in treatment for more than 3 days. Sixty patients met these criteria, attempts were made to follow up all of them and 49 patents were successfully contacted in order to obtain the detailed information presented below. This evaluation thus concentrates on outcomes for the 49 patients (26 males, 23 females) who were followed-up. The 11 missing cases were accounted for as follows:

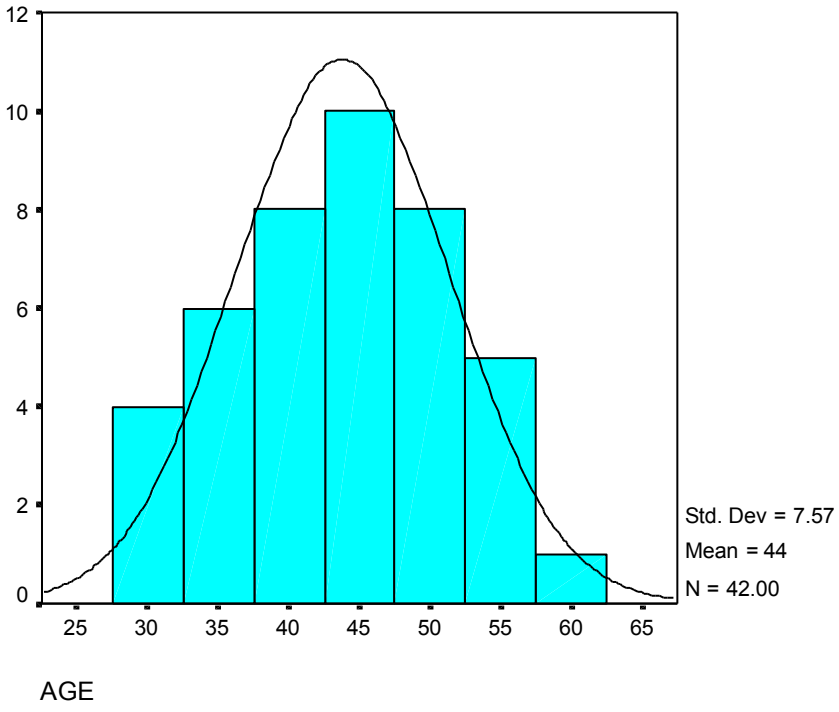
- 6 with no form of contact
- 2 homeless and no form of contact
- 3 deceased (2 of which died abstinent)

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*** and ***U*** are statistical tests to show if two averages are significantly different from each other.
- ***p*** indicates the level of significance of a statistical test, the smaller the better.

Treatment duration The average length of stay in primary treatment was 5.3 weeks. 20% of patients then went on to extended care were their average length of stay was 10.4 weeks.

Figure 1, Age



The patients' average age was 43.8 years (*n* = 42, *sd* = 7.6, *range* = 30 - 59), there was no difference in the average age of males and females.

Patient's problems at intake

The average intake CISS total score of the 49 patients was 11.3 (*sd* = 2.9, *range* 4 - 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 attending an outpatient alcohol service (based on the CISS comparison scores for drinkers, see Appendix).

- 2% of patients had low problem severity (CISS score 0 to 4)
- 51% of patients had average problem severity (CISS score 5 to 11)
- 47% of patients had high problem severity (CISS score 12 to 20)

Figure 2, Baseline CISS item score distribution for females and males

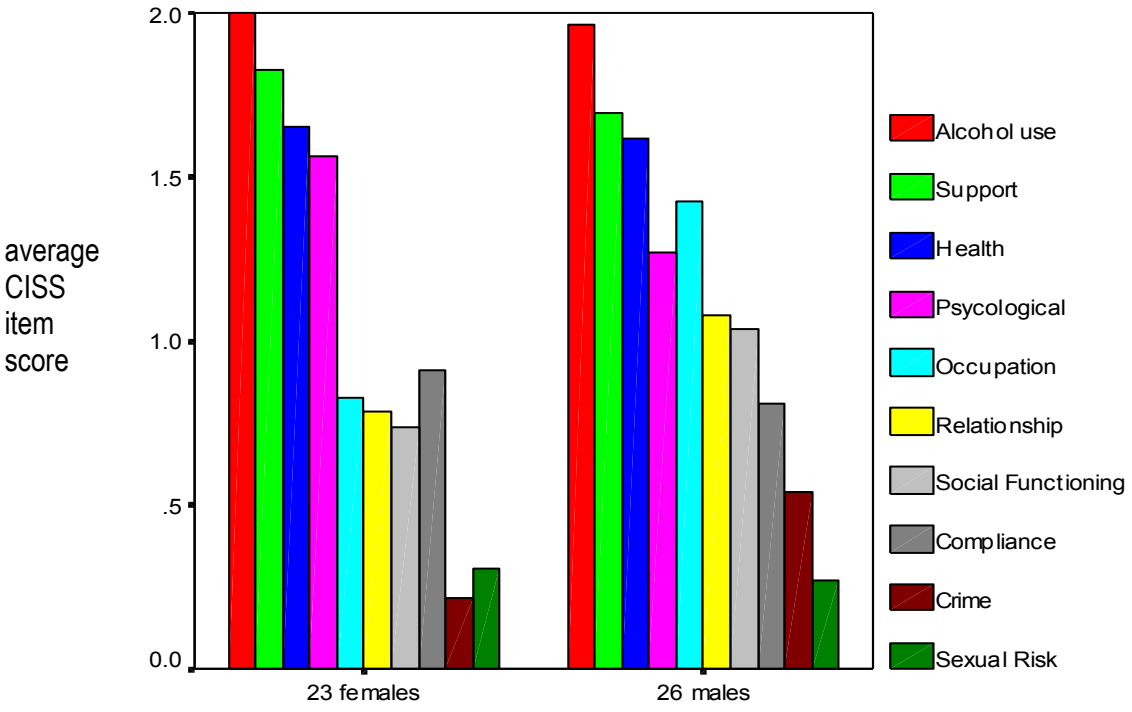
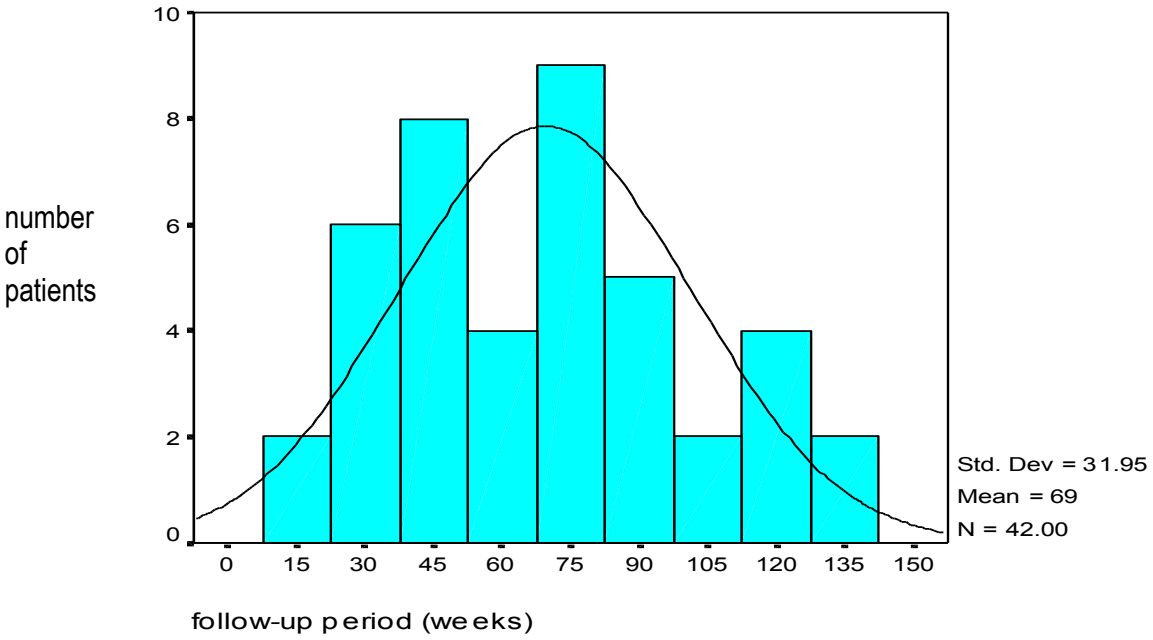


Figure 2 displays the average CISS item (0 to 2 scale) scores for females and males. Items are listed in order of decreasing size and indicate that patients' greatest problems at intake were with alcohol use, lack of support, poor health, and psychological problems. Few patients had problems with criminal involvement and sexual risk behaviour. Among the individual CISS items, females scored significantly higher than males on psychological problems (*U* [49] = 207, *p* = .03). Males scored significantly higher than females on problems of occupation (*U* [49] = 195, *p* = .02) and criminal involvement (*U* [49] = 212, *p* = .04). So females were more likely than males to have psychological problems and males were more likely than females to be unoccupied and criminally involved. There were no other significant differences between average CISS item scores of males and females.

Figure 3, follow-up periods



Standard follow-up times were hard to implement but the spread of follow-up periods is acceptable for an evaluation of this type.

- Intake interviews took place between 12.12.1999 and 12.3.2002
- Follow-up interviews took place between 28.5.2002 and 21.6.2002
- The average follow-up period was 69.4 weeks (*n* = 42, *sd* = 31.9, *range* = 13 - 129).

Figure 4, reductions of patient dysfunction

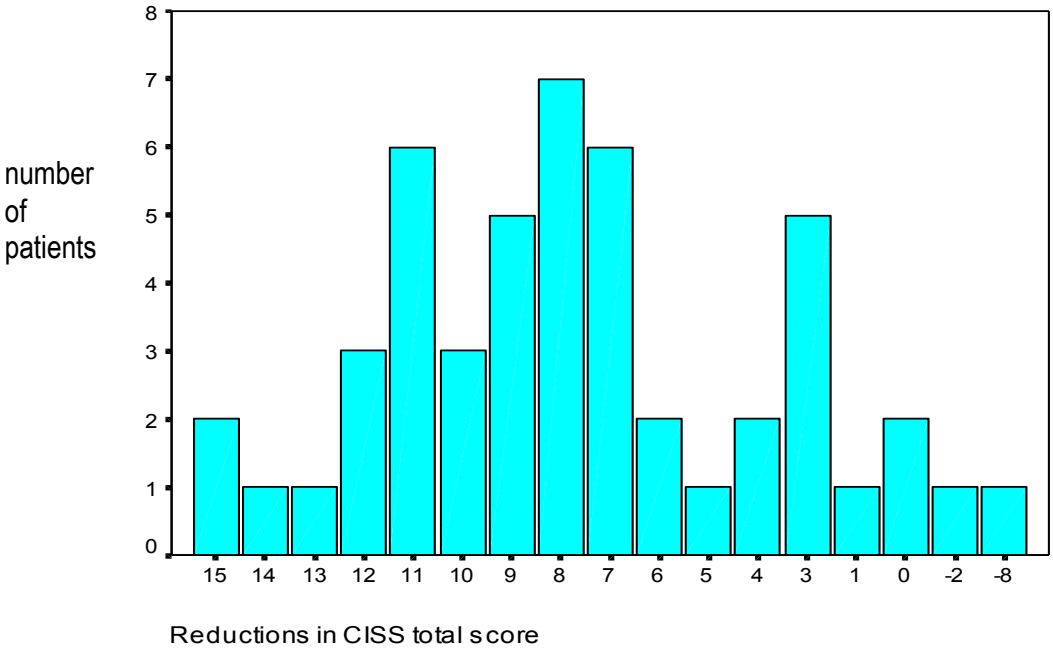


Figure 4 illustrates the reductions in CISS total scores achieved by the 49 patients who were followed-up. The inter-rater reliability of the CISS (Christo et al., 2000) would indicate that a score fluctuation of plus or minus one point is attributable to variations of CISS interpretation between raters. As such, only changes of 2 or more points are recognised as 'genuine' and on that basis:

- 90% of patients improved
- 6% of patients remained the same
- 4% of patients got worse

Sixteen 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

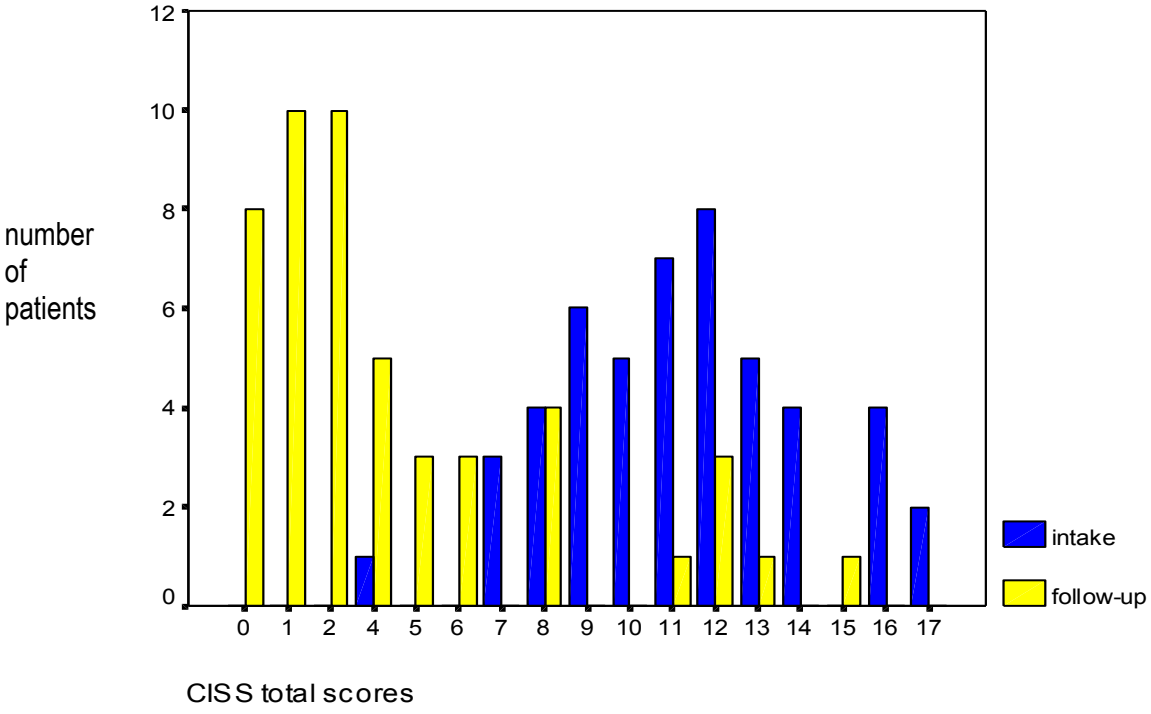


Figure 5 displays how CISS total scores are distributed among the 49 patients. Dark bars indicate the score distributions at intake and the light bars indicate score distributions at follow-up.

The average intake CISS total score of the 49 patients was 11.3 (*sd* = 2.9, *range* 4 - 17)
The average follow-up CISS total score of the 49 patients was 3.9 (*sd* = 4.0, *range* 0 - 15)
A paired sample t-test indicates this reduction to be highly significant (t [48] = 11.5, $p < .001$)

The correlation between intake and follow-up scores is not significant (r [48] = .18, p = .2). 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

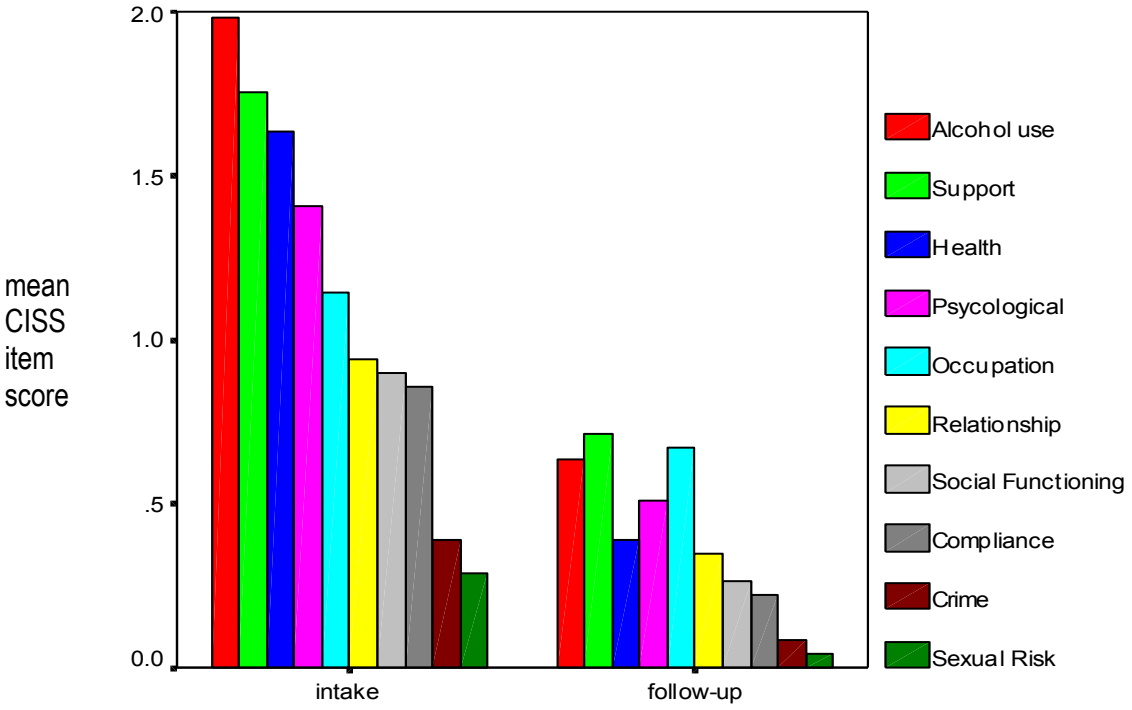


Figure 6 illustrates the average CISS item scores for the 49 clients interviewed at intake and follow-up. Like figure 2, It indicates baseline problems listed in order of degree of severity and it has already been established that the greatest problems at intake were with alcohol use, lack of support, poor health, and psychological 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 alcohol use were generally accompanied by improvements in all other aspects of the patients' life.

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 1 to 10) to give an idea of the actual type of dysfunction an item score of 0, 1, or 2 might indicate within each domain. However, some of the drug related examples (e.g. injecting) are unlikely to apply to this population of drinkers. 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	22.4%	79.6%
Moderate problem	client's living situation may not be stable, or they may associate with drug users / heavy drinkers	65.3%	14.3%
Severe problem	living situation not stable, and they either claim to have no friends or their friends are drug users / heavy drinkers	12.2%	6.1%

General health	e.g.	Intake	Follow-up
No problem	client has reported no significant health problems	4.1%	69.4%
Moderate problem	teeth/sleep problems, occasional stomach pain, collapsed vein, asymptomatic hep B / C / HIV	28.6%	22.4%
Severe problem	extreme weight loss, jaundice, abscesses / infections, coughing up blood, fever, overdoses, blackouts, seizures, significant memory loss, neurological damage, HIV symptoms	67.3%	8.2%

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)	73.5%	95.9%
Moderate problem	may admit to occasional "unsafe" sexual encounters, or suspected to be injecting but denies sharing injecting equipment	24.5%	4.1%
Severe problem	client may admit to regular "unsafe" sexual encounters, or has recently been injecting and sharing injecting equipment	2%	0.0%

Psychological	e.g.	Intake	Follow-up
No problem	client appears well adjusted and relatively satisfied with the way their life is going	2.0%	61.2%
Moderate problem	client may have low self-esteem, general anxiety, poor sleep, may be unhappy or dissatisfied with their lot	55.1%	26.5%
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)	42.9%	12.2%

Occupation	e.g.	Intake	Follow-up
No problem	client is in full time occupation e.g., homemaker, parent, employed, or student	36.7%	59.2%
Moderate problem	client has some part time parenting, occupation or voluntary work	12.2%	14.3%
Severe problem	client is largely unoccupied with any socially acceptable pastime	51.0%	26.5%

Criminal involvement	e.g.	Intake	Follow-up
No problem	no criminal involvement (apart from possible possession of illicit drugs for personal use)	63.3%	93.9%
Moderate problem	client suspected of irregular criminal involvement, perhaps petty fraud, petty theft, drunk driving, small scale dealing	34.7%	4.1%
Severe problem	suspected of regular criminal involvement, or breaking and entering, car theft, robbery, violence, assault	2.0%	2.0%

Drug / alcohol use	e.g.	Intake	Follow-up
No problem	no recent drug / alcohol use	0.0%	55.1%
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	2.0%	26.5%
Severe problem	client suspected of bingeing or regular drug / alcohol use	98%	18.4%

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	2.0%	46.9%
Moderate problem	patchy attendance i.e., less than once a week contact with at least one of the above	20.4%	34.7%
Severe problem	client not known to be using any type of structured support	77.6%	18.4%

Compliance	e.g.	Intake	Follow-up
No problem	attends all appointments and meetings on time, follows suggestions, or complies with treatment requirements	40.8%	81.6%
Moderate problem	not very reliable, or may have been reported as having an "attitude" problem or other difficulty with staff	32.7%	14.3%
Severe problem	chaotic, may have left treatment against staff advice or been ejected for non-compliance e.g. drug use, attitude problem	26.5%	4.1%

Working Relationship	e.g.	Intake	Follow-up
No problem	relatively easy going e.g., interviews easily, not time consuming or stressful to work with	26.5%	67.3%
Moderate problem	moderately challenging e.g., a bit demanding or time consuming, but not excessively so	53.1%	30.6%
Severe problem	quite challenging e.g., very demanding, hard work, time consuming, emotionally draining or stressful to see	20.4%	2.0%

Conclusions

'Success' rates among all 60 patients from Fife

The following rates are conservatively based on the assumption that the 11 patients not followed-up all showed no improvement or otherwise had poor outcomes.

- **Being totally abstinent from all drugs or alcohol at follow-up 45%**
- **Achieving low problem severity at follow-up (CISS < 6, see appendix) 55%**
- **Showing any reduction in measured levels of dysfunction 73%**

Discussion

Castle Craig Hospital appears to be providing a service for very dysfunctional alcohol dependent people with complications from poor health and psychological problems. However, good outcomes are achieved despite these high levels of dysfunction at intake. Their patients are generally more dysfunctional than those attending outpatient 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, probably by gaining a period of respite during which to recover from the consequences of their excessive drinking.

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