Measuring Treatment Outcomes with Drug Misuse Clients

The British Psychological Society
Division of Clinical Psychology
and
The Centre for Outcomes, Research and Effectiveness (CORE)

Measuring Outcomes in Routine Clinical Practice: Paper 2

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Introduction

The British Psychological Society's (BPS) Centre for Outcomes Research and Effectiveness (CORE) is publishing a series of papers on the use of outcome measures in routine clinical practice. The first paper in the series (Sperlinger, 2002) outlined the context in which outcome measurement in the NHS needs to be considered and identified some general issues that should inform good practice in this area. Further papers in the series will concentrate on looking at measures in relation to specific areas of clinical practice.

Scope and background of the current project

This project aimed to evaluate - and offer advice - on the use of outcome measures in relation to clients with problems of drug misuse being seen in the UK. By 'outcome measures' we mean 'the assessment during or after having received services, of behaviour, states or adjustment, which are significantly related to the reasons for the person having sought care' (Sperlinger, 2002) - thus, the ability to measure changes over time is a central element of such measures. We have not looked at measures specific to people with alcohol problems; this is a major area in itself which has a large literature devoted to it (see, for example, the recent review by Rotgers, 2002) and we intend this to be a topic for a future paper in this series. This advice is particularly aimed at clinicians who are not working as part of a specialist service and who may not be familiar with the measures that are available in this area, but who may be providing psychosocial services to someone who has a drug misuse problem. It is hoped, however, that it may also be useful to clinicians working in specialist drug misuse services who wish to update their knowledge about outcome measures. The aim is to provide practical advice for clinicians. We have not attempted to comprehensively review all measures that have been used with this client group, many of which may only have been used in a research setting. We have, therefore, concentrated on measures that are currently in use or are easily accessible to clinicians working in drug misuse services in the UK. It is also not the intention that the project indicates measures that are approved or not approved by the BPS or CORE. The importance of using outcome measures with this client group has recently been highlighted by the Audit Commission (Audit Commission, 2002, p.78), which emphasised the need to develop a national data set of measures which assess the achievement of individual outcomes in drug treatment services.

There have been a few other papers that have examined areas that overlap to some degree with work reported in this paper (see, particularly, Carey, Purnine, Maisto & Carey, 1999; Carroll & Rounsaville, 2002; Cisler & Berger, 2001; Graham, 1994; Kokkevi, 2001; Smith, 1996). However, none of these covers exactly the same area as the present project, with its focus on offering practical advice for clinicians providing psychosocial services in the NHS. The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) provides an Evaluation Instruments Bank that is searchable on the internet: http://eibdata.emcdda.org/databases_eib.shtml
Method

In order to identify outcome measures currently being used in drug misuse services, particularly in the UK, a literature search was undertaken in February 2002 and discussions held with practitioners working in the field who were linked to the BPS Faculty of Addiction. In order to make the project manageable it was decided to focus on published measures that were specifically aimed at a range of clients with drug misuse problems.

Measures that are appropriate for a number of drugs (or where there are different versions available for different drugs) were included, but measures relating only to a single drug (such as the Severity of Opiate Dependence Questionnaire (Phillips et al., 1987) or the Drug Impairment Rating Scale for Cocaine (Halikas & Crosby, 1991)) have been excluded from the evaluation. We have also not included more general measures (e.g., of depression) that might be used with clients with drug misuse problems.

Information about the measures evaluated can be found in Appendix One. This includes: where information about the measure can be obtained; a short description of what it is designed to measure; and information on administration. The following measures were evaluated for the project:

A. Multiple domain measures

Each of these measures covers a range of domains, such as drug use, social functioning, health, health risks, psychological/psychiatric functioning, etc.
1. The Opiate Treatment Index (OTI)
2. The Maudsley Addiction Profile (MAP)
3. The Addiction Severity Index (European adaptation) (ASI)
4. Global Appraisal of Individual Needs (GAIN)

B. Brief service outcome measure

This brief measure covers a range of domains resulting in a single score giving a general index of client problems, which may be useful in service evaluations rather than as a measure for looking at changes over time in individual clients.
1. The Christo Inventory for Substance-misuse Services (CISS)

C. Measures of dependence

These scales aim to measure dependence upon a range of drugs.
1. The Leeds Dependence Questionnaire (LDQ)
2. The Severity of Dependence Scale (SDS)

D. Measures of specific constructs

Each of these measures examines one specific construct relevant to drug misuse.
1. Craving Questionnaires (various versions available for different drugs)
2. Readiness to Change Questionnaire (RTC)
3. Injecting Risk Questionnaire (IRQ)
4. Stages of Change Readiness and Treatment Eagerness (SOCRATES)
5. The Drug-Taking Confidence Questionnaire (DTCQ)
6. The Timeline Followback interview (TLFB)
7. The Inventory of Drug-Taking Situations (IDTS)
8. The Inventory of Drug Use Consequences (InDUC)

Criteria were developed against which the measures could be assessed. These criteria drew on other studies that have looked at the evaluation of outcome measures in various areas of mental health (e.g., Andrews, Peters & Teesson, 1994; Fitzpatrick, Davey, Buxton & Jones, 1998; Slade, Thornicroft & Glover, 1999; Newman, Ciarlo & Carpenter, 1999). The 16 criteria were grouped into five main areas:
1. Training/costs (two criteria) – amount of training required and cost of using the measure in practice.
2. Administration (six criteria) – ease of administration and scoring; acceptability of use for staff and for users; ease of interpreting scores; length of time required to complete.
3. UK relevance (two criteria) – availability of UK norms/benchmarking data and technical support available in UK.
4. Psychometric properties (four criteria) – evidence of validity and of reliability; sensitivity for measuring change; and the general methodological quality of the original study developing the measure.
5. Content of measure (two criteria) – relevance to psychological work with people with drug abuse and the direct applicability of the domains to clinical settings.
The 16 criteria were all rated on three-point scales, except for that relating to UK support (which was rated simply as available or not available). An evaluation form was developed for the project and two of the authors (PD and SW) independently rated the 15 measures on the 16 criteria using this form¹. Following this the ratings were discussed and, where possible, agreement was reached on a common rating; if it was not possible to reach agreement the two raters’ scores were averaged for the final rating. The scores from the ratings for each of the five sections were totalled up and were then transformed into a star rating system (from 0 to 3), in order to make the findings more accessible. Thus a minimum score in any section was rated as no stars and a maximum score was given three stars.

¹ Copies of the rating form can be obtained from the first author
Table One summarises the final overall ratings. The shaded measures in the Table received good ratings across all the five areas that were rated. It needs to be remembered that a diverse group of constructs were being evaluated in the fourth section (on measures of specific constructs) and so it is not appropriate to compare the measures against each other. However, for clinicians who are interested in measuring a particular construct, the ratings in the Table provide a guide to possible areas of strength and weakness. Several of the measures (e.g. SOCRATES, DTCQ and the Craving Questionnaires) were generally rated quite highly but were limited in the support that was available to users in the UK and/or the availability of UK norms or benchmarking data. Nevertheless, for many users of these tests in clinical practice these may still be tests that are clinically relevant and many of them are strong in terms of their psychometric properties and the relevance of their content to this area of clinical practice. It is also likely that some of the measures that have come out relatively poorly on the ratings may, nevertheless, be of value to particular services because the content is especially relevant in that service context.

**Table One**

OVERALL RATINGS FOR THE MEASURES

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>Training/costs</th>
<th>Administration</th>
<th>UK relevance</th>
<th>Psychometric properties</th>
<th>Content of measure</th>
<th>Total score (%)&lt;sup&gt;1&lt;/sup&gt;</th>
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<td><strong>A. Multiple domain measures</strong></td>
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<td><strong>C. Measures of dependence</strong></td>
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<td>SDS</td>
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<td><strong>D. Measures of specific constructs</strong></td>
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<td>CRAVING Q.S.</td>
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<td>SOC RATES</td>
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<td>InDUC</td>
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**KEY**

No stars – indicated by blank space (Minimum/very low rating)  
*** (Maximum rating)

<sup>1</sup> Based on a maximum Total Score of 4
Conclusions

In treatment settings the process of outcome measurement is inseparable from the process of assessment. Assessment and outcome measurement in addictions is governed by three main factors: (1) theories or models of addiction; (2) goals of treatment; and (3) aims of service provision. Assessment of clients with drug misuse problems is a complicated process that requires recognition of the multidimensional nature of the problems that may be involved (e.g. physical health, social problems, psychological difficulties, etc.). No single measure will be able to cover all the problems presented by all individuals presenting to services. However, the multiple domain measures described above provide a good starting point for assessment of treatment needs and for the evaluation of outcome. In addition, some of the other measures will be useful when trying to assess specific areas of difficulty for particular clients.

It is recognised that the process followed in this evaluation has some limitations. We have not, for example, been able to include clients’ views on the various measures, although there is evidence from other areas that clinicians and clients may have rather different evaluations of particular measures (see, e.g., Blount, Evans, Birch, Warren & Norton, 2002; and Stedman, Yellowlees, Mellsop, Clarke & Drake, 1997). There is currently very little research into clients’ views of drug misuse measures. The review we have undertaken does not claim to be comprehensive and we have given priority to evaluating measures that are practical to use and accessible, although these may not always be measures which have been developed to the stage of meeting the highest standards of scientific rigour. Some measures which may have been widely used for evaluating treatment outcome in research studies may be of less relevance in a busy clinical setting. We are also aware that the evaluations we have made could rapidly become outdated with the development of new measures and it is planned that this exercise should be repeated in a few years time.

Despite these limitations it is hoped that this guidance will contribute to a climate that encourages clinicians to formally evaluate the outcome of their work with clients with drug misuse problems. It is clear that a wide range of measures are now available and this project indicates some of their strengths and weaknesses that may be useful to consider when deciding on a particular measure to use.

Acknowledgements

The authors are very grateful to Dr Gerald Bennett, Dr Marilyn Christie, Dr Jim Orford and Professor Richard Velleman for their helpful comments on earlier versions of this paper.
Appendix

The information below was obtained from published sources about the measures, such as articles describing the development of the measures, relevant websites or information generally available from publishers of the measures (where relevant).

Description of measures evaluated

1. **Opiate Treatment Index (OTI)**
   **Description of measure**
   Interview-based multidimensional measure with six scales covering: drug use; HIV risk-taking behaviour; social functioning; criminality; health; and psychological adjustment.
   Completion time: approximately 30 minutes.

   **Original developers/obtaining the measure**
   Details of the scale and its development can be found in Darke, Hall, Wodak, Heather & Ward (1992). Originally developed for opiate users, a modified version has been shown to be useful for amphetamine users (Barrowcliff, Champney-Smith & McBride, 1999). No cost to use the measure in NHS clinical practice.

2. **The Maudsley Addiction Profile (MAP)**
   **Description of measure**
   A brief interview-based instrument developed in the UK. Contains 60 items covering the following domains: substance use; health risk; physical/psychological health; and personal/social functioning.
   Completion time: approximately 12 minutes.

   **Original developers/obtaining the measure**
   Details of the scale and its development can be found in Marsden et al. (1998). A copy of the measure and a User Manual can be downloaded from:
   No cost to use the measure in NHS clinical practice.

3. **Addiction Severity Index (European adaptation) (ASI)**
   **Description of measure**
   Semi-structured interview that gives a multidimensional profile of the substance dependent individual and the severity of the addiction. Covers six main areas: medical; employment/support; alcohol/drug; legal; family/social; psychiatric. Each dimension includes lifetime and past 30 day measures. Includes clinical and patient-reported ratings of problem severity. Requires training to administer.
   Completion time: approximately 45 minutes.

   **Original developers/obtaining the measure**
   The ASI was originally developed by McLellan, Luborsky, O’Brien & Woody (1980). The development of the European ASI was reported by Kokkevi & Hartgers (1995). Further information can be found at the following website: http://www.stir.ac.uk/Departments/HumanSciences/AppSocSci/DRUGS/notes.htm

4. **Global Appraisal of Individual Needs (GAIN)**
   **Description of measure**
   The GAIN can be administered by staff or by proctored self-administration (i.e. with staff present). It is divided into eight areas: background and treatment arrangements; substance use; physical health; risk behaviours; mental health; environment; legal; and vocational. More detailed information is collected if a problem is reported as occurring in the past year or the past 90 days.
   Completion time: varies from 20 to 90 minutes depending on population, mode and level of severity.

   **Original developers/obtaining the measure**
   An overview of the GAIN can be found in Dennis (2000). Copies of the instruments and general terms of the license agreement for using the GAIN can be found at: http://www.chestnut.org/li/gain.
   Copies of the instrument for clinical use can be downloaded at no cost.

5. **Christo Inventory for Substance-misuse Services (CISS)**
   **Description of measure**
   A single page outcome tool completed by staff either from direct client interviews or from personal experience of the client supplemented by existing assessment notes. Consists of 10 items (on a 0-20 unidimensional scale) covering: social functioning general health; sexual/injecting risk behaviour; psychological functioning; occupation; criminal involvement; drug/alcohol use; ongoing support; compliance; and working relationships. It can be completed without the client being present.
Appendix (cont.)

Completion time: approximately three minutes (once all the relevant information for the 10 items has been collected).

Original developers/obtaining the measure
Details of the scale and its development can be found in Christo, Spurrell & Alcorn (2000) and further information is available at: http://users.breathemail.net/drgeorgechristo. No cost to use the measure in NHS clinical practice.

6. Leeds Dependence Questionnaire (LDQ)
Description of measure
A 10 item, self-completion questionnaire designed to measure various aspects of dependence (e.g. pre-occupation; planning; compulsion to continue; cognitive set) on a variety of psychoactive substances, over the last week. All items are scored 0–3. Completion time: approximately 5 minutes.

Original developers/obtaining the measure
Details of the scale and its development can be found in Raistrick et al. (1994) and norms are presented based on a large sample of UK clinic attendees in Heather, Raistrick, Tober, Godfrey & Parrott (2001). No cost to use the measure in NHS clinical practice.

7. Severity of Dependence Scale (SDS)
Description of measure
The SDS is a short scale designed to measure the degree of dependence experienced by users of different types of drugs. It contains five items (each scored on a four-point scale), all of which are explicitly concerned with psychological components of dependence. These items are concerned with the individual’s feelings of impaired control over their own drug taking and with their preoccupation and anxieties about drug use. Completion time: approximately 1 minute.

Original developers/obtaining the measure
Details of the scale and its development can be found in Gossop et al. (1995). No cost to use the measure in NHS clinical practice.

8. The Craving Questionnaires
Description of measure
These are 45-item self-report questionnaires, available in two versions, one relating to current craving and the other to average craving over the preceding week. Adaptations are currently available for alcohol, cocaine and heroin. Completion time: approximately 10 minutes.

Original developers/obtaining the measure
Details of the Cocaine Craving Questionnaire can be found in Tiffany, Singleton, Haertzen & Henningfield (1993) and a review of other measures (with the relevant references) can be found in Tiffany, Carter & Singleton (2000). No cost to use the measure in NHS clinical practice.

9. Readiness to Change Questionnaire (RTQ) (Treatment Version)
Description of measure
A 15-item questionnaire that measures readiness to change substance misuse (based on the stages of change model) and assigns people to Precontemplation, Contemplation or Action stages of change. Likely to be a clinically useful instrument at entry to treatment. Completion time: approximately 2 minutes. Although originally developed for excessive drinkers, it has been used for a range of substance misuse problems.

Original developers/obtaining the measure
The original version was developed by Rollnick, Heather, Gold & Hall (1992) and was intended for excessive drinkers who were not seeking treatment. The treatment version, following further development work, was described by Heather, Luce, Peck, Dunbar & James (1999). No cost to use the measure in NHS clinical practice.

10. Injecting Risk Questionnaire
Description of measure
An 18-item questionnaire to measure different aspects of injecting equipment sharing (both direct sharing of needles and syringes and the sharing of ancillary equipment) and the number of people with whom these have been done. Self-report and interview versions available. Completion time: approximately 5 minutes.
Original developers/obtaining the measure
Details of the scale and its development can be found in Stimson, Jones, Chalmers & Sullivan (1998). Printed copies can be obtained from: IRQ Questionnaire, Centre for Research on Drugs and Health Behaviour, Imperial College School of Medicine, Reynolds Building, St. Dunstan's Road, London W 6 8RP.
No cost to use the measure in NHS clinical practice.

11. Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES)
Description of measure
A 19-item self-report instrument designed to assess motivation for change (a longer 39-item form of the instrument is also available). It was originally developed for problem drinkers but has been adapted for use with other kinds of substance misuse. It has three sub-scales: Recognition; Ambivalence; and Taking Steps.
Completion time: approximately 6 minutes.

Original developers/obtaining the measure
Details of the scale and its development can be found in Miller & Tonigan (1996). The form can be downloaded from: http://casaa.unm.edu/inst/inst.html.
No cost to use the measure in NHS clinical practice.

Original developers/obtaining the measure
Details of the scale and its development can be found in Sklar, Annis & Turner (1997) and a User’s Guide is also available (Annis, Turner & Sklar, 1997a). Further information can be found on the Centre for Addiction and Mental Health website: http://www.camh.net/resources/index.html

12. Drug-Taking Confidence Questionnaire (DTCQ)
Description of measure
The DTCQ is a 50-item self-report questionnaire developed to assess situation-specific coping self-efficacy for use of a particular substance of abuse (e.g. cocaine, alcohol, heroin, etc.). It has eight subscales: unpleasant emotions; physical discomfort; pleasant emotions; testing personal control; urges / temptations to use; conflicts with others; social pressure to use; and pleasant times with others. Clients report (on a six point scale) how confident they are that they could resist the urge to use a particular drug in different situations.
Completion time: approximately 15 minutes.

Original developers/obtaining the measure
Details of the scale and its development can be found in Annis & Martin (1985) and Turner, Annis, & Sklar (1997). A User’s Guide is also available (Annis, Turner & Sklar, 1997). Further information and details of the User’s Guide and training can be found on the Centre for Addiction and Mental Health website: http://www.camh.net/resources/index.html
15. The Inventory of Drug Use Consequences (InDUC)

Description of measure
InDUC is a 50-item self-report inventory of adverse consequences related to drug abuse. It is parallel in form to its parent instrument - the Drinker Inventory of Consequences (DrinC) devised by Miller, Tonigan & Longabaugh (1995). It has 5 subscales that focus on consequences (in the last 3 months) related to: impulse control; social responsibility; and physical, interpersonal and intrapersonal domains. It has a parallel form for completion by a significant other person.
Completion time: approximately 5 minutes.

Original developers/obtaining the measure
Details of the scale and its development can be found in Tonigan & Miller (2002). The form can be downloaded from: http://casaa.unm.edu/inst/inst.html.
No cost to use the measure in NHS clinical practice.
References


In M. Maruish (Ed.), The use of psychological testing for treatment planning and outcomes assessment (2nd ed.). Mahwah: Lawrence Erlbaum Associates.


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- maintain a Code of Conduct for the guidance of Members;
- compel the observation of strict rules of professional conduct;
- maintain a Register of Chartered Psychologists.

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- confers Fellowships for distinguished achievements;
- confers Chartered Status for professionally qualified psychologists;
- awards grants to support research and scholarship;
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- publishes books, CD-ROMS, videos and other educational resources;
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- publishes newsletters for its constituent groups;
- maintains a website (www.bps.org.uk);
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- provides an information service for the news media and the public;
- has an Ethics Committee;
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- maintains a Register of more than 10,800 Chartered Psychologists;
- prepares policy statements on matters of social policy;
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- services – the Society now has offices in Scotland, Wales, Northern Ireland and England;
- public understanding of psychology - addressed by regular media activity and outreach events;
- influence on public policy – a full-time Parliamentary Officer was appointed in 2002;
- membership activities – to fully utilise the strengths and diversity of the Society membership.