NHS

National Treatment Agency
for Substance Misuse

Review of the effectiveness of treatment for alcohol problems

Duncan Raistrick, Nick Heather and Christine Godfrey

About the authors

Duncan Raistrick

Leeds Addiction Unit, 19 Springfield Mount, Leeds, LS2 9NG

Duncan Raistrick qualified in medicine from the University of Leeds in 1971 and trained in general practice in Nottingham, specialising in neurology in Leeds and Liverpool, and in psychiatry at the Maudsley Hospital, London. He gained membership of the Royal College of Psychiatrists in 1977 and received an MSc from the University of London in 1978. He became a fellow of the Royal College of Psychiatrists in 1999 and was the medical adviser on alcohol to the chief medical officer and a member of the Health Advisory Service for HM Prison Service. He was a member of the working group on the Department of Health publication, Drug Misuse and Dependence – Guidelines on Clinical Management. Duncan is currently a member of the NTA Research Advisory Group and co-director of the RESULT Information Management System, and has published research papers and books including Tackling Alcohol Together. His research interests are the nature of dependence, outcome measures and therapist characteristics. He is an associate medical director of the Leeds Mental Health Trust.

Nick Heather

School of Psychology and Sport Sciences, Northumbria University, Newcastle upon Tyne, NE1 8ST

After ten years as a clinical psychologist in the NHS, in 1979 Nick Heather developed and led the Addictive Behaviours Research Group at the University of Dundee. In 1987, he was the founding director of the National Drug and Alcohol Research Centre at the University of New South Wales, Australia. He returned to the UK at the beginning of 1994 to take up the post of consultant clinical psychologist at the Newcastle City Health NHS Trust and as director of the Centre for Alcohol and Drug Studies in Newcastle. Nick has recently retired from salaried work and is now emeritus professor of alcohol and other drug studies in the Division of Psychology at Northumbria University. He has published numerous scientific articles, books, book chapters and other publications, mostly in the area of addictions, with an emphasis on the treatment of alcohol problems.

Christine Godfrey

Department of Health Sciences, Seebohm Rowntree Building, Alcuin College, University of York, York YO10 5DD

Christine Godfrey is a professor of health economics at the Department of Health Sciences and the Centre for Health Economics at the University of York. She has been involved in research into the economics of addiction since 1984. She is currently a member of the Expert Committee on Drug Dependence, the World Health Organization, a non-executive board member of the Health Development Agency and a member of the Scientific Committee on Tobacco and Health at the Department of Health. She is one of the principal investigators of UKATT and is currently undertaking a range of cost-effectiveness analyses on smoking, drinking and illicit drug interventions.

The National Treatment Agency for Substance Misuse

The National Treatment Agency for Substance Misuse (NTA) is a special health authority within the NHS, established by Government in 2001, to improve the availability, capacity and effectiveness of treatment for drug misuse in England.

Treatment can reduce the harm caused by drug misuse to individuals' well-being, to public health and to community safety. The Home Office estimates that there are approximately 250,000–300,000 problematic drug misusers in England who require treatment.

The overall purpose of the NTA is to:

- Double the number of people in effective, well-managed treatment between 1998 and 2008
- Increase the percentage of those successfully completing or appropriately continuing treatment year-on-year.

In addition to its remit on drug treatment, the NTA is also commissioned to undertake specific work on alcohol treatment, including the development of Models of Care for Alcohol Misusers (DH, 2006) and commissioning the Review of the Effectiveness of Treatment for Alcohol Problems (NTA, 2006).

Reader information

Document purpose	To provide accessible information on the effectiveness of alcohol treatment
Title	Review of the Effectiveness of Treatment for Alcohol Problems
Lead authors	Duncan Raistrick, Nick Heather and Christine Godfrey
Publication date	November 2006
Target audience	Commissioners, managers and providers of alcohol treatment services
Circulation list	See above
Description	A critical appraisal of the international evidence of the effectiveness of treatments and interventions for alcohol problems
Cross reference	Models of Care for Alcohol Misusers (MoCAM) (DH, 2006) Alcohol Misuse Interventions: Guidance on Developing a Local Programme of Improvement (DH, 2005) Alcohol Needs Assessment Research Project (ANARP) (DH, 2005)
Contact details	8th floor, Hercules House, Hercules Road, London SE1 7DU. Tel: 020 7261 8573. Fax: 020 7261 8883 Email: nta.enquiries@nta-nhs.org.uk Website: www.nta.nhs.uk
Gateway/ROCR approval	The NTA is a self-regulating agency in relation to Department of Health Gateway

Foreword

This timely, authoritative and comprehensive review of what research tells us about alcohol treatment is very welcome. Alcohol misuse represents a significant burden to the NHS and wider society.

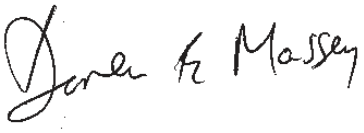
Both The Alcohol Harm Reduction Strategy for England (2004) and the Choosing Health White Paper (2005) identified a need for better identification and treatment of alcohol problems. The evidence base reviewed here informed the publication of Models of Care for Alcohol Misusers (2006), which provides clear guidance on the development of local systems to identify and intervene with alcohol misuse problems. This review offers practitioners, as well as commissioners and managers of services, the information they need to ensure that what they provide reflects the best available evidence.

This review covers the published international research literature on alcohol interventions and treatment. In describing the effectiveness of the various interventions and treatments available it will enable local services and partnerships to assess current provision and plan future developments to meet the needs of their populations.

Our relationship with alcohol as a society is complex. A source of pleasure and enjoyment for many it is also implicated in many of the most challenging problems we encounter. This review addresses the techniques for intervening early to identify excessive and risky alcohol use as well as the approaches for dealing with developed problems.

UK and international research informs us that alcohol treatment can be an effective and cost effective response to alcohol problems. While there is compelling evidence for investment in alcohol treatment, this review makes clear that it will be essential to invest wisely in interventions of proven effectiveness.

In order to prevent harm associated with alcohol misuse and to treat people with alcohol problems effectively, local partnerships will need to commission and deliver effective, integrated solutions. I believe this publication is a key reference tool to facilitate the development of effective local alcohol treatment systems that can contribute to reduced alcohol-related harm in our communities. I congratulate the authors on their achievement and have no hesitation in commending this review to service providers, commissioners and anyone else with an interest in alcohol treatment.



Baroness Massey of Darwen

Chair, National Treatment Agency for Substance Misuse

The steering group

Annette Dale-Perera, director of quality, National Treatment Agency

Dr Emily Finch, clinical team psychiatrist, National Treatment Agency

Tim Murray, policy officer, National Treatment Agency

Professor Colin Drummond, professor of addiction psychiatry, St George's, University of London

Dr William Shanahan, lead clinician, Central and North West London Mental Health NHS Trust Substance Misuse and Prison Services

Richard Phillips, acting chief executive, Alcohol Concern

Professor IT Gilmore MD PRCP, president, Royal College of Physicians

Dr Duncan Raistrick, associate medical director, Leeds Mental Health Trust

Professor Nick Heather, emeritus professor of alcohol and other drug studies, Northumbria University

Dr Linda Harris MRCGP, clinical director, Wakefield Integrated Substance Misuse Services and RCGP Substance Misuse Unit

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Ten key themes

- ✓ Drinking takes place within a social context, which has a powerful influence on the amount and the patterns of drinking in the community. The effectiveness of prevention and control measures will modulate the total number of problem drinkers
- ✓ The majority of people, including dependent drinkers, move into and out of different patterns of drinking without recourse to professional treatment. Unassisted or natural recovery is often mediated through self-help, family and friends, and mutual aid groups
- ✓ Help-seeking is typically a consequence of experiencing prolonged alcohol-related problems and stress, notably related to health, relationships and finances, after attempts at unassisted behaviour change have failed
- ✓ Treatment effectiveness may be as much about how treatment is delivered as it is about what is delivered. With regard to the "what", the research evidence indicates that cognitive behavioural approaches to specialist treatment offer the best chances of success
- ✓ There is a choice of effective treatments to suit the variety of potential service users:
  - 7.1 million hazardous or harmful drinkers may benefit from brief interventions given by generic workers in almost any setting
  - 1.1 million dependent drinkers may benefit from more intensive treatment given by specialist workers
- ✓ Psychiatric co-morbidity is common among problem drinkers – up to ten per cent for severe mental illnesses, up to 50 per cent for personality disorders and up to 80 per cent for neurotic disorders. It is likely to make treatment more challenging and of longer duration
- ✓ Treatment for alcohol problems is cost-effective. Alcohol misuse has a high impact on health and social care systems, where major savings can be made. Drinking also places costs on the criminal justice system, especially with regard to public order. Overall, for every £1 spent on treatment, £5 is saved elsewhere
- ✓ Interventions of all kinds are only effective if delivered in accordance with their current descriptions of best practice and carried out by a competent practitioner. Assumptions drawn from the evidence are predicated on the availability of trained practitioners
- ✓ Stepped care is a rational approach to developing an integrated service model that makes best use of a finite resource. Stepped care can also be applied within an agency. The only proviso is that the steps, which may involve a change of practitioner, are natural steps for service users
- ✓ The evidence base for the effectiveness of alcohol problems interventions is strong. The UK contribution is considerable and merits further financial support to research programmes.

ICD-10 substance misuse codes

F10.-	Mental and behavioural disorders due to use of alcohol
F11.-	Mental and behavioural disorders due to use of opioids
F12.-	Mental and behavioural disorders due to use of cannabinoids
F13.-	Mental and behavioural disorders due to use of sedatives or hypnotics
F14.-	Mental and behavioural disorders due to use of cocaine
F15.-	Mental and behavioural disorders due to use of other stimulants, including caffeine
F16.-	Mental and behavioural disorders due to use of hallucinogens
F17.-	Mental and behavioural disorders due to use of tobacco
F18.-	Mental and behavioural disorders due to use of volatile solvents
F19.-	Mental and behavioural disorders due to multiple drug use and use of other psychoactive substances
F1x .0	Acute intoxication
.00	Uncomplicated
.01	With trauma or other bodily injury
.02	With other medical complications
.03	With delirium
.04	With perceptual distortions
.05	With coma
.06	With convulsions
.07	Pathological intoxication
F1x .1	Harmful use
F1x .2	Dependence syndrome
.20	Currently abstinent
.21	Currently abstinent, but in a protected environment
.22	Currently on a clinically supervised maintenance or replacement regime (controlled dependence)
.23	Currently abstinent, but receiving treatment with aversive or blocking drugs
.24	Currently using the substance (active dependence)
.25	Continuous use
.26	Episodic use (dipsomania)
F1x .3	Withdrawal state
.30	Uncomplicated
.31	With convulsions
F1x .4	Withdrawal state with delirium
.40	Without convulsions
.41	With convulsions

ICD-10 substance misuse codes

F1x	.5	Psychotic disorder
	.50	Schizophrenia-like
	.51	Predominantly delusional
	.52	Predominantly hallucinatory
	.53	Predominantly polymorphic
	.54	Predominantly depressive symptoms
	.55	Predominantly manic symptoms
	.56	Mixed
F1x	.6	Amnesic syndrome
F1x	.7	Residual and late-onset psychotic disorder
	.70	Flashbacks
	.71	Personality or behaviour disorder
	.72	Residual affective disorder
	.73	Dementia
	.74	Other persisting cognitive impairment
	.75	Late-onset psychotic disorder
F1x	.8	Other mental and behavioural disorder
F1x	.9	Unspecified mental and behavioural disorder

Source: taken from ICD-10, World Health Organization, 1992

Chapter 1

The review process

This chapter is the first of four scene-setters. We outline the background to the review and how it fits with current alcohol policy. This chapter outlines the scope of the review and the rationale for the source material. It draws upon international work, which is introduced here and expanded in chapter three.

1.1 Introduction

There is a considerable body of international literature showing that treatment for alcohol problems is both effective and cost-effective. This review is a critical appraisal of the evidence base for the treatments available for people with alcohol problems. The review covers interventions ranging from simple advice and mutual aid to intensive specialist treatment. It has been written to inform Models of Care for Alcohol Misusers (MoCAM), which provides a model framework and standards for the commissioning and development of local integrated treatment systems for alcohol misuse. The target audiences of the review are:

- **Alcohol treatment commissioners**
  To inform evidence-based commissioning particularly from primary care trusts (PCTs)
- **Alcohol treatment providers**
  To inform the range of evidence-based interventions and performance implications
- **Alcohol service users and carers**
  For information
- **Strategic health authorities**
  To inform the performance management of substance misuse services
- **Other stakeholders**
  For information

The review is also available in a summary form – both the summary and long forms complement and should be read alongside MoCAM. Chapters 1–4 are scene-setters and chapter 15 puts the treatment review in a broader context. There are eight chapters focused on the effectiveness of treatment *per se*. The content of these chapters is a function of the evidence available to review. This is not necessarily the same as the most frequently used interventions and may appear to give undue weight to some interventions simply because they have been more extensively researched. So, different ways of looking at the evidence may produce apparently contradictory conclusions – for example, if treatment A has 20 good-quality studies showing it to be effective and treatment B has only one such study, but showing that treatment B is twice as effective as treatment A, then which treatment should be given more weight? Another difficulty in evaluating evidence is the tendency of journals not to publish negative findings, which may give important insights into the limitations of a particular approach. Yet another difficulty is that there may be a formidable new treatment that has not been evaluated and cannot, therefore, appear in a review. All eight treatment chapters conclude with implications, which present the consensus view of the project group.

Readers should be aware that there will inevitably be a subjective element to judgements arising from any synthesis of the evidence, so we wish to draw attention to two additional points that are crucial to the final interpretation of the data evidenced in this review.

Firstly, treatment is often thought of as something that is given by a practitioner to a service user – medication is the obvious example. Psychosocial interventions can also be thought of in a similar way; usually this perspective is referred to as the "technological model of treatment" (Carroll *et al.*, 2000). However, in the case of psychosocial interventions, how treatment is delivered assumes much greater importance (see chapters four and 15). The evidence base on how to deliver treatment is small, compared to the literature on what to deliver, but it is remarkably cohesive.

Secondly, no matter how good a clinical trial might be, there are inevitably differences between the real world and the trial. These differences are minimised in some methodologies, for example in a pragmatic trial design. Research typically answers one question; it may be a big question, but findings still need to be interpreted into clinical practice, in order to suit the variety of circumstances in which treatment takes place and the

range of service users looking for help. In the UK, service providers have disparate roots and traditions, and include the NHS, the independent not-for-profit and private sectors, and self-help and mutual-aid organisations. Some treatment packages include dealing with social problems and others rely on working with specialists to deliver wraparound services, such as housing and employment.

1.2 Policy context

The publication of the Alcohol Harm Reduction Strategy for England (Prime Minister's Strategy Unit, 2004) gave the National Treatment Agency for Substance Misuse (NTA) a remit to:

- Develop a Models of Care framework for alcohol treatment, including integrated care pathways
- Develop, in collaboration with the Healthcare Commission, standards, criteria and inspection procedures that are consistent with other NHS arrangements (see the MoCAM document for more detail).

All this work builds on the Models of Care for Treatment of Adult Drug Misusers (2002), which contains many points and principles that apply equally to both alcohol and other drug treatment. The review was commissioned by the NTA in order to inform the MoCAM initiative and builds upon an unpublished earlier review by Raistrick and Heather in 1998. A steering group was established to oversee the production of both the effectiveness review and MoCAM documents.

1.3 Objectives

The objective of this review is to determine, from the available evidence, which interventions are likely to deliver the best outcomes for people with problems of alcohol misuse and dependence. The most effective treatments need to take account of different service user risk groups and the costs of different treatment episodes or, in other words, cost-effectiveness in the broadest sense. The remit was to undertake a wide-ranging review, which meant covering territory where the evidence base may be insufficient to draw unequivocal conclusions about effectiveness and cost-effectiveness. Nonetheless, it offers important evidence as to the best treatment approaches.

The review takes the Mesa Grande project (Miller *et al.*, 2003) as its starting point. The Mesa Grande assesses the cumulative evidence for the effectiveness of different alcohol treatment modalities, based on the methodological qualities and the findings of clinical trials (see also chapter three). Taking only evidence from the Mesa Grande may cause some distortion and anomalies arising from cultural and service delivery differences between the UK and North America, where the majority of the Mesa Grande studies were undertaken. In addition, the criteria set for inclusion of a treatment within the Mesa Grande project were too restrictive for a wide-ranging review of alcohol treatment services in the UK. This review, therefore, draws on other important studies – especially those undertaken recently in the UK. We did not adopt any systematic method of selecting the literature for two reasons – firstly, the time available to produce the review was too short to convene and enable an expert group to develop the necessary methodology and secondly, recent systematic reviews in addition to the Mesa Grande were already available, so it was considered desirable to opt for a broader approach. The review took advantage of three recently published systematic reviews:

1 Slattery J, Chick J, Cochrane M, Craig J, Godfrey C, Kohli H, Macpherson K, Parrott S, Quinn S, Single A, Tochel C and Watson H. *Prevention of Relapse in Alcohol Dependence* (2003). Health Technology Assessment Report 3. Glasgow Health Technology Board for Scotland

2 Berglund M, Thelander S and Jonsson E (Eds). *Treating Alcohol and Drug Abuse: An Evidence-based Review* (2003). Weinheim, Wiley-VCH.

3 Shand F, Gates J, Fawcett J and Mattick R. *The Treatment of Alcohol Problems: A Review of the Evidence* (2003). Canberra: Commonwealth Department of Health and Ageing.

These three reviews were used to cross-check the current review, to ensure all major studies had been identified and that the conclusions presented were consistent as far as possible with a broader consensus. The review adopts the same categories of strength of evidence (see table 1a) as Lingford-Hughes *et al.* (2004) which were based on Shekelle *et al.* (1999).

Categories of evidence for causal relationships and treatment

IA	Evidence from meta-analysis of randomised controlled trials
IB	Evidence from at least one randomised controlled trial
IIA	Evidence from at least one controlled study without randomisation
IIB	Evidence from at least one other type of quasi-experimental study
III	Evidence from non-experimental descriptive studies, such as comparative studies, correlational studies and case controlled studies
IV	Evidence from expert committee reports or opinions and/or clinical experience of respected authorities.

Proposed categories of evidence for observational relationships

I	Evidence from large representative population samples
II	Evidence from small, well-designed, but not necessarily representative samples
III	Evidence from non-representative surveys, case reports
IV	Evidence from expert committee reports or opinions and/or clinical experience of respected authorities.

Table 1a: Categories of evidence

1.4 Terminology

1.4.1 Treatment and interventions

Treatment is used in the traditional sense of some specific agent, psychosocial or pharmacological, which is usually delivered by a suitably qualified individual with the intention of alleviating or resolving problems related to alcohol misuse. Treatment is something that happens within a context and it is important to understand that it is one small contributor to a much wider process of change (see chapter 15). Equally, it is important to understand that how treatment is delivered may be as important, if not more important, than what is delivered (see chapter four).

Although settings may influence treatment, or may be designed as treatments in themselves, for example milieu therapy, it is generally the case that the treatments reviewed can be delivered in a variety of settings (see chapter four). Mutual aid is included as a treatment because it seems sensible to do so, on the grounds that a practitioner is not always the person delivering treatment and that many people derive great benefit from mutual aid organisations. Intervention is used as a term having a somewhat broader meaning than treatment, for example, targeted screening is an intervention rather than a treatment. Intervention includes treatment.

1.4.2 Service user

This is the term most commonly used to describe people seeking help from any agency or professional. Other terms may be used when quoting directly from research. There is no particular merit attached to this description, compared to other terms such as patient, customer or client.

1.4.3 Specialist

Specialist is used in the sense of a person or agency specialising in substance misuse interventions, unless otherwise stated. There are all manner of specialists, for example housing workers and liver specialists, whose specialisms are outside the substance misuse field and, therefore, are not referred to as specialists here. There are more specific uses of the term, which have been applied, for example, to different types of medical staff (see the Royal College of Psychiatry and Royal College of General Practice websites) and different levels of competency as demonstrated by a qualification (see DANOS and the Royal Colleges' websites) but these are not intended here.

1.4.4 Diagnoses

Diagnoses are those conditions recognised in the International Classification of Mental and Behavioural Disorders (ICD-10) which is widely used in the UK for statistical purposes. The ICD-10 diagnostic manual gives helpful descriptions of substance misuse and mental illness categories (World Health Organisation, 1992). ICD-10 is thought to be more clinician-friendly than alternatives such DSM-IV, which is derived from

operationally defined research criteria. DSM-IV describes individuals across five axes:

i Mental illness

ii Personality disorder and learning disability

iii Medical conditions

iv Psychosocial and environmental problems

v Global assessment of functioning.

Dependence is defined in ICD-10 as "a cluster of physiological, behavioural and cognitive phenomena in which the use of a substance or a class of substances takes on a much higher priority for a given individual than other behaviours". The syndrome exists along a continuum, but it has become common practice to describe low, moderate and severe bandings. The diagnosis of dependence can be made if three or more of the following have been experienced or exhibited in the previous year:

a A strong desire or sense of compulsion to take the substance

b Difficulties in controlling substance use

c A physiological withdrawal state

d Evidence of tolerance

e Progressive neglect of social activities

f Continued substance use in the face of overtly harmful consequences.

1.4.5 Counselling and therapy

Unless qualified by an alternative description, counselling is taken to mean client-centred or holistic therapy. Some research refers to counselling without giving a clear description of the intervention used and so counselling should not be assumed to be a precise term. Similarly, therapy is assumed to be some form of structured intervention unless qualified by an alternative description, but it is also an imprecise term. Counsellors are assumed to be qualified in counselling, except where directly reporting research studies that may not adhere to this rule. Practitioner is used as a generic term and does not imply any particular qualifications.

1.4.6 A rational approach to treatment delivery

Understanding which interventions are best suited to which kinds of service user and in which settings can be difficult, so we have used a number of tools to help. In the real world, people do not fit into neat categories; nonetheless, it is useful to have a selection of models or guides to help organise thinking about treatments as, importantly, this is not about slavish adherence to a flowchart or manual. The categories of alcohol misuse, described in detail in chapter two, are intended to give an indication of the numbers of people likely to require different intensities and specialisations of treatment. In other words, this is more of a useful planning tool than a means of selecting treatment. The tiers of treatment, described in detail in MoCAM, are intended to indicate what kinds of services deliver the different intensities and specialisations of treatment – again, more useful as a commissioning tool than a means of selecting treatment. Taken together, categories of alcohol misuse and tiers of service providers are a rational way of creating and estimating the required capacity of an integrated treatment system.

At a clinical level, there is no shortage of models and theories for making individual treatment decisions. We have chosen to highlight two of these.

Firstly, the stepped care model, described in the next chapter, is chosen, in part, because it fits well with the main thrust of the Alcohol Harm Reduction Strategy for England (Prime Minister's Strategy Unit, 2004). In addition, it is about intensity of treatment and maps well onto the tiers of provider and categories of alcohol misuse described in chapter two. Stepped care can be applied across agencies as well as within single providers.

Secondly, the stages of change model, which is described below, is chosen in part because of its popularity and in part because it resonates with the current interest in the study of motivational treatments. Neither model has strong supportive evidence, but both have strong face validity as rational approaches.

1.4.7 Stages of change

A useful tool to inform the appropriate choice of treatment is the stages of change model (Prochaska and DiClemente, 1984). The model is primarily concerned with motivation to change and the processes that lead to change. The model will be useful if placing a service user at the correct stage of change is then effective in guiding a practitioner towards the most appropriate treatment. There are four stages of change:

- Pre-contemplation (including relapse)

- Contemplation (including determination)
- Action
- Maintenance.

Pre-contemplation is characterised by a motivation to carry on drinking. People at this stage of change often use psychological mechanisms, such as rationalisation, in order to allow themselves to believe that drinking is not a problem, or to minimise the problem. The hallmark feature of the next stage, contemplation, is ambivalence or conflict – on the one hand drinking is felt to be enjoyable, or to have some utility, but on the other hand it is acknowledged to be causing problems. At the next stage, action, the conflict is removed by reaching a good-quality decision to make changes; the decision is based upon realistic expectations of how life will be better after stopping drinking or moving to problem-free drinking. Moving on from the maintenance stage of change is often the most difficult task and this stage requires continued vigilance in order to prevent relapse and a reinstatement of problem drinking. The model has been criticised on the grounds of having no sound conceptual basis, lacking evidence on the inevitability of progression through the stages and because of resistance to categorical measurement (Davidson, 1992). In contrast to this view, two versions of a Readiness to Change Questionnaire have been developed, one for the non-treatment-seeking population (Rollnick *et al.*, 1992) and another for the treatment-seeking population (Heather *et al.*, 1999), which can assist in assigning service users to the appropriate stage of change (Heather *et al.*, 1993) and both are widely used. Readiness to change, measured by a different instrument, was one of the strongest predictors of outcomes in Project MATCH (Babor and Del Boca, 2003).

1.5 Chapter structure

The first three chapters are concerned with setting the scene for the rest of the review. In particular, chapters two and three look at the whole range of drinkers and, in general terms, what kind of interventions are appropriate for different people. The Mesa Grande is an important plank of this review and is described in some detail in chapter three, along with recent studies that have already had, or are likely in the future to have, a high impact on practice. Chapter four is of particular importance in bringing together issues of the "how" rather than "what" of treatment; it covers the therapists who deliver treatment, the settings in which treatment may be given, and some sub-groups of help-seekers. All of these factors have an important influence on treatment outcomes. Chapters five and six are concerned with screening, assessment and measuring treatment effectiveness.

Chapters 7–10 discuss the most widely used treatments available in the UK and can be considered the core of treatment. These chapters are structured by intensity and focus of the treatment. Pharmacotherapies, including detoxification, are not usually treatments on their own and are discussed in chapter 11 as enhancements to psychosocial treatment. Whether the mutual-aid movement should be considered as a treatment is debatable, but the contribution of mutual aid is immense and no review would be complete without a discussion of the subject and it is covered in chapter 12. Co-morbidity is taken in chapter 13 and is now itself the subject of a separate policy driver (Department of Health, 2002).

Chapter 14, on cost-effectiveness, stands alone as having particular importance in shaping policy and, more directly, commissioning decisions at the local level. The final chapter, the treatment journey context, may be of less concern to provider agencies and of greater concern to researchers and commissioners. However, all agencies and authorities need to collaborate on working to improve alcohol treatment and this chapter is intended to be a means of helping to inform the contribution of all the different sectors in tackling alcohol problems in the UK.

1.6 Summary

This review was written to support the implementation of the National Alcohol Harm Reduction Strategy and specifically to complement MoCAM. In order to avoid subjectivity, the review process took the cumulative evidence gathered by the Mesa Grande project as its starting point. We then sifted evidence of particular interest to the UK and finally cross-checked against three recent systematic reviews.

Chapter 2

Broadening the base of treatment and interventions

The previous chapter defined the process and intended scope of this review. In this chapter, we set out an overall perspective on treatment and interventions to reduce alcohol-related harm and consider ways in which the base of treatment for alcohol problems needs to be broadened from the traditional, exclusive focus on "alcoholics".

2.1 Introduction

The new policy drive from the Alcohol Harm Reduction Strategy for England (Prime Minister's Strategy Unit, 2004) provides the most recent demonstration of the need to broaden the base of treatment and interventions for alcohol misuse (Institute of Medicine, 1990). This widening of the response to alcohol-related harm embraces the large group of drinkers whose problems are less serious than those with severe dependence on alcohol (traditionally termed alcoholics); it includes "hazardous" drinkers, showing no obvious alcohol-related problems but who are merely at risk of developing problems (Edwards, Arif and Hodgson, 1981) and "harmful" drinkers, who are already experiencing problems but who may not show a significant level of alcohol dependence. Most of these new targets of interventions will not be people who have sought help for an alcohol problem, so must therefore be identified in community settings and advised and helped to reduce their alcohol consumption or abstain.

The main advantages of this broadened approach are:

- Intervening early before excessive drinking has produced a level of alcohol dependence that makes treatment difficult. Though many alcohol misusers recover without expert help and others move into and out of alcohol problems during their lives (Fillmore, 1988; see also chapter 15), sufficient numbers do progress to severe dependence to make early intervention advisable
- Preventing medical, psychological and social damage among those who will not necessarily go on to develop severe dependence but who are, by definition, at higher risk of harm through the level or pattern of their drinking
- Reducing the current level of harm from problems such as road traffic and other accidents, violence and public disorder, and loss of industrial productivity. The major contribution to the total cost to society in these areas comes more from the large number of drinkers with less frequent and chronic problems than from the much smaller number of severely dependent drinkers (Kreitman, 1986)
- Identifying alcohol misusers with advanced problems who are not in treatment and persuading them to accept referral to treatment that may be of benefit to them.

These aims are clearly consistent with a public health approach to alcohol-related harm and with other measures designed to reduce the harmful effects of alcohol in society (Edwards *et al.*, 1994; Babor *et al.*, 2003a) but they are also in the best interests of the individual alcohol misuser.

It is essential that treatment services for severely dependent drinkers continue to be made available and, indeed, improved in range and quality. What is being recommended is not a change of direction for alcohol treatment services but an extension of them. There is good evidence that any increased expenditure of resources involved in such an extension of services will be cost-beneficial to society in the long run (see chapter 14).

2.2 Categories of alcohol misuse

Services are expected to provide interventions for the full range of alcohol-related risk and harm. Three categories of alcohol misuse with different kinds of service needs are outlined below. These are based on the categories described in the Alcohol Needs Assessment Research Project (Drummond *et al.*, 2005) which are based in turn on the WHO ICD-10 categorisation of alcohol use disorders (WHO, 1993).

It is important to note that these categories do not describe qualitatively different types of people but rather different types of misuse based on convenient cut-points along the continua of alcohol consumption, problems and

dependence; they are not boxes in which people should be permanently placed but rough indications of current drinking patterns that individuals may move into and out of over time. Also, while it is recognised that levels of alcohol consumption, problems and dependence are imperfectly correlated with each other, these categories are intended to be pragmatically useful and to reflect the real world of service provision. In broad brush terms, different interventions are appropriate for each category of misuse (see figure 2a).

2.2.1 Hazardous drinking

Hazardous drinking was described in an influential WHO report (Edwards, Arif and Hodgson, 1981) and is also termed "risky drinking". Edwards, Arif and Hodgson (1982) defined hazardous use of a psychoactive substance as: "Use of a drug that will probably lead to harmful consequences for the user – either to dysfunction or to harm. The concept is similar to the idea of risky behaviour. For instance, smoking 20 cigarettes a day may not be accompanied by any present or actual harm but we know it is hazardous" (p7).

Hazardous use of a substance is also included in the World Health Organisation's Lexicon of Alcohol and Drug Terms (WHO, 1994), where it is defined as follows:

> *"A pattern of substance use that increases the risk of harmful consequences for the user. Some would limit the consequences to physical and mental health (as in harmful use); some would also include social consequences. In contrast to harmful use, hazardous use refers to patterns of use that are of public health significance despite the absence of any current disorder in the individual user. The term is used currently by WHO but is not a diagnostic term in ICD-10."*

This category applies to anyone drinking over recommended limits (21 units a week for men or 14 units a week for women; Royal Colleges, 1995) but without alcohol-related problems. People drinking in excess of eight units a day in men and six units a day in women ("binge drinking") are also at increased risk of harm even although some may not exceed the "safe" weekly level. People drinking hazardously will not usually be seeking treatment for an alcohol problem, although some may realise their drinking is putting them at risk. While most will show some evidence of alcohol dependence – even if it is only an increased importance of drinking in the lifestyle – the level of dependence will be mild as measured by standard instruments; if dependence is moderate or severe, drinking is classified as "dependent". Hazardous drinking is generally detected in primary healthcare but can also be picked up in many general hospital settings.

2.2.2 Harmful drinking

Harmful drinking was also recognised in the WHO report (Edwards, Arif and Hodgson, 1981; 1982). Harmful use of a psychoactive substance is defined in ICD-10 as: "A pattern of use which is already causing damage to health. The damage may be physical or mental" (WHO, 1993). ICD-10 guidelines go on to state that harmful use should be excluded in the presence of a dependence syndrome. In this review, however, it is assumed that individuals drinking harmfully are likely to have a mild degree of dependence on alcohol, but that only moderate or severe dependence should be seen as dependent drinking *per se*.

The harmful drinking category applies to people drinking over medically recommended levels, probably at somewhat higher levels than in hazardous drinking. However, unlike hazardous drinkers, they will show clear evidence of alcohol-related problems but often without this having resulted in their seeking treatment.

The problems detected at this stage may be acute, such as an alcohol-related accident, acute pancreatitis or acute alcohol poisoning. Problems may also be of a chronic nature – for example, hypertension, cirrhosis and alcohol-related brain damage. The primary care team usually deals with these problems but they will generally also form part of the burden on the general hospital, criminal justice and social services.

2.2.3 Dependent drinking

This category refers to drinking associated with an established moderate or severe level of dependence on alcohol. People who experience dependence have usually also experienced alcohol-related problems. They typically present to specialised statutory or non-statutory substance misuse services for help with the dependence itself or because of the associated health, interpersonal and social problems their dependence has caused. This group will probably be frequent attendees at general hospital services. These visits can be due to alcohol-related acute and chronic conditions and, in emergency

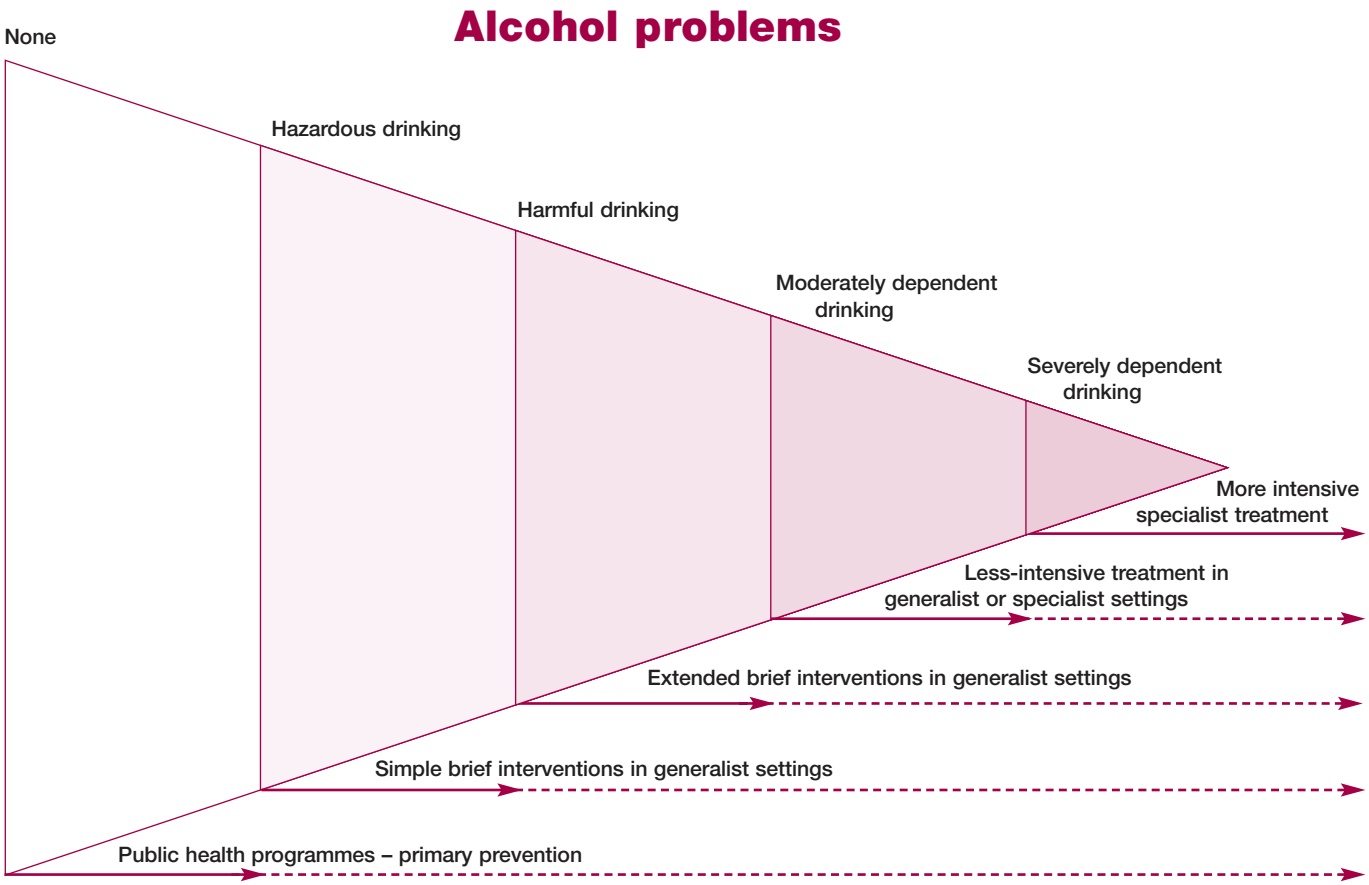


Figure 2a: A spectrum of responses to alcohol problems

Adapted from figure 9.1 in the Institute of Medicine [1990] report, p212. The triangle shown in figure 2a represents the population of England, with the spectrum of alcohol problems experienced by the population shown along the upper side of the figure. Responses to these problems are shown along the lower side. The dotted lines in figure 2a suggest that primary prevention, simple brief intervention, extended brief intervention and less-intensive treatment may have effects beyond their main target area. Although the figure is not drawn to scale, the prevalence in the population of each of the categories of alcohol problem is approximated by the area of the triangle occupied; most people have no alcohol problems, a very large number show risky consumption but no current problems, many have risky consumption and less serious alcohol problems, some have moderate dependence and problems and a few have severe dependence or complicated alcohol problems.

services, acute alcohol withdrawal with its range of complications including delirium tremens and alcohol withdrawal seizures at the extreme end of the spectrum. Such individuals will normally require a medically assisted detoxification, with the level of need being related to the severity of the alcohol dependence.

As in the Alcohol Needs Assessment Research Project (Drummond *et al.*, 2005), dependent drinking will be divided here into two sub-categories reflecting moderate and severe dependence. This is intended to assist service planning since these sub-categories may require quite different treatment options.

2.2.3.1 Moderately dependent drinking

This sub-category applies to the majority of individuals who recognise that they have a problem with drinking, even if this recognition has only come about reluctantly through pressure from healthcare professionals, family members, employers or others. Levels of dependence are not severe and individuals have probably not reached the stage of relief drinking, that is, drinking to abolish or avoid withdrawal symptoms. However, drinkers fitting into this sub-category may experience a raised level of tolerance, symptoms of alcohol withdrawal and impaired control over drinking. In the Alcohol Needs Assessment Research

Project they are defined as scoring 15–29 on the Severity of Alcohol Dependence Questionnaire (SADQ) (Stockwell *et al.*, 1979). This sub-category includes a wide range of seriousness and kinds of problem. In older terminology, individuals in this category would probably not have been described as chronic alcoholics.

2.2.3.2 Severely dependent drinking

This sub-category refers to the drinking of those with severe dependence and typically serious alcohol-related problems, and is the sub-category that would, in older language, have been described as applying to chronic alcoholics. Many fitting into this sub-category will have serious and longstanding problems, will typically have experienced severe alcohol withdrawal and high tolerance, and may have experienced withdrawal fits or delirium tremens; they may have formed the habit of drinking to counter or avoid incipient withdrawal symptoms. In the Alcohol Needs Assessment Research Project they are defined as scoring 30 or more on the SADQ. Many will have had several previous episodes of treatment, sometimes a large number.

2.2.4 Drinkers with complicated needs

In addition to the categories above, there are groups of drinkers that may need special arrangements for treatment because of complicated needs. They include:

- Those who have a co-morbid psychiatric disorder requiring more intensive support or liaison with a wider range of services such as general psychiatry (see chapter 13)
- Polysubstance misusers who can present challenges in treatment due to commissioning and provision of services for either drug or alcohol misusers. People misusing drugs and alcohol may have different needs from those misusing alcohol alone and may require a different approach to treatment
- Other groups that may need special consideration based on gender, age, ethnicity, disability and homelessness. It should be noted that people within these groupings are still individuals and still require an individual-focused approach (see chapter four).

The scheme outlined in figure 2a provides a general indication of the kind of intervention and treatment that should normally be directed towards different categories of alcohol misuse and may be useful in planning and commissioning services. The different kinds of intervention listed here are consistent with the stepped care model of intervention and will be described in more detail later in this review. In general terms:

- Primary prevention is indicated for persons drinking at low-risk levels with no alcohol problems
- Simple brief interventions (simple but structured advice) in generalist settings is indicated for persons drinking hazardously with no alcohol problems but levels of consumption that put them at risk for developing such problems. Some hazardous drinkers can be offered a more extended brief intervention in the generalist setting if simple brief intervention has proved insufficient to engender change and if they are willing to accept it
- While it is advisable that all alcohol misusers identified in generalist settings should be offered at least simple, structured advice, extended brief interventions in generalist settings are indicated for persons drinking harmfully who are not seeking treatment from specialist services and have not responded to simple advice. Those with relatively more serious problems and those who fail to respond to brief interventions should be persuaded to accept referral to a specialist alcohol treatment service or offered treatment in the generalist setting if resources permit
- While some may respond to simple or extended brief interventions, less-intensive treatment in generalist or specialist settings is usually indicated for persons with moderate alcohol dependence who are seeking treatment. Those who fail to respond should be offered more intensive treatment
- While some may respond to simple brief intervention, extended brief intervention or less-intensive treatment, more intensive treatment in specialist settings is usually indicated for people with severe alcohol dependence who are seeking treatment
- Special arrangements for treatment are indicated for people with complicated needs.

2.3 Prevalence

The prevalence of alcohol use disorders in the general population of England was estimated by the Alcohol Needs Assessment Research Project (Drummond *et al.*, 2005). This based estimated prevalence across

categories of drinkers on a re-analysis of data from the 2000 Psychiatric Morbidity Survey (Singleton *et al.*, 2001) and the General Household Survey 2001 (ONS, 2002). These estimates should be treated with caution and as broad indicators of need. Further details of these estimates and how they were calculated are given in Drummond *et al.* (2005). The main findings were as follows:

i In total, 38 per cent of men and 16 per cent of women (age 16–64) were found to have an alcohol use disorder (26 per cent overall)

ii Estimates of hazardous and harmful drinking based on a score of 8–15 on the Alcohol Use Disorders Identification Test (AUDIT; Saunders *et al.*, 1993) yielded similar estimates to those of people exceeding safe weekly units. Estimates of people exceeding harmful levels of weekly alcohol intake were similar to estimates of people experiencing alcohol dependence, defined as a score of 16+ on the AUDIT questionnaire. Therefore, the study did not find a good justification for separating drinkers into three categories and proposed a two-category classification for estimating prevalence: hazardous and harmful drinkers, and dependent drinkers

iii Thirty-two per cent of men and 15 per cent of women were hazardous or harmful alcohol users (23 per cent overall). This equates to 7.1 million people in England. There were 21 per cent of men and nine per cent of women classified as binge drinkers. There was a considerable overlap between men and women drinking above safe daily and safe weekly benchmarks

iv The prevalence of alcohol dependence overall was found to be 3.6 per cent, with six per cent of men and two per cent of women meeting these criteria nationally. This equates to 1.1 million people with alcohol dependence nationally. Alcohol dependence is therefore considerably more prevalent than problem drug use in England, which is estimated to affect 0.8 per cent of the adult population

v There was a decline in all alcohol use disorders with age. In relation to ethnicity, BME groups had a considerably lower prevalence of hazardous and harmful alcohol use, but a similar prevalence of alcohol dependence compared to the white population

vi There was considerable regional variation in the levels of alcohol use disorders. The prevalence of hazardous and harmful drinking varied from 18 per cent (Eastern region) to 29 per cent (North West region), with some differences between men and women. In relation to alcohol dependence, there was also considerable variation between regions – from 1.6 per cent (East Midlands) to 5.2 per cent (North East and Yorkshire and Humber). The regions with the highest prevalence of hazardous and harmful drinking were different from those with the highest prevalence of alcohol dependence.

2.4 Goals of treatment

In one sense, there is only one goal of treatment for alcohol problems: to improve the service user's quality of life. This may seem obvious but can easily be forgotten in an exclusive preoccupation with drinking behaviour. Areas of life besides the service user's drinking should be borne in mind when planning treatment and evaluating its effects. This is because:

- Degrees of improvement in areas of general adjustment are not necessarily highly correlated with each other; they are relatively independent areas of functioning (Emrick and Hansen, 1983; Babor *et al.,* 2003b)
- Aspects of general adjustment show imperfect correlations with drinking behaviour (Pattison, 1976; Babor *et al.*, 2003b). For example, it is possible for someone to become a successful abstainer but still show poor psychological adjustment; on the other hand, heavy drinking may still be present to some extent but noticeable improvements may have occurred in social or vocational adjustment.

Depending on the service user's life situation and their particular set of problems in living, treatment plans should include specific targets in the following areas of general adjustment:

- Physical health
- Psychological adjustment (or mental health)
- Vocational adjustment
- Social adjustment – affiliation to social groups, living arrangements, etc.
- Interpersonal adjustment – quality of intimate relationships and the number of close friendships

- Legal status and criminal activity
- Polydrug use and dependence
- Blood-borne virus risks, needle sharing and sexual risk behaviour.

While this section has emphasised the importance of not neglecting non-drinking goals in planning and evaluating treatment, it is nevertheless true that many service users will not be able to make significant improvements in their general adjustment to life until drinking is brought under control. This will be through total abstinence or moderate, harm-free drinking – continued heavy drinking and alcohol dependence make it unlikely that individuals will be able to find lasting solutions to their wider problems. This is why, depending on the individual case, many treatment providers advise service users to tackle their drinking before progress on their wider problems can be achieved. In this review, we will consider the effectiveness of treatments focused on the service user's drinking and alcohol-related problems in chapter nine, while chapter ten deals with forms of treatment concerned with the service user's more general problems in living without necessarily focusing on alcohol.

2.4.1 Drinking goals

Whether alcohol misusers should always be directed to total and lifelong abstinence, or whether some can responsibly be advised to attempt a reduction in drinking to harm-free levels, has traditionally been one of the most controversial topics in the alcohol problems field. It has now become less contentious following the emergence of a consensus in the UK on how these treatment goals should be used.

The moderation goal has become far more acceptable in the UK (Cox *et al.*, 2004), Australia (Donovan and Heather, 1997) and some other countries, compared to the USA (Cox *et al.*, 2004).

In negotiating the drinking goal, the following points should be considered:

- Although research evidence can provide relevant information, selection of drinking goal is essentially a clinical decision, depending on the unique characteristics and circumstances of the individual service user
- Acceptance of a service user's preference regarding the drinking goal is likely to result in a more successful outcome (Booth *et al.*, 1992; Hodgins *et al.* 1997; Adamson and Sellman, 2001). If a service user shows a preference for total abstinence for whatever reason and at whatever level of dependence, this should be immediately accepted. On the other hand, a service user may prefer to aim for moderation in circumstances where the clinician believes there are considerable risks in doing so. In these circumstances, the clinician should strongly advise that abstinence would be the better option but should not turn the service user away if this advice is unheeded
- All other things considered, the moderation goal should be reserved for service users with less severe dependence. This can be assessed clinically or using one of the standardised measures of dependence – for example, operationally defined as a score of below 30 on the Severity of Alcohol Dependence Questionnaire (SADQ; Stockwell *et al.*, 1979, 1994 see chapter six).
  The Leeds Dependence Questionnaire (LDQ; Raistrick *et al.*, 1994) can also be used for this purpose, using cut-points of <10 for low dependence, 10-22 for medium dependence and >22 for high dependence. The LDQ is especially sensitive to lower degrees of dependence compared to other instruments. Low dependence normally indicates a moderation goal and severe dependence normally indicates an abstinence goal. The better goal in the case of medium dependence depends on individual circumstances.
  Lastly, there is some evidence that a score under 25 on the Impaired Control Scale (ICS; Heather, Booth and Luce, 1998) provides a better indication of the advisability of a moderation goal among moderately dependent drinkers (Heather and Dawe, 2005).
  These are merely guides to drinking goal selection, not inflexible rules
- The main advantage of recommending the moderation goal to suitable service users is that more people may be attracted into treatment who might be deterred by the prospect of lifelong abstinence. Evidence clearly shows that the moderation goal yields at least as good outcomes among this group of service users as the abstinence goal (Sobell and Sobell, 1995). There is also some evidence that the abstinence goal is counter-productive among service

users with mild to moderate dependence (Sanchez-Craig and Lei, 1986). Even so, among drinkers with any level of dependence, a period of abstinence is advisable before moderation is attempted

- Specific drinking targets should be negotiated with each service user, but moderation can be defined for treatment purposes in terms of levels of low-risk consumption recommended by medical authorities (Royal Colleges, 1995)
- There are special circumstances in which the moderation goal is contra-indicated irrespective of level of dependence and where the abstinence goal should be preferred: liver damage; other medical problems that may be exacerbated by continued drinking; taking certain medications; pregnancy or an intention to become pregnant
- If a service user has failed to achieve a goal of stable moderate drinking, the clinician should advise them to aim for abstinence. Conversely, if there have been failed attempts at abstinence, a moderation goal should be considered
- Some service users may be thought very unlikely to be able to sustain either abstinence or moderate drinking without problems, mainly because their quality of life is so impoverished that a change in drinking offers few incentives. For these service users a harm reduction approach should be adopted in which precedence is given to modest gains in health, work and social relationships over radical changes in drinking behaviour (Heather, 1993a). For example, in the case of many homeless street drinkers, the least that can be done is to keep them as healthy as possible by occasional detoxifications and medical attention, even though an immediate return to regular excessive drinking can be expected.

2.4.2 Drinking goals among those not seeking treatment

Among hazardous and harmful drinkers identified in generalist settings, the moderation goal should normally be accepted. Although a person's preference for abstinence should always be respected, it is likely that the great majority of individuals recruited opportunistically would reject advice to abstain and would only respond to an intervention which allowed them to continue to drink, albeit at reduced levels (Heather and Robertson, 1983; Sanchez-Craig and Lei, 1986).

The main advantage of including the moderation goal in treatment policy is that alcohol misusers with relatively less serious problems can be persuaded to do something about their drinking. As reflected in the Alcoholics Anonymous concept of "rock bottom" (Alcoholics Anonymous, 1939), it is often necessary for drinkers to have caused a great deal of damage to themselves, their families and to others, and to have experienced much suffering as a result, before they are prepared to consider seriously the solution of giving up alcohol for the rest of their lives. If those with less serious problems are led to believe that total and lifelong abstinence is the only solution to a drinking problem, they are likely to deny having a problem.

If alcohol misusers understand that it is possible for those with less serious problems to reduce drinking to moderate levels and sustain these levels, many may find convincing reasons to try to do so. In this way, the moderation goal serves the interests of early intervention and of reducing the total aggregate of alcohol-related harm in the population at large.

2.5 Including family and friends in treatment

Another sense in which a broadening of the base of treatment for alcohol problems is called for concerns the inclusion of families and friends of alcohol misusers in treatment services (Copello and Orford, 2002). This is for two principal reasons:

- Family members and close friends of people with drinking problems themselves experience, or are at risk of, a range of stress-related physical and psychological disorders (West and Prinz, 1987; Moos, Finney and Cronkite, 1990) and family functioning is also adversely affected. These disorders can legitimately be called alcohol-related problems and are a proper target for alcohol treatment services (see chapters 8–10)
- Evidence clearly indicates that relatives and friends can be helpful in engaging the alcohol misuser in treatment (Barber and Crisp, 1995; Miller, Meyers and Tonigan, 1999) and in bringing about a more favourable outcome of treatment (Epstein and McCrady, 1998). Methods have been developed for training relatives and friends to respond to the drinking of the alcohol misuser in ways that do not

exacerbate the problem but are likely to assist the process of change (see chapters 8–10).

On the basis of this and other evidence, Copello and Orford (2002) argue that service providers and commissioners need to consider three issues:

- Models of alcohol and other drug problems should make the role played by the social environment as central and important as that played by individual factors
- The base of treatment should be broadened to see the family as a legitimate unit for intervention, allowing a family member or another concerned and affected person to become the focus of help, either within a family-based intervention or as a service user in their own right
- More attention and recognition should be paid to a broader set of positive outcomes from treatment in addition to reductions in alcohol use, including effects on the family and the wider social context.

2.6 Service user choice

As well as choice of drinking goal, service users can also be involved in choosing the form of treatment they receive. Service user choice may be a good thing in itself but it can also improve the prospects of a successful outcome (Kissin, Platz and Su, 1970; Booth *et al.,* 1998). This assumes that service users are provided with accurate and objective descriptions of the available options in a form they can understand.

The advantages of service user choice or "self-matching" to treatment (Miller, 1989) are:

- Self-matching takes place in the real world when service users seek out a form of treatment they feel they can derive benefit from and also when they fail to enter or comply with a treatment method that does not make sense to them. Given that this kind of informal self-matching occurs, it is sensible to take advantage of it and try to improve its effects
- Research on human motivation generally shows that people are more likely to carry through a course of action they have chosen themselves, rather than one that has been chosen for them (Brehm and Brehm, 1981; Deci and Ryan, 1985). This freedom to choose will make it more likely that service users will comply with and complete the treatment programme, probably leading to better outcomes
- More specifically, clinicians often encounter resistance to treatment from service users who deny their alcohol problems. However, resistance and denial are not so much properties of service users as characteristics of the interaction between service users and therapists (Miller and Rollnick, 2002). Service users may be less resistant to treatment and more likely to acknowledge their problems if they have played a part in choosing their own treatment and feel responsible to some degree for their progress towards recovery.

Complete self-selection has been recommended (Ewing, 1977) but it is also possible to confine self-matching to a limited range of appropriate options. Service users can be involved where relevant in the following decisions:

- Inpatient vs outpatient treatment setting
- One-to-one vs group format
- One-to-one vs with significant others
- Alcohol-focused vs non-alcohol focused treatment (see chapters nine and ten)
- Low vs high-intensity treatment
- Motivationally based vs socially based treatment

In reality, choice will be limited to situations where treatments of similar cost and effectiveness are available.

2.7 Increasing accessibility and responsiveness of treatment

The 2004 Alcohol Needs Assessment Research Project (Drummond *et al.*, 2005) showed that only a small proportion of people who might benefit from treatment for alcohol problems actually receive it. At the same time, one of the main conclusions of the present review is that there exists a range of effective treatment methods and brief interventions that can help people eliminate or reduce their alcohol problems or their risk of problems (see chapters 7–10) – hence the need to make treatment more responsive to the needs of alcohol misusers and more accessible to them.

Humphreys and Tucker (2002, p127) write: "Alcohol intervention systems are often unresponsive to the full range of problems, resources, treatment preferences,

goals, motivations and behaviour-change pathways within the affected population".

The extensity of treatment refers to how long treatment resources are extended over time, while its intensity refers to the amount of resources devoted to a single treatment episode. One way in which the responsiveness of treatment could be improved is by prioritising extensity over intensity in service provision. This is because:

- The variation in the course of alcohol problems over time means it is a better investment to spend less healthcare resources during each contact with the service user, while allowing the intervention to extend over a longer period
- The opposite and current practice of spending relatively large amounts of resources on service users for short periods is especially inappropriate for those alcohol misusers with chronic and severe problems who may need help over lengthy periods of time.

A novel and inexpensive intervention of this kind is known as extended case monitoring (Stout *et al.*, 1999) and this will be described in more detail in chapter nine.

In addition to the wide dissemination of brief interventions for drinkers with less-severe problems in a range of generalist settings, there are other ways in which the accessibility and responsiveness of treatment can be increased:

- Better links between the statutory and voluntary sectors
- More use by healthcare professionals of mutual aid organisations (see chapter 12)
- Involvement of family members and friends in facilitating entry into treatment and retention (Sisson and Azrin, 1986; O'Farrell and Cowles, 1989; Barber and Crisp, 1995; Miller, Myers and Tonigan, 1999)
- Tele-health services using a range of media, including internet sites (see chapter 12)
- Greater use of postal bibliotherapy programmes (see chapter 12)
- Active outreach to cast a wider net in screening for hazardous or harmful drinking (see chapter five), for example in shopping centres or on the internet, and linking this screening to advice and information on helping resources of varying types and intensities
- Making requirements for the receipt of services lower and more flexible
- Making services more rapid and "on demand", in order to take advantage of peaks in motivation to change.

2.8 Stepped care

Stepped care refers to a way of organising services to fit with the categories of alcohol misuse described earlier in this chapter and with other aspects of the move to broaden the base of treatment.

The basic principle of stepped care is that alcohol misusers are initially offered the least intrusive and least expensive intervention that is likely to be effective. Only if this first line of treatment fails is a more intensive intervention offered. If that fails, an even more intensive intervention is offered, and so on, along a scale of increasing intensity of treatment until service users show improvement (Sobell and Sobell, 2000). The stepped care model is shown in schematic form in figure 2b.

In principle, the stepped care model represents a cost-effective implementation of treatment services. This is because the resources entailed in more intensive treatments are not wasted on service users who would improve with a less intensive approach. Matching service users to the intensity of treatment that fits their needs is self-selecting in the stepped care approach.

Although simple in principle, there are some points to consider in the stepped care model:

- The intervention and treatment modalities included in the model should be of proven effectiveness
- An efficient follow-up system or some other way of monitoring progress is essential for the stepped care approach to work
- Depending on the nature of their problems and the severity of dependence, service users can enter the stepped care model at any level – not necessarily the lowest point. This decision should be based on research evidence, where available, and clinical judgement
- Service users should be given a substantial degree of choice over which step they enter the system at, rather than being assigned to treatment based solely on professional judgement

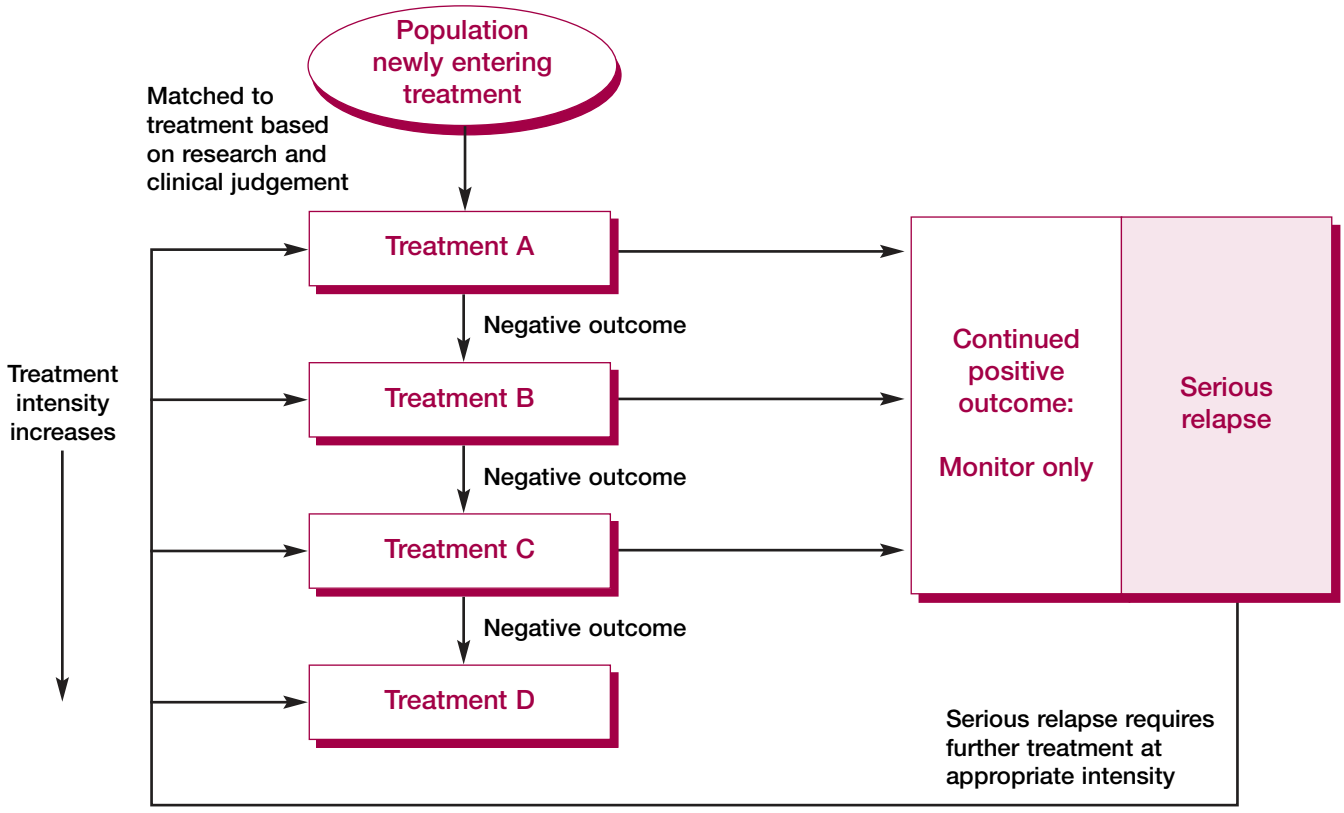


Figure 2b: The stepped care model of treatment (reproduced with permission from Sobell and Sobell, 2000)

- Although predetermined criteria may be helpful, clinical judgement may also be required regarding the degree of improvement service users have shown following treatment and whether this indicates the need for further treatment of increased intensity
- If there is more than one treatment modality available at any given level in the model, clinical judgement is required to advise service users which option should be preferred.

The stepped care model can be applied to a treatment system in two ways:

- It can be applied within alcohol specialist treatment services, that is, to dependent drinkers and others seeking treatment from specialist services. Chapters 7–10 describe different intensities of treatment that can be included in a stepped care model
- It can be applied across generalist and specialist services, that is, to hazardous and harmful drinkers and others who are opportunistically identified in generalist settings as needing help. Chapter seven describes two levels of intensity of brief interventions in generalist settings that can be included in the model, with referral to specialist services if the higher of these levels fails.

Although the stepped care model is justified primarily as a rational system of resource allocation, there has been some research relevant to the model as a whole.

Among alcohol misusers completing a brief cognitive behavioural or motivational intervention (see chapters 7–10), Breslin *et al.* (1997a) reported that therapists' ratings of prognosis predicted outcomes of interventions even when pre-treatment factors were taken into account. However, when measures of drinking during treatment were available, these measures were more strongly related to outcome and the predictive power of therapist prognosis ratings disappeared. The authors suggest that within-treatment drinking data could play a key role in stepped care treatment decisions because:

i this information can be easily collected during treatment sessions

ii the rationale for additional treatment based on heavy drinking during treatment could be easily explained to and understood by service users

iii the additional intervention could be started when service users still in treatment.

In the recently completed STEPWICE Project, Drummond *et al.* (2003) screened all male patients (n=1784) presenting to six primary care practices in South Wales. Those screening positive for an alcohol use disorder were randomised to a stepped care programme or a minimal intervention comprising five minutes of advice from a practice nurse and a self-help guide. Stepped care consisted of three steps representing increasing levels of intensity of intervention:

- Step1: One 40-minute session of behaviour change counselling delivered by a trained practice nurse
- Step 2: Four sessions of motivational enhancement therapy delivered by a trained alcohol counsellor
- Step 3: Referral to the specialist community alcohol team, with no limit on the duration or intensity of treatment.

The main findings of this project were:

- Stepped care intervention for a range of alcohol use disorders is feasible to implement in primary care and results in improvements equivalent to published meta-analyses of trials of brief intervention with less severe cases
- Costs of stepped care were ten times those of minimal intervention but resulted in lower costs during follow-up
- Screening and stepped care intervention offers a resource-efficient means of addressing a range of alcohol problems in primary care and a practical and feasible method of joint working between primary care and specialist alcohol services across several tiers of service provision
- The stepped care approach is recommended for further development for alcohol use disorders in primary care.

Although the findings of the STEPWICE project are promising, the justification for the stepped care approach relies primarily at present on being a rational and cost-effective method of resource allocation in principle and one which is used routinely in other branches of healthcare. However, more research is urgently needed to investigate the possible advantages of the stepped care approach compared with non-stepped approaches. Research and development is also needed to evaluate the feasibility and improve the efficiency of stepped care for alcohol problems in routine practice.

Implications for…

Service users and carers

- Involving family and friends in treatment will improve the chances of successful treatment
- There is some choice in the kinds of treatment available – the choice of drinking goal may be limited depending on the severity of problems
- An abstinence drinking goal is always an option to consider.

Service providers

- Where possible, involve service users in choosing the setting and the general approach to treatment – choice is associated with better outcomes
- Care plans will need to cover all aspects of life for the service user, not just the drinking behaviour
- Clarity of drinking goal is important before starting treatment since abstinence and moderation goals call for different treatment approaches
- Stepped care is a rational way of organising available resources within an agency.

Commissioners

- Stepped care is a rational way of organising available resources across an integrated treatment system
- Interventions are required for the full range of alcohol problems, from screening for hazardous drinkers through to specialist treatment for dependent drinkers
- There is an ample evidence base of clinical and cost effectiveness from which to derive commissioning plans to suit local circumstances.

Researchers

- Need for regular large scale surveys of the prevalence of drinking and alcohol related problems in the general population
- Research to quantify the effects of user choice on outcomes
- More UK research on the stepped care approach to treatment
- Research into the most effective interventions for people with long-term problem drinking.

Chapter 3

Recent evidence on treatment effectiveness

This third scene-setting chapter summarises the Mesa Grande Project, which has been taken as the starting point of this section and three recent systemic reviews. Two large multi-centre trials of alcohol treatment, known as Project MATCH and UKATT, are also reviewed in depth.

3.1 Background

The purpose of this chapter is to summarise recent systematic reviews and review two large treatment trials:

i The Mesa Grande project

ii Other systematic reviews, including those carried out for the Health Technology Board for Scotland, for the Swedish Council on Technology Assessment in Health Care and for the Australian National Drug Strategy

iii Project MATCH

iv The United Kingdom Alcohol Treatment Trial (UKATT)

These reviews and studies will be used to "triangulate" the conclusions of the present review. Their methods and main findings on treatment effectiveness will be briefly described in this chapter but they will be referred to at appropriate places throughout this document.

The quality of treatment outcomes research has improved over the years, but many studies still have methodological deficiencies. For example, Breslin *et al.* (1997b) found that, regarding pre-treatment variables, only 40 per cent of studies recorded alcohol dependence, 20 per cent recorded liver function tests, and 80 per cent marital status. For treatment variables, the therapists' training was unstated in one-third of studies and one-fifth of studies failed to describe the treatment orientation or format. Few studies use outcome measures that are not directly alcohol-related.

In an attempt to take account of these deficiencies and in an effort to answer the question "what works?", Miller *et al.* (2003) devised the Mesa Grande, which was taken as the basis of this review. Of the 381 studies analysed, 4.7 per cent were designed in such a way that no clear outcome could be identified and 38.3 per cent demonstrated a significant treatment effect, although this may have been judged on a single alcohol outcome and single follow-up. Similarly, meta-analyses typically depend upon one or two alcohol outcomes. In short, the treatment effectiveness literature tends to underestimate the benefits of treatment by focusing attention on drinking outcomes.

3.2 Equivalence of outcomes for psychosocial treatments

In Alice in Wonderland, the Dodo Bird's verdict was that "everybody has won, so all shall have prizes". The phrase "dodo bird verdict" has been adopted by researchers to describe the common finding that diverse psychotherapy interventions, when compared against each other as active treatments, produce very similar outcomes (Stiles, Shapiro and Elliott, 1986). The main findings of the UKATT and Project MATCH are examples of the phenomenon – even in the case of two treatments with different theoretical underpinnings and of different intensity, there were few differences between treatment outcomes. Part of the explanation is that there are potent ingredients common to all of these therapies (Bergin and Garfield, 1994; Luborsky *et al.,* 2002), rather than the inference that it does not matter what treatment is delivered or incorrectly concluding that treatment does not work. Moreover, because it would be unethical to set up a trial with a control group that received no treatment, trials are designed to compare a promising novel treatment against a treatment of established effectiveness (Finney, 2000). Trial designs also try to control for any variability other than in the treatments, for example therapist or site differences, that might influence the outcome. It follows that finding treatments to be equivalent is not unexpected.

There are some design issues that may also contribute to the equivalence of treatments:

3.2.1 Pre-treatment motivation

Motivation is thought to be a key element of behaviour change. Individuals entering similar treatment

programmes may have similar levels of motivation. A high proportion of individuals entering treatment, up to 20 per cent, have already achieved abstinence or started to make changes (Tober *et al*, 2000, p162–163; Rosengren, Downey and Donovan, 2000). It is reasonable to infer that a much higher number of help seekers are moving through the stages of change and on a trajectory towards the action stage before ever connecting with treatment services. Motivation may also be influenced by whether the treatment is offering only abstinence or moderation.

3.2.2 Therapist effects

The strength of therapeutic alliance is a predictor of outcome (Babor and Del Boca, 2003, pp 55, 58) and sensitive to therapist characteristics. Therapists account for 9–40 per cent of outcome variance and are seen by some to be the essential therapeutic ingredient (see chapter four). It follows that treatment equivalence trials will attempt to control for therapist variables by attention to training of trial therapists, supervision and use of manuals.

3.2.3 Shared ingredients

Different therapies have common elements. Social behaviour and network therapy (Copello *et al.*, 2002), for example, is delivered in a motivational style, involves social network members and includes coping skills. A supportive network is a key element of 12-Step programmes and the community reinforcement approach; coping skills training may be a component of family work or a standalone treatment. Effective treatments will often have more in common than they have differences.

3.2.4 Matching

The evidence on the benefits of matching service users to specific interventions is weak (Berglund, Thelander and Jonsson, 2003, p70–73). It is, however, implicit to some interventions that assessment leads to accurate selection of the most suitable treatment, as in skills training (Monti *et al.* 2002). Equally, some extreme characteristics might also be matched. For example, Karno *et al.* (2002) found people with high emotional states did best when they had the opportunity to express emotion. The more matching that takes place, the more likely that outcomes will be equivalent.

3.2.5 Post-treatment events

Life events after treatment will be shaped but not determined by pre-treatment variables and the specific treatment effects. Tucker and King (1999) have suggested that the process of moving out of substance misuse evolves over several years – negative life events diminish after treatment and positive life events increase. If outcomes depend on post-treatment life events, then these are likely to occur in a similar pattern for all trial participants and, again, produce equivalent results.

3.3 The Mesa Grande project

As stated in chapter one, the Mesa Grande project has been chosen as a starting point for this review. It is therefore necessary to justify this decision here.

WR Miller *et al.* have periodically compiled systematic reviews of research on the outcome of treatment for alcohol problems. The latest of these (Miller *et al.*, 2003) eventuated in a large table (hence Mesa Grande) in which the results of 381 trials of treatment outcome published before 2001 were summarised.

Studies entering the Mesa Grande were confined to controlled trials, usually randomised controlled trials (RCTs). The great majority compared different types or intensities of treatment or the same type of treatment with and without the addition of a special therapeutic component. Controlled trials comparing at least two treatment or control conditions, and reporting post-treatment outcome on at least one measure of alcohol consumption or alcohol-related problem, were included in the review. Unpublished studies were also included if full reports describing the results were available.

Two independent raters judged the methodological quality of studies on 11 dimensions, resulting in a methodological quality score (MQS) for each. Outcome logic scores (OLS) were arrived at by a similar rating process and resulted in a classification of each study as providing strong positive evidence (+2), positive evidence (+1), negative evidence (-1) or strong negative evidence (-2) for a particular treatment modality. The MQS and OLS were then multiplied for each study to arrive at a weighting of the study's contribution to the evidence on treatment outcome by its methodological quality. These products were then summed across all studies bearing on the effectiveness of a specific treatment modality, resulting in

the cumulative evidence scores (CES) for 48 modalities shown in rank order at the end of this chapter.

The CES summarises the balance of evidence currently available for and against the effectiveness of a particular treatment approach, with high positive scores reflecting approaches with a large amount of evidence in their favour, high negative scores reflecting approaches with a large amount of mainly unfavourable evidence and intermediate scores reflecting either a small number of studies in total or a larger number of studies with conflicting evidence.

To avoid drawing undue conclusions from a very small number of studies, the table at the end of this chapter has a separate section for 41 modalities that had been tested in only one or two studies at the time the Mesa Grande was carried out. If any modality is not mentioned , it is because there had been no controlled evaluations of its effectiveness at the time.

Further details of the method used to construct the Mesa Grande and of all the individual studies included in it may be found in Miller *et al.* (2003).

3.3.1 Limitations and strengths of the Mesa Grande

The "box-score" method used by Miller *et al.* in the Mesa Grande has been criticised by Finney (2000):

a **Low or variable power to detect treatment effects**. Many trials of treatment for alcohol problems have low statistical power to detect small or even medium-sized effects of treatment at a statistically significant level. Therefore, studies in the Mesa Grande regarded as providing no evidence for the effect of a particular treatment may have missed finding such an effect because of a small sample size. Also, statistical power can vary between groups of studies representing different treatment modalities in the Mesa Grande.

b **Multiple statistical tests for treatment effects**. Treatment trials in the alcohol literature typically use statistical tests on several outcome variables and several follow-up points to investigate the effectiveness of treatment. Without appropriate statistical corrections, unfortunately absent from many studies, a positive finding of effectiveness may merely reflect differences between treatment conditions occurring by chance alone.

c **Variable comparison conditions**. Among trials of treatment effectiveness, the focal treatment is compared to a range of comparison conditions, for example a no-treatment or minimal-treatment condition, a briefer treatment of the same or a different kind, an alternative treatment of the same intensity, the same treatment with the addition or subtraction of a specific component. The problem with the box-score method is that it does not adequately take account of the varying strengths of the opposition in reaching its judgements on the effectiveness of treatment modalities.

d **Absence of consistent data on service user characteristics**. To make meaningful comparisons between different treatment modalities, it must be assumed that the service users treated by them in research trials were roughly similar on key characteristics and likely to respond similarly to treatment in general. Unfortunately, many studies reported in the alcohol treatment literature fail to provide sufficient details of the service users under treatment for this assumption to be made.

Another possible criticism of the Mesa Grande method is that it reflects not evidence on treatment effectiveness *per se*, but only the amount of research attention that a treatment modality has received. According to this criticism, a modality that has been developed by psychologists with a high level of research training and a strong research orientation would be favoured in the Mesa Grande over a modality that may be equally effective but has been subjected to fewer research evaluations. There may or may not be some validity to this claim, but a review of evidence on treatment effectiveness can only be based on what the available evidence tells us; it is not possible to guess what the evidence in favour of a treatment might *be* if it had been researched more extensively.

The main alternative to the box-score method for synthesising the scientific literature is to conduct quantitative meta-analyses with calculation of effect sizes (Wilson, 2000). This involves pooling data from all service users taking part in studies bearing on the effectiveness of a particular modality and calculating the extent to which the outcomes among service users treated by the modality are superior or inferior to those of another treatment or control group (i.e. the effect size, defined as the standardised mean difference between groups). This

allows a determination, not only of whether one kind of treatment is superior to another, but also of the magnitude of that superiority.

A quantitative meta-analysis also avoids the first two criticisms above – low or variable statistical power and multiple statistical tests for treatment effects – applying to the box-score method. However, the last two problems – variable comparison conditions and lack of consistent data on service user characteristics – apply typically to quantitative meta-analyses as well as to box-score reviews.

A further limitation of quantitative meta-analysis is that it is best suited to estimating the effects of single treatment modalities compared to a control group or comparisons between specific pairs of treatment approaches (for example, inpatient vs outpatient treatment, briefer vs more intensive treatment programmes). Meta-analyses of these kinds will be referred to at appropriate places in subsequent chapters of this review.

By contrast, the Mesa Grande provides a way to make direct comparisons on a single scale regarding the amount of evidence for or against a treatment's effectiveness among the full range of treatment modalities that have been researched. It is important to understand that the Mesa Grande does not order treatments directly in terms of their degree of effectiveness, but only in terms of the relative quantities of research evidence supporting their effectiveness. Therefore, despite its inherent problems, the Mesa Grande will be useful for present purposes, especially when its findings are integrated with those from relevant meta-analyses and other sources of data. At the very least, the Mesa Grande gives a rough indication of which treatments the weight of research evidence considers effective, which it considers ineffective and which treatments are awaiting verdicts.

3.4 Systematic reviews commissioned by governments

Three systematic reviews including evidence on the effectiveness of treatment for alcohol problems were commissioned by national governments in different parts of the world and published in 2003.

3.4.1 Scottish Health Technology Assessment

The Scottish Health Technology Assessment report (Slattery *et al.,* 2003) was compiled following the development of a national Plan for Action on Alcohol Problems (Scottish Advisory Committee on Alcohol Misuse, 2002) in Scotland. It focused on secondary care services for people who are alcohol dependent, defined as those who have undergone some form of alcohol detoxification and for whom the prevention of relapse following detoxification is the primary aim of treatment.

The report did not include attention to community-based interventions for people not needing detoxification, but was complemented by a separate document giving guidelines on the management of alcohol problems by primary care professionals (Scottish Intercollegiate Guidelines Network, 2003).

The report set out to answer two main questions:

1 Which treatment or combination of treatments (pharmacological or psychosocial) will yield the maximum maintenance of recovery among the population of those with alcohol dependence who have undergone detoxification?

2 What is the most effective and efficient approach to delivering the individual interventions (or combination of interventions) taking into account factors such as different risk groups, locations and durations of treatment?

To answer these questions, and in addition to systematic literature reviews, the Health Technology Assessment (HTA):

a Used evidence submitted by professional groups, patient groups, manufacturers, other interested parties and experts in the field

b Commissioned research to elicit the views and preferences of service users

c Assessed the current provision of services by two postal surveys, one directed at NHS specialist facilities and the other at non-NHS providers

d Included the results of a specially commissioned economic evaluation.

The first of the HTA's 28 recommendations was that four psychosocial treatment modalities were clinically effective and cost-effective interventions, and were recommended as treatment options for the prevention of relapse in alcohol dependence. These were:

i Behavioural self-control training

ii Motivational enhancement therapy

iii Marital and family therapies

iv Coping and social skills training.

Acamprosate and supervised oral disulfiram were also recommended as adjuncts to psychosocial interventions.

Given the topicality of this report and the similarity of the healthcare systems in Scotland and England, its findings are of major relevance to the present review.

3.4.2 Evidence-based review for the Swedish Council on Technology Assessment

This review (Berglund, Thelander and Jonsson, 2003) is perhaps the most comprehensive synthesis of evidence on the effectiveness of treatment for alcohol and other drug problems to have appeared so far. The project was established to identify the most effective and, if possible, cost-effective interventions for alcohol and other drug problems and also those interventions already in use but not supported by research evidence. The findings of the review were intended to be used by clinicians, health administrators and policymakers to ensure the most appropriate allocation of limited healthcare resources in Sweden.

With respect to treatment of alcohol problems this exercise resulted in the following general conclusions (p596):

- Short-term preventive interventions by healthcare providers that target hazardous levels of alcohol consumption are shown to be effective in reducing alcohol consumption for up to two years
- Many psychosocial treatment methods with a clear structure and well-defined interventions have favourable effects on alcohol problems. These methods include cognitive behavioural therapy, 12-Step treatment and structured interactional therapy strategies that involve the family in treatment
- The effects of many psychosocial treatment methods (such as general counselling) have not been scientifically documented
- Benzodiazepines are the most thoroughly documented medication for alcohol withdrawal. The routine practice of supplementing this treatment with anti-epileptic therapy does not have satisfactory scientific support
- In long-term treatment of alcohol addiction, acamprosate and naltrexone have confirmed effects, as does disulfiram when delivered under supervision
- The scientific evidence shows that treatment with antidepressants and buspirone relieves depression and anxiety in alcoholics, but it does not show any positive effects on alcohol dependence.

3.4.3 Review prepared for the National Alcohol Strategy in Australia

One of the first systematic reviews of treatment for alcohol problems to include quantitative meta-analysis was carried out in Australia by Mattick and Jarvis (1993). Roughly ten years later, the Australian federal government commissioned the National Drug and Alcohol Research Centre at the University of New South Wales to update this review. An associated task was the development of updated guidelines for the treatment of alcohol problems (Shand *et al.*, 2003b).

No recommendations are given in the review document (Shand *et al.*, 2003a), but each chapter contains one or more lists of key points emerging from the analysis contained within it. These key points and the text they summarised were consulted in the preparation of the present review.

3.5 Project MATCH

One of the main reasons for conducting a meta-analysis of treatment trials is to increase sample size and statistical power. However, in the case of a well-designed trial with sufficient statistical power to detect even small effects of treatment, its findings are just as valuable as those from a meta-analysis – possibly more valuable because well-defined treatments are applied consistently across homogenous samples of service users of known characteristics and are studied under rigorous conditions.

This applies to Project MATCH, which was mainly designed to investigate whether matching service users to treatments would increase the overall effectiveness of treatment. Project MATCH was the largest study of the effectiveness of treatment for alcohol problems ever mounted.

The principal findings from the project were reported in Project MATCH Research Group (1997a, b; 1998a, b) and Babor and del Boca (2003) and, bearing carefully in

mind differences in the treatments systems of the USA and England, are of major importance for this review.

3.5.1 Design and methods

Project MATCH (Matching Alcoholism Treatment to Client Heterogeneity) involved nine treatment sites in the USA and a total of 1,726 clients, divided into two parallel but independent clinical trials – an outpatient arm (n=952) and an aftercare arm (n=774).

The study assessed the benefits of matching clients showing alcohol dependence or abuse (DSM-III-R criteria) to three different treatments with respect to 20 client attributes. Sixteen primary and 11 secondary specific client-treatment matching hypotheses were tested. Clients within each arm of the study were randomly assigned to three 12-week, manual-guided, individually delivered interventions:

- 12-Step facilitation therapy (TSF) – an approach following the principles of Alcoholics Anonymous and founded on the idea that alcoholism is a spiritual condition and a medical disease (see chapter 12)
- Cognitive behavioural coping skills therapy (CBT) – an approach based on social learning theory (see chapter nine)
- Motivational enhancement therapy (MET) – a less intensive form of therapy based on the principles of motivational psychology (see chapter eight).

All three treatments were comprehensively laid out in manuals (Kadden *et al.*, 1992; Miller *et al.,* 1992; Nowinski, Baker and Carroll, 1992) and delivered by trained therapists on a one-to-one basis. CBT and TSF consisted of 12 weekly therapy sessions, while MET consisted of four sessions spread over 12 weeks.

Treatment was preceded by eight hours of assessment over three sessions. There were five follow-up assessments, at post-treatment and at three-monthly intervals thereafter. The main outcome measures were the percentage of days abstinent and drinks per drinking day during the one-year post-treatment period (see Project MATCH Research Group, 1993). There was also a three-year follow-up confined to the outpatient arm (Project MATCH Research Group, 1998a).

3.5.2 Findings

Matching effects: The overall objective of Project MATCH was to determine whether the careful matching of particular characteristics of clients to different forms of treatment would result in a significant improvement to the effectiveness of treatment for alcohol problems in general. This general matching hypothesis was not confirmed.

Despite the general failure to find an overall improvement in treatment effectiveness through matching, the project did discover a few matching effects that can be applied in treatment programmes. These were as follows:

3.5.2.1 Psychiatric severity

In the outpatient arm, clients who were low in psychiatric severity at the beginning of the trial (i.e. those with low psychiatric co-morbidity) reported more days abstinence after TSF than after CBT. This advantage for TSF had disappeared by the time of the three-year follow-up and this matching effect was not present at all in the aftercare arm.

Stout *et al.* (2003) examined the clinical significance of this matching effect by comparing clients who were correctly matched according to the matching principle with those who were mismatched (i.e. clients with high psychiatric severity at baseline were considered matched when randomly assigned to CBT and mismatched when assigned to TSF and conversely for those with low psychiatric disturbance). They found that one year after the start of treatment, matched clients had a roughly five per cent better success rate than those who were mismatched, suggesting that only a minority of clients would benefit from the matching principle in question.

3.5.2.2 Network support for drinking

In the outpatient arm only, those individuals with a social network supportive of drinking (i.e. those with numerous heavy drinking friends) did better with TSF than MET. This effect did not emerge until the three-year follow-up, implying a lag in time for the behavioural changes in question to become apparent, but when it did emerge it was the largest matching effect identified in the trial.

The implication here is that clients with social networks supportive of drinking will benefit especially from a programme that encourages attendance at AA meetings, because it is the most effective means of eliminating heavy drinking friends and acquaintances from the social

network. The alternative source of (non-drinking) social support provided by the fellowship would probably be an additional factor (Connors, Tonigan and Miller, 2001).

There was clear support for the hypothesised causal chain underlying this matching effect, involving degree of AA participation as a variable mediating the effect (Stout *et al.* 2003). As with the psychiatric severity matching effect, however, the clinical implications of the network support for drinking match were relatively modest, with clients correctly matched having a seven per cent better success rate at the three-year follow-up point than those mismatched and a three per cent better success rate than those unmatched (Stout *et al.*, 2003).

3.5.2.3 Client anger

Also specific to the outpatient arm, the finding here was that clients initially high in anger reported more days of abstinence and fewer drinks per drinking day if they had received MET than if they had received CBT. This effect persisted from the one-year to the three-year follow-up point.

This finding makes sense in terms of the deliberately non-confrontational nature of MET (see chapter eight) and high client anger at initial assessment is clearly a positive indicator for the offer of MET. When clients correctly matched by the matching rule (i.e. those high in anger allocated to MET and those low in anger allocated to CBT) were compared with those mismatched, the former had a roughly ten per cent better success rate at the one-year follow-up point than the latter and a five per cent better success rate than those who were unmatched (i.e. allocated to TSF). While not a radical improvement to success rates, this superior outcome suggests that clients in outpatient programmes who are initially high in anger would be likely to benefit from being offered MET.

3.5.2.4 Alcohol dependence

The only statistically significant matching effect to appear from the aftercare arm of the study was that clients low in alcohol dependence at intake reported more days abstinence with CBT than with TSF at one-year follow-up, whereas those high in dependence reported more abstinent days with TSF than with CBT. Since clients in the aftercare arm were not followed up at three years post-treatment, it is not possible to say whether this effect was a lasting one.

This finding can be explained by the fact that TSF places more emphasis on total abstinence than CBT and that abstinence becomes more necessary to recovery as dependence increases (see chapter two). It also suggests that, following inpatient detoxification or day care, individuals with severe levels of dependence should be offered a 12-Step programme and those with lower dependence should be offered cognitive behavioural therapy. Project MATCH findings have no bearing on the outcome of clients in moderation-oriented programmes since, although abstinence may have been urged with different degrees of emphasis in the three treatments, moderation was never an explicit goal for any of the treatments studied.

In terms of clinical effectiveness, clients matched on the principle in question had a ten per cent better outcome than those mismatched in the period 6–12 months after the beginning of treatment and a five per cent better success rate than those who were unmatched (i.e. allocated to MET) (Randall *et al.*, 2003).

3.5.3 Main effects of treatment

Although the main effects of treatment were not the intended focus of Project MATCH, they are nevertheless of considerable interest. Overall, the study showed that there were no clinically meaningful differences in success rates among the three treatments studied. This basic finding has two important aspects:

1 **The effectiveness of 12-Step facilitation programmes was clearly supported**. Project MATCH represented the first time a treatment programme based on 12-Step principles had been compared in a randomised trial with other commonly used and scientifically based treatments among the average run of people attending for specialist treatment for alcohol problems. As noted above, TSF was equivalent in effectiveness to the other two treatments.

   It must be stressed that TSF is not the same as attendance at Alcoholics Anonymous. Although it was usually delivered by "recovering alcoholics", TSF was run on an individual basis and did not include many of the important features of AA group meetings and sponsorship. As its name suggests, TSF was intended to facilitate attendance at AA. However, this aim appears to have been successful since clients who

had received TSF attended significantly more AA meetings in the post-treatment period than those who had received the other two treatments. These findings, combined with some of the matching effects described above, are clearly relevant to the practice of professionals regarding referral to AA and encouragement to attend meetings (see chapter 12).

2 **A briefer treatment, MET, was no less effective than two more intensive treatments, CBT and TSF**. This applied to the entire range of clients in the sample and not only to those of lower dependence or problem severity. This is important because the consensus on the effectiveness of briefer treatments before Project MATCH was that they should be confined to service users with lower levels of dependence and problems. Although MET was somewhat more than one-third as expensive to deliver as the other treatments, it was clearly more cost-effective in the *post hoc* economic evaluation carried out in conjunction with Project MATCH (Cisler *et al.*, 1998). For further details, see chapter 13.

3.5.4 Implications for treatment matching in general

Despite evidence for some client-treatment matches, Project MATCH did not confirm the high expectations of the value of treatment matching that were current before the project began. As the MATCH investigators themselves wrote: "Despite the promise of earlier matching studies … the intuitively appealing notion that matching can appreciably enhance treatment effectiveness has been severely challenged," (Project MATCH Research Group 1997b, p1690).

However, this general failure of treatment matching applies only to systematic matching, in the sense of a formal treatment system with rules to channel clients into specific forms of treatment. The findings are not relevant to other matters that might be included under the general heading of treatment matching and it is important to be clear what these are.

1 They have no bearing on the clinical skill of tailoring treatment to the unique needs, characteristics and preferences of a particular client in the individual case

2 They do not affect the kind of client-treatment matching that informally occurs when therapeutic services dealing with medical, economic, psychiatric, family or legal problems are added *on* to a basic treatment programme – for example, when it is evident that a client has a special need for vocational counselling or when the marital relationship is obviously contributing to the client's problem and marital therapy would be acceptable to the client and partner

3 They do not disconfirm the possible effectiveness of other types of matching, e.g. to inpatient vs outpatient treatment settings, to face-to-face vs group therapies, or to pharmacotherapy vs psychosocial treatment

4 They do not disconfirm other forms of matching that were not studied in Project MATCH, such as client-therapist interactions (the possibility that certain types of client do better with certain types of therapist) or client self-matching (i.e., client choice of treatment, see chapter two)

5 Although the Project MATCH sample was representative of typical treatment attenders in the USA, certain types of problem drinkers were excluded, namely those with concomitant dependence on other drugs, homeless problem drinkers and those with co-morbid psychoses. Some kind of matching procedure may yet prove effective for these groups.

There are also findings from Project MATCH involving client-treatment matches in the economic data. These have shown that specific treatments may be more cost-effective than other treatments for clients with certain characteristics. These findings will be described in chapter 14.

3.5.5 Implications for treatment delivery

Since it was essentially a study of treatment matching, Project MATCH did not include a no-treatment or minimal-treatment control group with which the effects of the study treatments could be compared; it is therefore not strictly possible to make logical inferences about the absolute effectiveness of the Project MATCH treatments. Nevertheless, by any method of accounting, the success rates reported in the project were impressive. Therefore, in addition to its substantive findings, Project MATCH is likely to influence treatment provision simply because of the high standards of training and quality assurance it contained. Its impressive treatment outcome results could well have been due to the careful selection and thorough training of therapists and the fact that all three treatments

were comprehensively laid out in treatment manuals (Kadden *et al.*, 1992; Miller *et al.*, 1992; Nowinski, Baker and Carroll, 1992). This was accompanied by rigorous quality assurance methods, which ensured that treatment was delivered in the ways intended and was of generally high quality.

3.6 The United Kingdom Alcohol Treatment Trial

For the provision of alcohol problems treatment in the UK, the most relevant finding from Project MATCH concerns the absence of clinically significant differences in outcomes from the treatments studied.

Project MATCH found that a less intensive and less costly treatment (MET) resulted in similar outcomes to two more intensive and expensive treatments (CBT and TSF). This applied to all levels of severity of the clients' alcohol problems and to all levels of alcohol dependence among those included in the project.

Owing to the large number of clients in each of the two samples, this absence of differential outcome is very unlikely to have been an error due to lack of statistical power. Therefore, it is possible to conclude that, among the normal range of clients attending for specialised treatment in the USA, MET was found to be equal in effectiveness to, and therefore more cost-effective than, CBT and TSF.

Although the Fellowship of Alcoholics Anonymous is a vital part of the response to alcohol-related harm in the UK, TSF is less relevant to specialised treatment provision in the UK than in the USA. However, cognitive behavioural treatment is widely used in Britain and would be regarded by many treatment providers as the most effective form of psychosocial treatment. Therefore, a possible deduction from Project MATCH findings is that motivational enhancement therapy should become the main treatment of choice in services for problem drinkers on the grounds of cost-effectiveness.

Before this conclusion could be accepted, however, it was necessary to conduct a trial of treatment for alcohol problems in the UK to explore the implications of Project MATCH for British services. It is hazardous to extrapolate directly from the findings of Project MATCH to the UK treatment situation because:

- All clients taking part in Project MATCH were directed towards total abstinence. In the UK, however, roughly 20 per cent of clients of a typical specialist alcohol agency are directed towards a moderation goal (Rosenberg *et al.*, 1992)
- More generally, differences between the way healthcare is funded and provided in the two countries make it essential to check important findings obtained in the USA in this country
- The cultural setting in which treatment takes place may also be crucial in ways that are difficult to anticipate.

Partly to meet this need for a British trial following on from Project MATCH, in 1998 the Medical Research Council awarded a grant for a major, multi-centre trial of treatment for alcohol problems. The UK Alcohol Treatment Trial (UKATT) involved three clinical research centres (in Leeds, Birmingham and Cardiff), five treatment sites around these centres involving both statutory and non-statutory services, a training centre (Leeds), a centre responsible for economic evaluation and statistical analysis (York) and a research co-ordinating centre (Newcastle). The hypotheses, research design and methods of the trial were described by the UKATT Research Team (2001).

Two treatments were compared:

- **Social behaviour and network therapy** (SBNT; Copello *et al.*, 2002). This was specially developed for the trial on the basis of strong support from theory and research regarding the most effective forms of treatment for alcohol problems. SBNT was scheduled for eight weekly 50-minute sessions
- **Motivational enhancement therapy** (MET). In the UKATT, MET consists of three 50-minute sessions over eight weeks.

The effectiveness and cost-effectiveness of these two treatments were examined in a randomised design. Open follow-up (in which the treatment the client had received was known to the interviewer) was carried out at three months after entry to the trial and blind follow-up (where the client's treatment group was unknown to the interviewer), forming the main analysis, at one year after entry. Various aspects of treatment outcome were measured for the three months preceding the assessment point.

3.6.1 Hypotheses

UKATT hypotheses were formally expressed as null hypotheses on methodological grounds (see UKATT Research Team, 2001) but it will be more meaningful here to describe them as having a specific direction. There were two main hypotheses:

1 More intensive, socially based treatment (SBNT) will be more effective than less intensive, motivationally based treatment (MET)

2 Less intensive, motivationally based treatment (MET) will be more cost-effective than more intensive, socially based treatment (SBNT).

There were also five subsidiary hypotheses involving predictions of interactions between client characteristics and treatment outcomes (matching hypotheses). These were based partly, but not completely, on client-treatment matches that had been discovered in Project MATCH. At the time of writing, the data relevant to these subsidiary hypotheses is still being analysed and will not be commented upon further.

3.6.2 Design characteristics

Details of the trial design, procedures and assessments can be found in UKATT Research Team (2001). It is more relevant here to focus on some general principles and characteristics that determined the kind of trial carried out:

- **A pragmatic trial**. In a pragmatic trial, treatments are compared under the conditions in which they would be applied in practice and the findings of the study are intended to be directly applicable to decision-making in clinical practice
- **An effectiveness trial**. Effectiveness trials are conducted in "real world" conditions and seek to maximise external validity (generalisation to practical clinical situations)
- **Training, supervision and quality control of treatment delivery**. In this aspect of the trial, the UKATT investigators built on the high standards set in Project MATCH (Tober *et al.*, 2006)
- **Treatment process**. In addition to a comparison of outcomes between two forms of treatment for alcohol problems, there was also a focus on examining treatment process (the "how" of treatment – see chapter four) by both quantitative and qualitative methods (Orford *et al.*, 2006)
- **Economic evaluation**. While most published studies have used retrospective data to investigate the cost-effectiveness of treating alcohol problems, in UKATT, data from clinical sites and clients was gathered concurrently with all other data, the main aim being to compare the additional costs and benefits of SBNT compared with MET and to comment on the cost-benefits applying to UKATT treatments as a whole (see chapter 14).

3.6.3 Findings

Figures 3a and 3b show changes from baseline to one-year follow-up on the two main outcome measures of alcohol consumption used in the trial – percentage days of abstinence (PDA) and drinks per drinking day (DDD). The main outcomes from the trial are described in more detail by the UKATT Research Team (2005a).

On each of the outcome measures in figures 3a and 3b, both groups showed marked (and statistically significant) improvements at three-month follow-up and one-year follow-up. However, there were no significant differences between groups in changes on either of these measures.

The same pattern of results was seen for alcohol dependence (Leeds Dependence Questionnaire: Raistrick *et al.*, 1994), alcohol-related problems (Alcohol Problems Questionnaire: Drummond, 1990) and psychiatric co-morbidity (General Health Questionnaire: Goldberg, 1972). To summarise, no statistically significant differences on changes in outcomes measures were observed and the first hypothesis (section 3.6.1) was therefore not confirmed.

To convey better the clinical significance of UKATT findings, figure 3c shows one-year outcomes according to a classification scheme developed by Heather and Tebbutt (1989). This focuses primarily on changes in alcohol-related problems from baseline to follow-up. As will be obvious from figure 3c, there were no significant differences between groups in proportions of clients allocated to these categories.

It should be noted from Figure 3c that:

- Over one-quarter of clients showed a successful outcome with no alcohol-related problems at follow-up

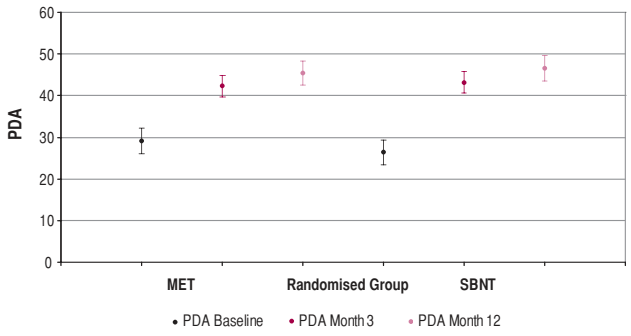


Figure 3a: Mean (SD) for percentage days abstinent (PDA) from the UK Alcohol Treatment Trial

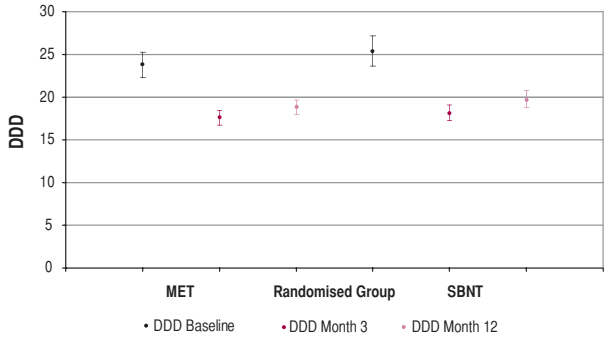


Figure 3b: Mean (SD) for drinks per drinking day (DDD) from the UK Alcohol Treatment Trial

- Forty per cent were at least much improved with a reduction in alcohol-related problems of two-thirds or more
- Fifty-eight per cent were at least somewhat improved with a reduction in alcohol-related problems of one-third or more.

Both UKATT treatments produced statistically significant improvements in alcohol consumption, alcohol dependence, alcohol-related problems and aspects of general functioning. It is extremely unlikely that such changes would have occurred as a result of natural recovery processes. UKATT has therefore confirmed the effectiveness of MET and found that a novel treatment, SBNT, is no less effective than MET (UKATT Research Team, 2005a).

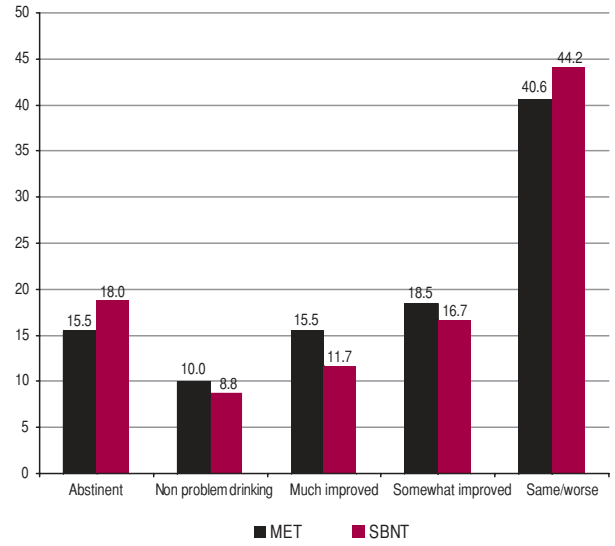


Figure 3c: Categorical treatment outcomes from the UK Alcohol Treatment Trial

A detailed summary of UKATT findings on cost-effectiveness will be given in chapter 14. Suffice it to say here that, as might be expected in view of their differences in intensity, MET was shown to be significantly cheaper to deliver than SBNT. However, in a full societal economic evaluation, based on estimates of resources used by clients before and after treatment in the healthcare, social services and criminal justice sectors, there were no statistically significant differences between the two treatments in cost-effectiveness. The second hypothesis (section 3.6.1) was therefore not confirmed.

3.7 Implications for treatment practice

Implications for treatment practice from the results so far available from UKATT will be considered in conjunction with the findings from Project MATCH. Two large multi-centre trials of treatment for alcohol problems, one in the UK and one in the USA, have now failed to find statistically significant differences in outcomes between a total of four treatment modalities that are either widely practiced or have firm foundations in theory and research.

The findings of MATCH and UKATT taken with the systematic reviews are consistent with the conclusion that there is "a wealth of alternatives" (Miller *et al.*, 1998) available for treatment in specialist services. This does not mean that all treatment methods are effective, as shown by the Mesa Grande (see page 44), or that it does not matter what treatment is given; rather, it means that there is a range of effective treatments with little research evidence of clear differences in effectiveness between them. At the present state of our research knowledge, therefore, there is no "best" treatment for alcohol

problems or "treatment of choice", but a number of effective treatments that are known to be of potential benefit to clients.

There is an apparent discrepancy in this chapter between the contents of the Mesa Grande, in which treatment modalities are ordered by the amount of evidence supporting their effectiveness, and the findings of Project MATCH and UKATT which failed to report clear, significant differences between a set of prominent treatments. One way of resolving this is to recall that the Mesa Grande does not directly address the comparative effectiveness of treatments but only the comparative weight of research evidence that is relevant to their effectiveness. It may be that the findings of Project MATCH and UKATT provide a truer picture by confirming the "equivalence of outcomes" but we cannot know this for certain. On the other hand, these two RCTs, however large and rigorously designed they may have been, were only two pieces of evidence compared with the 381 controlled trials included in the Mesa Grande and so may only give us a partial view of treatment effectiveness. The most reasonable conclusion here is that the apparent discrepancy in question highlights an area of uncertainty in the science of alcohol treatment: are treatments made effective by the inclusion of specific methods of behaviour change or is it non-specific factors and the way treatment is delivered, common to a range of ostensibly different treatments, that mainly account for their successful outcomes? This question is a vital one for future research but cannot be answered in this review.

As noted, Project MATCH failed to discover many clinically significant matches between clients and showed that client-treatment matching, at least of the kind studied in the project, was unlikely to produce a clear, overall improvement to the effectiveness of treatment for alcohol problems in general. Nevertheless, a few client-treatment matches were discovered and these have some clinical usefulness (see chapters nine and 12).

In UKATT, the investigation of such matching effects is not complete and no findings in this area are yet available. However, if it transpires that none or few indications of which types of client are suited either to MET or SBNT become apparent, the selection of treatments in practice must be made on other grounds than research evidence. These are:

- Service user preference
- Clinical judgement in the individual case
- Existing pools of therapist training and enthusiasm for one or other treatments
- Logistical considerations.

One other implication for practice emerges from the findings of Project MATCH and UKATT. This is that MET, a briefer and less expensive treatment, has been shown to be as effective on the whole as three more intensive treatment modalities, CBT, TSF and SBNT, quite apart from evidence of its effectiveness from other studies. The practical implication of this is that, unless there are good grounds to offer service users more intensive treatments as a first resort, MET should be considered as the initial step in a stepped care programme within a specialist agency (see chapter two). This implication is strengthened by the fact that motivational interviewing skills, the basis upon which MET is efficiently carried out, are being increasingly taught among treatment personnel in the UK. This suggestion will be returned to in chapter eight.

Implications for…

Service users and carers

- There are treatment options offering very different approaches that deliver equally good outcomes
- Effective treatment is often brief – a few sessions.

Service providers

- Use of treatment manuals can improve the effectiveness of treatment delivery and, therefore, outcomes
- There is some evidence favouring matching service users to particular treatments – consider psychiatric severity, network support for drinking and anger
- Matching to service user choice will probably produce treatment outcome gains
- There is some justification in offering motivational enhancement therapy as the first treatment of stepped care, unless there are particular grounds to opt for a more intensive intervention at the outset.

Commissioners

- The evidence base for commissioning alcohol services is consistent across many different cultures and when subject to different review methods
- The evidence is valid only if properly trained and competent staff are available to deliver treatment and if treatment is indeed delivered as described in the research
- There is no “best buy”, rather a range of interventions some of which may have particular applicability but most of which are generally effective
- Notwithstanding its shortcomings the Mesa Grande offers a helpful snapshot of the current evidence base for treating alcohol problems.

Researchers

- There is some justification in taking motivational enhancement therapy as the gold standard, or reference treatment, against which to compare new treatments
- Research into matching contingencies other than service user/treatment could be useful
- There is a need for a randomised controlled trial of motivational enhancement therapy against a brief (equal sessions) social treatment, such as social behaviour and network therapy.

The Mesa Grande

Treatment modality	Rank	CES	N	%+	Mean MQS	Mean severity	% Excellent
Brief intervention	1	390	34	74	13.29	2.47	53
Motivational enhancement	2	189	18	72	12.83	2.72	50
GABA agonist (acamprosate)	3	116	5	100	11.60	3.80	20
Community reinforcement	4.5	110	7	86	14.00	3.43	71
Self-change manual (bibliotherapy)	4.5	110	17	59	12.65	2.59	53
Opiate antagonist (e.g. naltrexone)	6	100	6	83	11.33	3.17	0
Behavioural self-control training	7	85	31	52	12.77	2.91	52
Behaviour contracting	8	64	5	80	10.40	3.60	0
Social skills training	9	57	20	55	10.90	3.80	25
Marital therapy – behavioural	10	44	9	56	12.33	3.44	44
Aversion therapy, nausea	11	36	6	50	10.50	3.83	17
Case management	12	33	5	80	10.50	3.75	0
Cognitive therapy	13	21	10	40	10.00	3.70	10
Aversion therapy, covert sensitisation	14.5	18	8	38	10.88	3.50	0
Aversion therapy, apnoeic	14.5	18	3	67	9.67	3.33	0
Family therapy	16	15	4	50	9.25	3.25	0
Acupuncture	17	14	3	67	9.67	3.67	0
Client-centred counselling	18	5	8	50	11.13	3.38	13
Aversion therapy, electrical	19	-1	18	44	11.06	3.78	17
Exercise	20	-3	3	33	11.00	2.00	0
Stress management	21	-4	3	33	10.33	2.67	0
Antidipsotropic – disulfiram	22	-6	27	44	11.07	3.69	26
Antidepressant – SSRI	23	-16	15	53	8.60	2.67	0
Problem solving	24	-26	4	25	12.25	3.75	50
Lithium	25	-32	7	43	11.43	3.71	29
Marital therapy – non-behavioural	26	-33	8	38	12.25	3.63	25
Group process psychotherapy	27	-34	3	0	8.00	2.67	0
Functional analysis	28	-36	3	0	12.00	2.67	33
Relapse prevention	29	-38	22	36	11.73	3.23	31
Self-monitoring	30	-39	6	33	12.00	3.17	50
Hypnosis	31	-41	4	0	10.25	3.75	0
Psychedelic medication	32	-44	8	25	10.13	3.63	0
Antidipsotropic – calcium carbimide	33	-52	3	0	10.00	4.00	0
Attention placebo	34	-59	3	0	12.33	3.33	33
Serotonin agonist	35	-68	3	0	11.33	2.33	0
Treatment as usual	36	-78	15	27	9.07	3.07	13
Twelve step facilitation	37	-82	6	17	15.00	3.67	83
Alcoholics Anonymous	38	-94	7	14	10.71	3.14	29
Anxiolytic medication	39	-98	15	27	8.13	3.40	0
Milieu therapy	40	-102	14	21	10.86	3.64	29
Antidipsotropic – metronidazole	41	-103	11	9	9.73	3.73	0
Antidepressant medication (non-SSRI)	42	-104	6	0	8.67	3.17	0
Videotape self confrontation	43	-108	8	0	10.50	3.34	13
Relaxation training	44	-152	18	17	10.56	3.06	17
Confrontational counselling	45	-183	12	0	10.25	3.00	33
Psychotherapy	46	-207	19	16	10.89	3.26	21
General alcoholism counselling	47	-284	23	9	11.26	3.22	22
Education (tapes, lectures or films)	48	-443	39	13	9.77	2.44	15

Modalities with two or fewer studies

Treatment modality	CES	N	%+	Mean MQS	Mean severity	% Excellent
Dopamine antagonist	40	2	100	10	4.00	0
Sensory deprivation	40	2	100	10	1.00	0
Biofeedback	36	2	100	13	4.00	50
Cue exposure	32	2	100	10	4.00	0
Assessment feedback (Alone)	32	2	100	8	1.00	50
Developmental counselling	28	1	100	14	2.00	100
Detoxification (alone)	26	1	100	13	4.00	0
Anticonvulsant medication	26	1	100	13	4.00	0
Treatment of significant other	26	1	100	13	3.00	0
Transcendental meditation	24	1	100	12	4.00	0
Correspondence	22	1	100	11	3.00	0
Hypnotic medication	22	1	100	11	4.00	0
Interferon	22	1	100	11	4.00	0
Contingency management	20	1	100	10	4.00	0
Affective contra-attribution	18	1	100	9	4.00	0
Tobacco cessation	14	2	50	8	3.50	0
Systematic desensitisation	13	2	50	11.5	4.00	0
Reminiscence therapy	10	1	100	10	4.00	0
Therapeutic community	-4	1	0	4	3.00	0
Assessment as treatment	-6	2	50	12.5	2.00	50
Moral reconation therapy	-7	1	0	7	2.00	0
Apomorphine	-8	1	100	8	3.00	0
Job-finding	-9	1	0	9	4.00	0
Legal counselling	-9	2	50	12	2.00	0
Medical monitoring	-9	1	0	9	2.00	0
Minnesota model	-11	1	0	11	4.00	100
Occupational therapy	-11	1	0	11	3.00	0
BAC surveillance	-11	1	0	11	3.00	0
Neurotherapy	-12	1	0	12	4.00	0
Angiotensin-converting enzyme inhibitor	-14	1	0	7	2.00	0
Choice among options	-14	1	0	14	2.00	0
Buddy system	-16	2	0	8	3.50	0
Dopamine agonist	-16	1	0	8	3.00	0
Dopamine precursor	-16	1	0	8	4.00	0
Serotonin precursor	-16	1	0	8	4.00	0
Stimulant	-18	1	0	9	3.00	0
Recreational therapy	-22	2	0	11	4.00	0
Electrical stimulation of the head	-22	1	0	11	3.00	0
BAC discrimination training	-24	2	0	12	3.50	0
Beta blocker	-26	1	0	13	4.00	0
Anti-psychotic medication	-36	2	0	9	3.50	0

Notes

CES = Cumulative evidence score

N = Total number of studies evaluating this modality

%+ = Percentage of studies with positive finding for this modality

Mean MQS = Average methodological quality score (0–17) of studies

Mean severity = Average severity rating (1-4) of treated populations

% Excellent = Percentage of studies with MQS >14

Reproduced with permission from Table 3 in Miller WR, Wilbourne PL and Hettema JE (2003). What works? A summary of alcohol treatment outcome research, in: Hester, R. K. and Miller, W. R. (Eds.) *Handbook of Alcoholism Treatment Approaches: Effective Alternatives,* p13-63 (Boston MA, Allyn and Bacon).

Chapter 4

Delivering better treatment

This chapter is the last one before we evaluate specific treatments and is the first where we estimate the strength of evidence. The main issue here is how to deliver treatment, rather than what to deliver. The main topics covered are therapist characteristics, service user groups and settings in which to deliver services.

4.1 Background

Research evidence and clinical audit have exposed the variability of treatment outcomes achieved, even for essentially physical treatments, showing that outcomes frequently differ markedly from one practitioner to another and from one centre to another. It is, therefore, to be expected that for conditions such as alcohol dependence, where behaviour change is the target of treatment, specific treatment effects will be modified by other, sometimes more potent, variables:

- The way treatment is delivered – therapist effects
- Ethnocultural factors – particular service user groups
- The place that treatment is delivered – the setting.

It is a consistent finding that psychosocial treatments for problem drinkers deliver very similar results (see chapter three). Problem drinking is a context-dependent condition, that is to say that influences such as cultural norms, social networks, the regulatory system, and per capita alcohol consumption (see chapter 15) – in other words factors other than treatment – have a powerful effect on outcomes. In a meta-analysis of 72 studies, Hettema, Steele and Miller (2005) found that the effect size for ostensibly the same treatment, motivational interviewing, varied from 0–3, meaning different sites and different populations achieved very different outcomes. This chapter is concerned with some of the more important of these factors. Some of them are within the control of agencies, for example therapist competence, while some are beyond an agency's control, for example service user characteristics. Others, for example treatment settings, may or may not be amenable to selection by service users or practitioners.

4.2 The therapist

4.2.1 Context

There is an accumulation of evidence from psychotherapy showing that some therapists achieve better results than others. More effective therapists are characterised as empathic, supportive, goal-directed, helping and understanding, encouraging service user autonomy, and effective at using external resources. Less effective therapists are characterised as psychologically distant, overwhelming, belittling and blaming, intrusive and controlling, avoiding difficult issues, and self-interested (Najavits and Weiss, 1994). Meta-analyses have found that around nine per cent of the outcome variance across treatment effectiveness studies is accounted for by therapist characteristics, although in particular cases this figure may rise to between 40 and 50 per cent (Crits-Christoph and Mintz, 1991). Messer and Wampold (2002) take a more radical position and suggest that meta-analyses demonstrating treatment equivalence are best explained by common therapist characteristics, which are more powerful than the specific treatment.

Trials focused on treatment effectiveness are designed to control for therapist effects (Carroll, 2001), as was the case in Project MATCH and the UK Alcohol Treatment Trial. In these circumstances, most therapists should perform within a relatively narrow range and it will not be possible to say much about the influence of therapist characteristics. It has been suggested that there may be greater variation in the performance of therapists working in substance misuse, because therapy is likely to be disrupted by service users attending while intoxicated, preoccupied with social crises or involved with the criminal justice system. There is little evidence either way.

4.2.2 Therapist performance

Therapist performance is a sensitive issue. How poor performance is dealt with raises issues that agencies may wish to avoid and which may be seen as a threat to the individual practitioner. It follows that any work looking at therapist performance requires careful prior consideration of the ethical and professional consequences of the results. The studies we describe were, in the main, designed to demonstrate therapist effects.

An early example of the power of therapist characteristics was reported by Chafetz *et al.* (1962). One group of 100 problem drinkers attending an A&E department was referred to the hospital's specialist alcohol service by the usual department staff. The other 100 were referred to the same clinic by the social worker or psychiatrists involved in running the clinic, who were trained to engage service users by expressing a wish to help. The simple outcome measure was attendance for first appointment at the specialist service – five per cent of drinkers referred by department staff attended compared to 65 per cent of those referred by the social worker or psychiatrist. This was a rather crude study, nonetheless the results are striking.

Luborsky and O'Brien (1985) studied the effectiveness of 27 addiction therapists trained to deliver one of three manual-based six month treatment programmes – counselling, cognitive behaviour therapy and supportive-expressive therapy. A total of 110 subjects were randomly allocated to the treatments. An index of change, where 1.0 represents maximum change, across seven outcome measures was calculated. Only one therapist achieved a large change, 0.74; four were middle range achievers, 0.4–0.6; and four were small change achievers, less than 0.3 at seven month follow-up. For example, on the outcome measure "drug use", the best therapist achieved a 34 per cent improvement and the worst therapist a 14 per cent worsening. On psychiatric status, the best had an 82 per cent improvement, the worst a one per cent worsening averaged across caseloads. The therapist qualities associated with good outcome were labelled "interest in helping patients", "therapist psychological health" and "psychological skill". It appeared that these qualities were related to the formation of a "helping alliance": the stronger the helping alliance, the better the outcome across the range of measures.

In addition to variations in therapist performance, Luborsky and O'Brien (1985) found that therapists did not adhere to the treatment regimens as laid out in their manual, nor was any one therapist consistent across different service users in terms of the amount of deviation from the treatment manual. For the more specific therapies, that is the supportive-expressive and cognitive behavioural therapies, the greater the purity of treatment delivery (the extent to which the therapist adhered exclusively to the intended treatment), the better the outcome. In contrast, the counselling intervention did better when borrowing from the other two modalities. Miller *et al.* (1993) also found that therapists tend to drift from their assigned therapy task – in a study of 42 problem drinkers who should have received confrontational or client-centred styles of feedback after completing a drinker's check-up, which included physical and psychological tests, the main effect was reduced drinking in the drinker's check-up group compared to a control group, but no significant differences between feedback styles. What had happened was that therapists had mixed confrontational and client-centred styles. When the data was reanalysed to take account of actual therapist style, the confrontational feedback was the most important determinant of poor drinking outcomes at 12-month follow-up.

In a rather different example of therapist drift from a declared goal, the RAND report (Polich, Armor and Braiker, 1980) found that the personal beliefs of therapists had a significant effect on outcomes across agencies. In this large multicentre outcome study, all agencies declared abstinence as their drinking outcome goal. The researchers found, however, that where therapists were wedded to a harm-free drinking orientation, and not their agency's policy of abstinence, then 46 per cent of subjects achieved "normal" drinking at four-year follow-up, compared to 14 per cent where the therapist orientation was towards abstinence.

4.2.3 Building a therapeutic alliance

The relationship between therapist and service user may be critical to the change process. In Project MATCH (DiClemente *et al.,* 2003), there were a total of 80 therapists assigned to their chosen intervention: 26 cognitive-behavioural, 26 motivational, and 28 12-step facilitation. In the outpatient arm, the trial ratings on the Working Alliance Inventory were important predictors of treatment outcome across all three treatments. The client ratings were stronger predictors than those provided by

therapists and the strength of the alliance was related to motivation to change. The authors conclude that, given adequate training, supervision and monitoring of manual-guided treatment, therapists have more characteristics in common than they have differences.

A similar concept, overall therapeutic attitude (OTA), was described by Cartwright (1980) and was shown to predict involvement in alcohol treatment. OTA is made up of role legitimacy, role adequacy and self-esteem. In this context, role means "as an alcohol problems practitioner". The routine inclusion of substance misuse within the curriculum of professional training is important to establish role legitimacy and post-basic training is a prerequisite for building role adequacy, but training alone is insufficient; OTA is only maximised when experience and support are also available to the individual therapist. Lightfoot and Orford (1986) have shown that role support is itself dependent upon situational constraints and Albery *et al.* (2003) demonstrated OTA to be process rather than outcome driven – in other words, OTA can be nurtured within agencies. This is an important concept in the light of the findings from Anderson *et al.* (2004a), who rated the delivery of a screening and brief alcohol intervention (SBI) package by 340 general practitioners from four countries. One group of practitioners received on-site training and support in the use of SBI while the other group had the package mailed to them. Training and support only improved SBI rates for those practitioners who were already secure and committed to working with problem drinkers – SBI rates were worsened for practitioners who did not have initial commitment. The authors speculate on the benefits of shared care work with specialists or some form of coaching from colleagues to overcome the ambivalences towards problem drinkers.

Kasarabada *et al.* (2002) examined the influence of service users' perceptions of their therapists using a brief form of the Expectations About Counselling Scale. A total of 511 participants were recruited and rated their therapists on 14 characteristics at baseline and one year follow-up. Service users' positive perceptions of therapists were significantly related to retention in treatment, better psychological functioning and, to a more limited extent, reductions in drinking but not drug use.

Ideally, all therapists would be equally effective and yet different in personality and style. There may be some practical steps to optimise therapist performance. For example, in a meta-analysis of therapist effects on outcomes, Crits-Christoph *et al.* (1991) found that the use of a therapy manual was associated with small between therapist differences – in other words, these therapists were equally good but they were also experienced therapists. Manual-guided therapy was not supported by Hettema, Steele and Miller (2005), although they had no direct comparison of manual versus no manual. It is unlikely and unnatural that experienced therapists will adhere to any particular treatment approach in its purest form. How far therapists can deviate from a particular approach and still retain efficacy is a further issue. To answer these kinds of questions, Carroll *et al.* (2000) have developed a generic 55-item scale and the UKATT Training Centre developed a similar but briefer process rating scale to measure therapist adherence to protocol or manual.

In a diverse society, the scope for inadvertently causing offence or simply not hitting it off with a service user is considerable. Very simple things that have nothing to do with therapeutic input are probably of considerable importance. For example, when is it acceptable to use first names, is it customary to wear traditional dress and what kinds of religious symbols are acceptable? Common sense suggests that therapists should present themselves in as neutral a way as possible and need not to make statements about themselves which might distract the service user. There is some, albeit rather weak, evidence in support of this view. Service users are most likely to endorse smart, casual dress and disapprove of body piercing. Perhaps more surprisingly, Keaney *et al.* (2004) found that of 150 healthcare users, 54 per cent preferred to be called patients, 41 per cent clients and only five per cent service users. It may seem self-evident that services need to be user-friendly, but the evidence base as to what this actually means and what makes a difference is small.

4.2.4 Conclusions

- Therapist characteristics account for around 10–50 per cent of the outcome variance (IA)
- Treatment fidelity and competent delivery are important elements of a successful outcome (IIA)
- Building a therapeutic alliance between service user and therapist is important (IB).

4.3 Service user groups

4.3.1 Context

Everyone attending a treatment service has the right to expect that their culture, gender and practical needs will be sensitively accommodated in so far as this is reasonably possible. The idea that ethno-culturally competent treatment providers (Straussner, 2001) should be able to work with all service users has appeal in that it offers both service user choice and makes best use of limited resources. However, there may be instances where local areas need to provide particular services, or elements thereof, which specifically attract, retain or provide for culturally diverse groups. Equally, it is worth searching for imaginative ways of delivering mainstream services that people from ethnic minorities wish to attend.

A study in California (Weisner *et al.*, 2002) looked at the odds ratio (how much more likely than the population as a whole) of different population groups getting into treatment. The findings were black ethnicity, 2.98; older age, 4.67; less education, 1.81; legal pressure, 7.46; work pressure, 3.57; psychiatric morbidity, 4.03. The UK would probably be different, but the point to make is that people's lives are too complex to align them with a single special population service; perverse inclusion and exclusion criteria can quickly appear and then detract from the usefulness of a service which was set up with good intentions. Most people seeking help for a drinking problem will have certain general or common identities as well as one or more special identities. The potential for special identities is vast and may focus on any or all of demographic, social, political and other factors, including:

- Gender
- Sexual orientation
- Professional group
- Sharing a common co-morbidity diagnosis
- Homelessness
- Age
- Ethnicity
- Religion
- Legal status.

The list is not exhaustive and evidence is available for only a few of the groups mentioned.

4.3.2 Black and minority ethnic groups

The particular rationales for speciality services for ethnic or religious groups are several:

i The possibility of communicating in the service user's first language

ii The recognition and acceptance of drinking patterns that are different to the dominant culture

iii The need to understand cultural or religious mores that define the relationship between service users and therapists.

A detailed investigation into the key question "Do culturally specific treatment programmes enhance the probability of successful outcome for their target populations?" was published in Broadening the Base of Treatment for Alcohol Problems (Institute of Medicine, 1990, p356–380, 399–405). There were insufficient research findings to inform any recommendation on whether to develop services specifically for minority groups. It was recognised, however, that mainstream services would necessarily continue to be major providers for ethnic minorities and it was recommended that staff in these agencies be trained in the skills and sensitivity needed to identify and work with all minority groups. It was also recommended that minority group treatment programmes should be funded where these would improve access to treatment and where there could be proper evaluation of the service.

Collins (1996) has argued that ethnic groupings are essentially a political construct with little utility in either substance use research or clinical practice. She asserts that greater variance can be found within ethnic groups than between different ethnic groups sharing, for example, a heavy drinking ethos. She suggests that ethnicity has been elevated in importance at the expense of other dimensions such as socio-economic status, education level, employment status and health. The degree of acculturation and assimilation to the majority culture is important in that the ethnicity label given to an individual may not reflect that individual's choice of identity. There are also a very large number of groups within each major category.

It is generally held that there is a low prevalence of substance misuse among ethnic minorities and the most important reason given is religious belief, but this proposition becomes less true as religious involvement is

weakened. Karlsen *et al.* (1998) found a hierarchy of substance misuse among adolescents from whites (the heaviest users) to black Caribbeans, to black Africans, and to Bangladeshis. The authors found an inverse relationship of family involvement and religious influence with substance use. Among Israeli Jews, Aharonovich *et al.* (2001) found that the less religious, wealthier, European Ashkenazim drank more heavily than the North African and Middle Eastern Sephardim. In a study comparing perceived risks from substance use, Ma and Shive (2000) found that whites were less likely to identify risks as compared to blacks and Hispanics. In contrast, Mather and Marjot (1989) found that Asian men had twice the incidence of admissions for alcohol-related problems compared to European men – the Asian men were mostly Sikhs and Hindus. Among pregnant women, Waterson and Murray-Lyon (1989) found that 90 per cent of Europeans, 75 per cent of Afro-Caribbeans, 56 per cent of Orientals and 47 per cent of Asians were heavy drinkers before pregnancy. Orford, Johnson and Purser (2004) surveyed 1,684 individuals from second or subsequent generation black and Asian communities and found marked ethnic and gender differences in drinking; black men and women and Sikh men had patterns similar to the general population. Primary care was endorsed as a source of help whereas there was some uncertainty about the confidentiality within communities if used as a source of help. Cameron *et al.* (2002) speculate that the family network may make spontaneous recovery more likely among ethnic minorities – in a study of 20 Asian problem drinkers, who had "spontaneously" recovered, family honour and religious re-affiliation were frequently cited as reasons for stopping drinking.

Help-seeking is strongly influenced by the experience of psychosocial problems, particularly if these are interpersonal, and by encouragement to enter treatment (see Tucker and King, 1999). Kahn *et al.* (2000) interviewed 31 ethnic minority drug users and 12 ethnic minority helpers about the problems of accessing services. The majority of problems related to racial origins and included the need to conceal substance use from parents and family, being reported to their parents if seen at a treatment agency, fear of unusual and severe punishments if caught, and avoiding the intolerance of the minority community. There were mixed views regarding the ideal drugs worker. The Asian community felt the need for drugs workers of the same cultural background most strongly. Hettema, Steele and Miller (2005) found that the effects of motivational interviewing were greater for ethnic minorities than whites: 0.79 against 0.26. The meta-analysis does not specify therapist characteristics.

4.3.3 Young people

Services for adolescents and young people are now commissioned separately from those for adults and will have separate Models of Care guidance. The evidence suggests that the same kinds of treatment are effective for both adults and younger people (Tevyaw and Monti, 2004), but it is the social needs of young people that are often different to adults. There is a long history of health services, social care and the criminal justice system seeing young people as different from adults and in need of their own services. Young people with drinking problems tend to fall into one of two groups: those whose problems are largely related to intoxication and those whose drinking is better interpreted as a symptom of profound psychosocial disturbance (see chapter 13). It is beyond the scope of this review to elaborate on the complexities of definition, patterns of use and psychological development that are relevant to young person services. The trend towards outreach work and peer counselling has heuristic value. The report of the Health Advisory Service, The Substance of Young Needs Review 2001 (2001), gives comprehensive guidance on planning services, albeit with a focus on illicit substances.

4.3.4 Women

Women have different substance using careers to men – generally they start later and respond better to treatment. Women are also more likely to bring higher rates of physical and psychiatric co-morbidity, which may complicate treatment (Davis *et al.*, 2002). In an eight-year follow-up, Timko *et al.* (2002) found outcomes for women were somewhat better than for men using the same services. Similarly, a review by Jarvis (1992) concluded there are only small differences across a variety of treatment modalities and settings in the effectiveness of treatment for women compared to men but, notably, women are likely to do less well in mixed sex group therapy because of the unfavourable sexual dynamics. Furthermore, women who have been abused tend to prefer a female therapist but women who have not identified themselves as having experienced violence from men do equally well with male or female therapists (Connors *et al.*, 1997). It is known that women differ

significantly from men in the way that they handle the metabolism of alcohol – women are more vulnerable to organ damage, notably liver disease and brain damage, which has been attributed to having a lower volume of body fluid in which to distribute alcohol and having less first-pass metabolism, thereby causing higher blood alcohol concentrations than in males drinking similar amounts (Lieber, 2001, p.90). It is unlikely that these physiological gender differences will have any significant impact on treatment approach.

4.3.5 Homeless people

Farrell *et al.* (1998) present data from a national survey of homeless people comprising 1,061 individuals. They note the significant association between social deprivation, psychological morbidity and substance misuse (see table 4a). Notwithstanding the mixed responses to treatment, there is a case for ensuring that the treatment system provides the basics of shelter, food and companionship for homeless people. Homeless people are a group for whom providing a special service is logical. There is evidence to support the need for a national network of services, typically residential and non-hospital, as a safety net and pathway to long-term rehabilitation. However, there has been a move away from services for homeless problem drinkers to more holistic services for the homeless. Primary care services specifically for the homeless are an example of how general medical care should now be delivered to this group through a speciality team working out of a mainstream primary care trust facility, from where help with substance misuse problems can also be provided (Wright, 2004 pp.88-102).

Berglund, Thelander and Jonsson (2003) reviewed 11 randomised treatment studies of homeless people which totalled 2,527 individuals. The studies were characterised by high attrition rates but there were positive effects for behavioural treatments and for case management where this involved wraparound services. Cox *et al.* (1998) randomised to intensive case management (ICM) or a no-treatment control condition homeless people or those at risk of homelessness who also had an extensive history of alcohol misuse and treatment failures. The primary aims of ICM were to improve the financial and residential stability of service users and reduce their use of alcohol.

At follow-up interviews carried out at six monthly intervals over two years, there were small but statistically significant differences favouring the ICM group in total income from public sources, nights spent in "own place" out of the previous 60 nights and days drinking out of the previous 30 days.

Smith and Delaney (2001) compared a community reinforcement approach (CRA, see chapter nine) to standard treatment at a large day centre. The traditional CRA programme was modified by:

- Adopting a group treatment format
- Adding goal-setting and independent living skills groups
- Adding a weekly community meeting as an opportunity for concerns to be voiced and for the social club activity to be decided
- Offering a sizeable number of groups each week to allow for "misses", without jeopardising treatment effectiveness
- Using small incentives for attendance
- Allowing interested individuals to participate even if they were unwilling or unable to take disulfiram
- Providing housing for clients in both treatment and control conditions throughout the programme.

Large reductions in drinking were found in both groups at one year. However, the CRA group showed consistently

	Weekly alcohol units Men 22+ Women 15+	Any drug use (including cannabis)	Any drug use (excluding cannabis)	Smoking over 20 cigarettes per day
Hostel residents	22%	11%	3%	34%
Private sector residents	9%	7%	1%	18%
Night shelters	52%	29%	11%	43%
Sleeping rough	55%	24%	6%	46%

Table 4a: Substance use among homeless people using different abodes

greater reductions on drinking measures at all five follow-up periods. In addition there was a slight advantage for the CRA group in housing status.

4.3.6 Conclusions

- All services should aspire to be ethno-culturally competent as might be appropriate to their particular locality (IV)
- There is a trade-off between providing services for special groups that benefit from ease of shared identity and the creation of a therapeutic alliance, against generic services that offer greater choice and range of expertise (IV)
- Individuals from ethnic minorities tend to divide according to their degree of religious allegiance and there is a stronger case for novel ways of engaging ethnic minorities than for providing separate services (III)
- With the exception of women who have been abused, women do well with mainstream services provided co-morbidity needs are addressed (III).

4.4 The setting

4.4.1 Context

The local integrated treatment system will need to accommodate delivering treatment in a variety of settings, including the home, community centres, workplace, general and psychiatric hospitals, primary care, hostels, prisons and community-based treatment agencies. The selection of the setting will depend on a number of factors, including:

- Service user choice
- Safety
- Opportunism
- Accessibility
- Availability of treatment
- Cost.

Many effective interventions, notably less intensive treatments, are portable, meaning that they can be delivered in almost any setting (see chapters seven and eight). In these cases, the setting might be a matter of chance – the home or health centre that happens to be convenient, or can be deliberately made a matter for service user choice within the resource constraints of the provider agency. Other interventions, for example detoxification, may require a particular setting for safety reasons but can also be pliant (see chapter 11). Cost arguments aside, there is no evidence to support the benefits of domiciliary versus community centre-based treatment *per se*. Service delivery models will of necessity be different in urban and rural areas but we are not aware of any evaluations of models.

4.4.2 Home care

The home is a special setting in that it is where most people will feel at ease and empowered. It can also be a source of support from friends and relatives (see chapter nine). Home-based treatment is typically less expensive than residential treatment, but it probably costs more than centre-based treatment delivery. More use of telephone therapy, email and self-help manuals (see chapter 12) would overcome some of the cost objections to home care. However, for those service users unable to benefit from these methods of treatment delivery, the cost-effectiveness case suggests that home care should be targeted at people unable to leave the home or where attendance at a specialist service would be problematic – for example, the elderly, the disabled and parents with childcare responsibilities. We are not aware of any evaluations of home treatment other than home detoxification (see chapter 11).

4.4.3 Residential care

Early reviews comparing residential or inpatient treatment with outpatient treatment (Miller and Hester, 1986; Annis, 1987) concluded that the former showed no advantage in outcomes. Since outpatient treatment was less expensive to deliver – ten times cheaper in one estimate (Miller and Hester, 1986) – it was more cost-effective and should be generally preferred. A subsequent review by Finney, Hahn and Moos (1996) reached different conclusions. These authors found five studies reporting a significantly better outcome for residential over non-residential treatment for alcohol problems and seven reporting a general equivalence between the two. When non-residential treatment was as successful as residential treatment, most clients had had some residential care immediately preceding the treatment episode in question.

Rychtarik *et al.* (2000) randomly assigned alcohol dependent individuals in cohorts to inpatient, intensive

outpatient or standard outpatient treatment. Findings showed that the three settings did not differ in primary drinking outcomes, although inpatients had significantly fewer jail and subsequent inpatient treatment days combined than outpatients. However, clients high in "alcohol involvement" (similar to alcohol dependence) benefited more from inpatient than outpatient treatment, while the opposite was true at lower levels of alcohol involvement. Clients low in cognitive functioning also appeared to benefit more from the inpatient setting. There were no significant differences in outcome between the two forms of outpatient treatment.

Another study (Morgenstern and Bates, 1999) found that clients with cognitive impairment did as well as cognitively unimpaired clients in a residential or intensive day programme for substance abuse. The authors suggest the 12-Step programme's reliance on group interactions, repetition and simple didactic instruction may be more suited to cognitively impaired individuals than more complex change strategies (see chapter 12).

Melnick *et al.* (2001) have developed an assessment instrument and decision tree for directing service users with more severe substance misuse and less developed living skills towards residential rather than non-residential treatment. Some limited evidence to support this model was found in terms of treatment retention and completion. This has four decision points:

1 Service users with a low-risk pattern of drug use are directed towards non-residential treatment; those with a high-risk pattern enter the next assessment point

2 Service users with more than one year of abstinence in the last four or a drug history of less than four years are referred for non-residential treatment; the remainder go on to the third point

3 Those with high–risk social factors (living arrangements, peer involvement with drugs, criminal behaviour) are recommended for residential treatment; the remainder move on to the last point

4 Those in need of rehabilitation (education, training or work skills insufficient to earn a living) are referred to residential treatment; the remainder are referred to non-residential treatment.

Brown (2003) has suggested that residential treatment may be more effective than non-residential treatment for clients with more severe alcohol problems or with co-morbidity diagnoses (see chapter 13). For treatment of substance abuse in general, there is evidence that service users with greater social deterioration, less social stability and higher risk for relapse benefit more from residential treatment (Guydish *et al.,* 1999; De Leon *et al.*, 2000; Greenwood *et al.*, 2001).

4.4.4 The workplace

We have found little evidence of treatment programmes for substance misuse in the UK workplace. That said, it is known that the public sector is required to have workplace substance misuse policies. People employed in certain high-risk occupations are required to undertake check-ups and many private sector companies also have policies. Employee assistance programmes operate in some companies while others use existing alcohol services, either by formal arrangement or by entitlement of staff as members of the public.

One recent study draws attention to the importance of the drinking culture in the workplace (Bennett *et al.*, 2004). Staff groups were given either eight hours health promotion skills training, four hours information or assigned as a control. The two active interventions reduced drinking by about 50 per cent and improved the general climate with regard to drinking in the workplace.

4.4.5 Prisons

Prisons are an important setting. They are usually not a place that people want to be, they contain twice as many hazardous drinkers as in the general population and they are expensive – all of these are reasons to have good alcohol treatment programmes in prisons. The reality is that programmes are not well developed and the evidence base in support of programmes is weak (McMurran, 2005). There are particular difficulties in delivering treatments in prison:

1 Educational achievement is commonly at a low level

2 Mental illness and substance misuse is common

3 Retention in treatment programmes is poor

4 Treatment effect sizes are typically small (less than 0.2) and there is insufficient evidence to recommend particular approaches

5 It is not always easy to determine the relationship between offending and drinking

6 Drug treatment programmes are much better developed but not always integrated with alcohol programmes.

McMurran (2005) has reviewed prison treatment programmes and found only one, which was aimed at drink drivers, accredited specifically for alcohol-related offenders. While research may be lacking there are comprehensive treatment guidelines with accompanying clinical tools (HM Prison Service and Department of Health, 2004) available for prison healthcare staff.

4.4.6 Conclusions

- The evidence base for determining the optimal treatment setting is weak because treatment has usually been delivered in what has been considered the safest and, to a lesser extent, cheapest setting. Service user choice may change these considerations (IV)
- There is a need to have residential treatment facilities for selected groups of service users (IIB).

Implications for…

Service users and carers

- Service user groups can help agencies to be more user friendly and help to build services that are ethnoculturally competent
- Expect that services are able to offer a choice of treatment settings
- Expect that good treatment will be an active and participative process of working alongside a therapist
- Service user groups could be given the lead on developing volunteer schemes to be active in supporting agencies.

Service providers

- Recognise the importance of general therapist characteristics such as attitudes and appearance - ensure that staff receive good quality training and supervision
- Consider the benefits of using manual guided treatments
- Ensure that, where appropriate, services can be delivered in a variety of settings such as service users' homes
- Ensure that staff receive diversity training and understand how to apply this knowledge to treatment delivery
- Be open to input from service user groups on how to make services user friendly and particularly how to attract minority groups.

Commissioners

- There needs to be good provision for the needs of special groups within the locality – this may be achieved through generic or specialist services
- There need to be imaginative ways of making access to services more user friendly and at the same time retaining the cost and flexibility benefits of larger agencies
- There is a need to ensure the availability of residential facilities for defined service user groups
- Contracts should include minimum standards for staff training and supervision
- Wraparound services are especially valuable for some service user groups, such as the homeless.

Researchers

- A key issue is the relative contribution to outcomes of therapists, pre-treatment service user characteristics and specific treatments
- The cost effectiveness of domicillary versus centre-based care needs investigation
- Research is needed to determine which service user groups require residential care.

Chapter 5

Screening for alcohol problems

Before reviewing treatments themselves, in his chapter we cover the topic of screening. We review commonly used screening tools, biological markers and clinical markers of alcohol misuse. Early detection is an essential element of broadening the base of treatment to detect problem drinkers before they become help-seekers.

5.1 Background

Identification of alcohol misuse among people not seeking treatment for alcohol problems can be done in three ways:

1 Screening questionnaires in printed or electronic form, for service users to complete or practitioners to read out. Screening questionnaires are more likely to be answered accurately when:

   – The practitioner administering the instrument is friendly and non-threatening

   – The purpose of the questions is clearly related to the service user's health status

   – If possible, the service user is alcohol- and drug - free at the time

   – The information is seen as confidential

   – The questions are easy to understand (Anderson, 1996).

2 Biological markers of recent alcohol consumption

3 Clinical indicators by clinicians using clinical history or signs at physical examination.

A good screening method should have both high sensitivity and specificity:

- Sensitivity is the proportion of alcohol misusers who are screened positive by the test
- Specificity is the proportion of those who are not alcohol misusers who are screened negative by the test.

5.2 Screening questionnaires

5.2.1 Context

General purpose screening can be carried out in non-medical settings – educational, criminal justice, social service and workplace settings.

A key issue for all screening programmes is whether to target at-risk groups or the whole population. Two recent articles by Beich and colleagues (Beich, Gannik and Malterud, 2002; Beich, Thorsen and Rollnick, 2003) concluded that screening created more problems than it solved and did not seem to be an effective precursor to brief interventions targeting excessive alcohol use. The conclusions reached by Beich *et al.* have been strongly criticised and have led to a heated controversy (see correspondence on www.bmj.com from 18/10/2002 to 1/12/2002 and from 4/9/2003 to 7/3/2004). Targeted rather than universal screening was recommended in the Alcohol Harm Reduction Strategy for England (Prime Minister's Strategy Unit, 2004: p42).

A form of targeted screening in primary healthcare was described by Israel *et al.* (1996). This consisted of a trauma scale developed by Skinner *et al.* (1984) based on evidence of a high correlation between the occurrence of trauma and alcohol misuse. Israel *et al.* (1996) reported that the use of their trauma scale method identified 62–85 per cent of the expected number of alcohol misusers in a primary healthcare population. The method was acceptable to both patients and practitioners.

In a survey of expert opinion on screening and brief interventions in primary healthcare in the UK (Heather *et al.*, 2004), there was a clear consensus among experts on confining routine screening to new patient registrations, general health checks and special types of consultation. This finding was also supported by the results from focus groups among primary healthcare professionals and patients (Hutchings *et al.*, 2006).

5.2.2 Evidence

5.2.2.1 Alcohol Use Disorders Identification Test (AUDIT)

The AUDIT was developed by the World Health Organization (WHO) specifically for use in primary healthcare (Babor *et al.*, 1989, Saunders *et al.*, 1993), but is now used in a range of settings. AUDIT has generated a very large amount of research, has been translated into all major languages and has been evaluated in a range of settings, populations and cultural groups (Allen *et al.,* 1997). It is now used in research and practical applications worldwide (see page 65).

The AUDIT consists of ten items: three questions on alcohol consumption, four on alcohol-related problems and adverse reactions, and three on dependence symptoms. It is said to take about two minutes to complete, although some experience puts it rather longer than this (Scottish Intercollegiate Guidelines Network, 2003). Apart from the last two questions, items refer to drinking in the previous year and responses are weighted 0–4, based mainly on frequency of occurrence. Cut-points on the AUDIT have been proposed as follows:

- A score of eight or above classifies drinking as hazardous or worse:
  - This is sometimes amended to eight for men and seven for women, to take account of women's greater vulnerability to the effects of alcohol (Bradley *et al.*, 1998)
- A score of 8–15 indicates the need for simple brief interventions (i.e. simple, structured advice) on alcohol consumption (Babor *et al.*, 2001 – see chapter seven)
- A score of 16–19 indicates the need for the addition of extended brief interventions (Babor *et al.*, 2001 – see chapter seven)
- A score of 20 or above indicates the need for referral to a specialist service for assessment and treatment (Babor *et al.*, 2001).

These cut-points can vary depending on prevalent drinking patterns, the strength of alcoholic drinks and the specific purposes of screening (Conigrave, Hall and Saunders, 1995). It is recommended that clinical judgement be exercised in cases where the AUDIT score is inconsistent with other evidence, or where there is a history of alcohol dependence (Babor *et al.*, 2001). A more detailed examination of the service user's responses to the items on dependence symptoms may be useful.

In the original validation, the sensitivity of the AUDIT was 92 per cent and specificity was 94 per cent, both higher in women than in men (Saunders *et al.*, 1993). In a large study of family practice in Belgium (Aertgeerts *et al.*, 2001), the AUDIT had a sensitivity of 83 per cent among men and a specificity of 73 per cent; among women, it had a sensitivity of 65 per cent and a specificity of 92 per cent. One study found two-thirds of those who scored eight or above on the AUDIT experienced alcohol problems over the subsequent three years, compared with ten per cent of those scoring lower than eight (Conigrave, Saunders and Reznik, 1995). The AUDIT appears to have cross-cultural validity in giving approximately the same results among people from different ethnic backgrounds (Volk *et al.*, 1997). The AUDIT seems to perform equally well when embedded in a general health questionnaire (Daeppen *et al.*, 2000).

Compared to other screening instruments, the AUDIT:

- Was better than the MAST (see section 5.2.2.6) at distinguishing between hazardous and non-hazardous drinkers when validated against diagnostic interview, physical examination and laboratory tests (Bohn, Babor and Kranzler, 1995)
- Performed better than the CAGE (see section 5.2.2.3) in a random sample of A&E patients when validated against the WHO-Composite International Diagnosis Interview (CIDI) (Wittchen, 1994)
- Performed as well as the MAST and CAGE for detecting CIDI-validated dependent drinking, but with higher sensitivity and specificity for detecting hazardous drinking (Piccinelli *et al.,* 1997)
- Among convicted drink drivers, was a more valid indicator of drinking behaviour than the CAGE (Hays, Merz and Nicholas, 1995)
- Was equal to the MAST in detecting alcohol dependence among people dependent on illicit drugs and better at identifying hazardous drinking among these individuals (Skipsey, Burleson and Kranzler, 1997)
- Was effective in identifying hazardous, harmful and dependent drinking among psychiatric patients (Hulse *et al.*, 2000).

5.2.2.2 AUDIT-C and AUDIT-PC

Shortened forms of the AUDIT have been developed for use in circumstances where there may be insufficient time to administer the full AUDIT.

AUDIT-C was developed by Bush *et al.* (1998) and consists simply of the first three AUDIT items on alcohol consumption (see page 65). In a sense, the AUDIT-C is a more logical way of detecting hazardous drinking since this is defined strictly in terms of consumption levels. However, the AUDIT-C and other shortened versions of AUDIT provide little or no information on alcohol-related harm or signs of dependence. According to the authors, a score of three or more on the AUDIT-C or the endorsement of six or more drinks on one occasion over the last year should lead to a more in-depth assessment of drinking and related problems.

AUDIT-PC consists of the first three AUDIT items plus items five and ten (see page 65) (Piccinelli, *et al.,* 1997). A score of five or above on the AUDIT-PC suggests that it might be useful to discuss alcohol consumption further.

In the original validation study (Bush *et al.*, 1998), the AUDIT-C was reported as performing more efficiently than the full AUDIT for detecting heavy drinking, although the full AUDIT performed better for detecting active alcohol abuse or dependence. Aertgeerts *et al.* (2001) compared the properties of the AUDIT-C with those of other screening instruments in 69 family practices in Belgium. Among men, the AUDIT-C had a sensitivity of 78 per cent and a specificity of 75 per cent for detecting alcohol misuse and dependence; among women, it had a sensitivity of 50 per cent and a specificity of 93 per cent. Compared with the full AUDIT, performance was only slightly inferior among men but clearly worse at detecting hazardous drinking among women. It may be that the cut-point for a designation of hazardous drinking among women needs to be lowered.

In the Aertgeerts *et al.* (2001) study, the AUDIT-PC had a lower sensitivity (68 per cent) for detecting alcohol misuse and dependence than the AUDIT-C and the full AUDIT among men; among women, the AUDIT-PC was somewhat more sensitive (56 per cent) than the AUDIT-C but less sensitive than the full AUDIT.

5.2.2.3 The CAGE

CAGE (Mayfield, McLeod and Hall, 1974) is an acronym derived from four questions:

- Have you ever felt you should cut down on your drinking?
- Have people annoyed you by criticising your drinking?
- Have you ever felt bad or guilty about your drinking?
- Have you ever had a drink first thing in the morning to steady your nerves or to get rid of a hangover (eye-opener)?

The CAGE takes only a minute to complete and has been a widely used screening test in clinical practice (Smart, Adlaf and Knoke, 1991). The items are easy to remember and can be administered orally by a practitioner. The CAGE shares the disadvantage of the MAST that it asks about the respondent's lifetime experience of alcohol rather than focusing on the recent past.

5.2.2.4 The 5-Shot Questionnaire

This consists of the first two AUDIT items plus three items from the CAGE (Seppa, Lepisto and Sillanaukee, 1998). Based on its own scoring method, a score of 2.5 or above on the 5-Shot indicates possible alcohol misuse and the need for further investigation. In the original validation study of the 5-Shot questionnaire in Finland (Seppa, Lepisto and Sillanaukee, 1998), the cut-point of 2.5 or above gave a 96 per cent sensitivity in detecting heavy drinkers, with a specificity of 76 per cent. Aertgeerts *et al.* reported it had 74 per cent sensitivity and 81 per cent specificity among men, and a 63 per cent sensitivity and 95 per cent specificity among women.

5.2.2.5 Fast Alcohol Screening Test (FAST)

The FAST is a two-stage screening procedure based on four of the AUDIT items (Hodgson *et al.*, 2002). Item three is asked first and classifies over half of respondents as either non-hazardous or hazardous drinkers. Only those not classified at the first stage go on to the second stage which consists of AUDIT items five, eight and ten (see page 65). A response other than "never" to any of these three items classifies the respondent as a hazardous drinker. The FAST was developed for use and validated in an A&E department, but was also validated in primary healthcare, a fracture clinic and a dental hospital. It is very quick and easy to administer and can conveniently be read out.

Using the full AUDIT score as the gold standard, the first step in the FAST procedure classified 66 per cent of respondents as either hazardous drinkers or non-

hazardous drinkers with an accuracy of 97 per cent (Hodgson *et al.*, 2002). The complete procedure had a sensitivity greater than 91 per cent and a specificity greater than 86 per cent in the four settings in which it was validated.

5.2.2.6 Michigan Alcoholism Screening Test (MAST)

The MAST is a 24-item screening instrument originally described by Selzer (1971).

It also comes in a 13-item shortened form (SMAST; Selzer, Vinokur and Van Rooijen, 1975) and a ten-item brief form (BMAST; Pokorney, Miller and Kaplan, 1972). It has been extensively used in research and treatment circles over the years. As its name suggests, the MAST was developed to detect severe alcohol dependence, including early signs of dependence. Its main advantage in screening is that it provides an individual's responses to a range of possible alcohol-related problems and signs of dependence that may be useful in assessment. Its main disadvantage for screening hazardous and harmful alcohol consumption is that it asks "ever" questions, which apply to the respondent's lifetime. This neglects the fluctuation of alcohol consumption and problems over the course of time. Evidence reviewed above shows that, although it may be as efficient for the detection of alcohol dependence, it is inferior to the AUDIT for the detection of hazardous and harmful consumption.

5.2.3 Conclusions

- The AUDIT is a screening instrument of good sensitivity and specificity for detecting hazardous and harmful drinking among people not seeking treatment for alcohol problems (III)
- The AUDIT is has been validated for use in a wide range of settings, populations and cultural groups and is in widespread use worldwide (II)
- The AUDIT is superior to the MAST and CAGE for the detection of hazardous and harmful drinking, although not necessarily in the detection of significant alcohol dependence (II)
- The AUDIT can be embedded in a general health questionnaire without loss of efficiency (III)
- The AUDIT should be considered as the screening instrument of first choice in community settings
- Shortened versions of the AUDIT can be used in very busy settings without undue loss of efficiency compared to the full AUDIT (III)
- The AUDIT-C is based on consumption items alone and is an efficient tool for the detection of hazardous drinking (II)
- The FAST offers a rapid and efficient way of screening for hazardous and harmful alcohol consumption that can be used in a variety of settings (II).

5.3 Settings

5.3.1 Antenatal clinics

5.3.1.1 Context

Given the risk of harm to the unborn foetus from the mother's excessive drinking, the detection of alcohol misuse among pregnant women is of major importance. Two screening instruments, both taking approximately one minute to complete, have been developed to screen for hazardous and harmful drinking among pregnant women:

- T-ACE (Sokol, Martier and Ager, 1989) is a four-item adaptation of the CAGE
- TWEAK (Russell, 1994) is five-item instrument using items from the CAGE and MAST.

5.3.1.2 Evidence

Research on the efficiency of the T-ACE and TWEAK is reviewed by Dawe *et al.* (2002a).

- The T-ACE has consistently been shown to be of higher sensitivity and specificity for detecting alcohol misuse among pregnant women that the MAST or CAGE (Russell *et al.,* 1996; Chang *et al.*, 1998)
- The TWEAK appears to be somewhat more sensitive and less specific than the T-ACE but both are clearly more efficient than the MAST or CAGE (Russell, 1994)
- The superiority of the TWEAK for screening in pregnancy has been demonstrated in a wide range of socio-economically and ethnically diverse populations in the USA (Russell *et al.*, 1996; Chang *et al.*, 1999a)
- The TWEAK also appears to be an efficient screening tool among men and non-pregnant women (Dawe *et al.*, 2002a).

5.3.1.3 Conclusions

- Both the T-ACE and TWEAK are superior screening instruments for detecting alcohol misuse among pregnant women than the MAST or CAGE (III)
- The TWEAK seems to be more sensitive but less specific than the T-ACE (III)

5.3.2 A&E departments

5.3.2.1 Context

Pressure on time for screening is particularly relevant to the A&E setting and there may also be special difficulties in screening among injured and intoxicated patients. Nevertheless, it is possible to screen efficiently for alcohol misuse in A&E settings and to refer those screening positive for brief interventions (Green *et al.,* 1993; Huntly *et al.*, 2001).

The FAST (see above) was developed for use in A&E settings. Another such instrument is the RAP24 developed by Cherpitel (2000) in the USA, although the efficiency of this instrument has yet to be established. In the UK, Smith *et al.* (1996) described the development of the Paddington Alcohol Test (PAT), which is shown on page 67. The PAT takes less than one minute to complete and was designed for ease of administration and relevance to presenting problems in the A&E setting. To increase the prospects for implementation, the PAT comes with guidance to practitioners as to the top ten types of presentation in which it should be applied (Huntley *et al.*, 2001).

5.3.2.2 Evidence

Hodgson *et al.* (2003) compared the FAST with the PAT and CAGE in four UK A&E departments. All three tests were quicker to administer than the full AUDIT, with the FAST taking 12 seconds on average. All tests identified drinkers who would accept a health education booklet (over 70 per cent) or five minutes of advice (over 40 per cent). The FAST was consistently reliable when sensitivity and specificity were tested against the AUDIT as a gold standard. The FAST had better sensitivity and specificity than the PAT, though in this study an older version of the PAT was used.

Using a newer version of the PAT, Patton *et al.* (2004) reported that the PAT showed good concordance with the full AUDIT, but could be administered in one-fifth of the time. Huntley *et al.* (2001) reported that the uptake of the PAT by senior house officers was improved when their performance was audited and they were given feedback on it. Rates of detection of alcohol misuse among A&E patients showed a four-fold increase as a result. The selective screening forming part of the PAT procedure was calculated to account for 77 per cent of hazardous drinkers presenting to A&E departments. An analysis of feedback to patients screening positively on the PAT showed that this increased the proportion willing to accept brief interventions by 23 per cent (Patton, Crawford and Touquet, 2003).

5.3.2.3 Conclusions

- The FAST is a rapid and efficient screening tool for detecting alcohol misuse in the A&E setting (III)
- The PAT has been developed to fit with the demands of very busy A&E departments and is a quick and efficient screening tool in this setting (III).

5.4 Biological markers

5.4.1 Context

A possible disadvantage of screening questionnaires is that they are based on self-reports of alcohol consumption and problems and may therefore be inaccurate to varying degrees. Although self-reports are more reliable and valid than is sometimes supposed (Babor *et al.*, 2000), they can be influenced by deliberate under- or overestimation of consumption and by failures of memory and other cognitive factors. While laboratory measures can increase confidence in the reliability of self-reports, they add little information that cannot be gained more cheaply and efficiently by self-report. Aertgeerts *et al.* (2001) also found laboratory measures to be far less sensitive for the detection of alcohol misuse in primary healthcare settings. Biological markers may also be used as part of a comprehensive assessment and as treatment outcome measures (see chapter six).

Biological markers of alcohol consumption have the advantage that they are completely objective and cannot be distorted in the same way as questionnaires. In certain circumstances, notably legal proceedings or health checks for employees in high-risk occupations, it may be necessary to have the additional evidence of an objective measure. There are ethical issues in that investigations

used for the purposes of detecting illness may also indicate excessive drinking, so practitioners need to ensure that service users are properly informed of the reasons for taking blood tests and the risks of later disclosure. While the search for improved markers of alcohol consumption continues (Whitfield, 2001), the following are currently used to detect levels of alcohol consumption:

- Blood or breath alcohol concentration
- Mean corpuscular volume (MCV)
- Serum gamma-glutamyltransferase (GGT)
- Aspartate aminotransferase
- Alanine aminotransferase
- Carbohydrate deficient transferrin (CDT)
- HDL-cholesterol
- Uric acid.

We will consider GGT, CDT, and MCV, which are often used as markers of consumption, whereas the other investigations are more usually used to detect pathology and are incidental markers of alcohol intake. Conigrave *et al.* (2003) concluded that none of these markers are well suited as screening tests, but much more useful as opportunistic diagnostic tests or for monitoring change when abnormal at baseline. Direct measurement of ethanol levels can be useful.

5.4.2 Evidence

5.4.2.1 Gamma-glutamyltransferase (GGT)

GGT is a liver enzyme and the most commonly used biochemical marker of alcohol consumption. Drinking four or more drinks per day for four to eight weeks significantly raises levels of GGT in alcohol dependent individuals, while four to five weeks of abstinence usually returns levels to within the normal range (Allen and Litten, 2001). GGT is raised in between 60 and 80 per cent of those severely dependent on alcohol. However, it can also be raised by non-alcoholic liver disease, certain medications and obesity, leading to false positives (i.e. poor specificity) on this test. The proportion of heavy drinkers with raised GGT is between 20 and 50 per cent (Whitfield, 2001). This makes GGT of little value for detecting hazardous and harmful drinking in community settings. The GGT, with a half-life of approximately 21 days, is reasonably sensitive to short-term changes in consumption and has been found to be a predictor of all cause mortality. Feedback of GGT was one of the principal ingredients in a pioneering study of brief interventions carried out as part of a population health screening programme in Sweden (Kristenson *et al.*, 1983), indicating its potential usefulness as a therapeutic device.

5.4.2.2 Carbohydrate deficient transferrin (CDT)

Unlike other liver enzymes, elevated values of CDT are almost entirely specific to alcohol metabolism and reflect the level of recent alcohol consumption. CDT tests have a low rate of false positives and are sensitive to moderate levels of consumption (Javors and Johnson, 2003). CDT becomes elevated earlier in response to heavy drinking than GGT (Allen *et al.*, 2001). Laboratory analysis is relatively expensive. In a review of 54 studies comparing CDT to other laboratory markers, Salaspuro (1999) found that:

- CDT was slightly more sensitive than GGT in detecting changes to drinking over a 3–4 week period
- CDT was similar to GGT in detecting alcohol misuse in males
- There was mixed evidence of the relative efficiency of CDT and GGT among females
- CDT showed low sensitivity in detecting lower levels of hazardous drinking in community samples
- CDT was superior to GGT in detecting alcohol misuse among individuals with alcohol-related and non-alcohol-related liver disease
- CDT was overall marginally superior to other laboratory markers.

5.4.2.3 Mean corpuscular volume (MCV)

MCV is an index of red blood cell size which increases with excessive drinking after four to eight weeks. Although more specific than other tests, MCV has very low sensitivity for the detection of heavy drinking (Helander, 2001).

5.4.2.4 Ethanol

The direct measurement of ethanol levels can be achieved using a breathalyser or blood test. This may be useful both as feedback to service users and to give practitioners an indication of the service user's tolerance, which in turn reflects the previous pattern of drinking. Urine alcohol concentration is a crude measure that may

conveniently be tested for along with other drugs of misuse. Ethanol is metabolised at the rate of approximately 7g per hour, so is eliminated too quickly to be a good marker of longer term alcohol consumption. There are a number of new biochemical tests for alcohol consumption which can extend the detection period (Beck and Helander, 2003) but these are not yet generally available.

5.4.3 Conclusions

- Laboratory markers are less sensitive in the detection of alcohol misuse in community settings than screening questionnaires (I)
- Laboratory markers can be useful for confirming self-reports, for providing motivational feedback on health status and in the monitoring of progress following treatment, but should be considered only as possible adjuncts to questionnaires in the screening process (III).

5.5 Clinical indicators

5.5.1 Context

In addition to formal methods of identification, screening can be done by more informal methods. Some practitioners may prefer this but it must be recognised that the majority of hazardous drinkers without overt signs of alcohol problems will be missed by these methods. A number of physical disorders and signs are suggestive of harmful drinking (Saunders and Conigrave, 1990). These include:

- Hypertension
- Frequent accidents
- Dilated facial capillaries
- Bloodshot eyes
- Hand or tongue tremor
- Gastrointestinal disorders
- Duodenal ulcers
- Cognitive impairment.

Psychiatric and social indicators (Yang and Skinner, 2004) include:

- Job, financial, marriage or relationship problems
- Insomnia
- Depression
- Anxiety
- Domestic violence.

5.5.2 Evidence

A survey of general practitioners in the English Midlands (Kaner *et al.*, 1999a) estimated that as many as 98 per cent of hazardous and harmful drinkers may be missed by a reliance on clinical history and signs. Research suggests that the majority of patients in primary healthcare do not object to being asked about their alcohol consumption if there are good reasons to do so (Wallace and Haines, 1984; Richmond *et al.*, 1996).

5.5.3 Conclusions

- Clinical history and physical examination can be used to detect harmful drinking and practitioners should be aware of such indicators (III)
- Reliance on informal methods of screening may miss the majority of hazardous drinkers without obvious signs of alcohol-related harm (III).

Implications for…

Service users and carers

- It is important to give feedback on the acceptability of screening tools
- Screening tools need to be improved, in terms of content and language
- Ideas should be developed on using different data media for screening.

Service providers

- Service providers should consider using a suitable screening instrument to detect alcohol misuse
- The skill mix required to interpret screening should be identified
- Providers should determine where screening is likely to deliver benefits either by virtue of the screening itself or by taking people into treatment
- The usefulness of investigations to supplement screening should be considered.

Commissioners

- There are possible benefits to targeted – as compared to whole population – screening
- Capacity is required to undertake competent assessments for the full range of alcohol problems identified by screening
- Agencies should be encouraged to share common data sets as appropriate to their roles
- Agreements on sharing of screening data are necessary
- Attractive screening tools, agreed by agencies and suitable for use in different settings, should be made available.

Researchers

- Screening tools should be independently evaluated
- Existing tools can be developed further
- Biological markers and non-invasive sample collection should be developed
- The predictive validity of different pre-treatment measures might usefully be explored.

Appendix 1: The AUDIT Questionnaire

1. How often do you have a drink containing alcohol?

(0) Never (1) Less than monthly (2) 2–4 times a month (3) 2–3 times a week (4) 4 or more times a week ☐

2. How many units of alcohol do you drink on a typical day when you are drinking?

(0) 1 or 2 (1) 3 or 4 (2) 5 or 6 (3) 7, 8 or 9 (4) 10 or more ☐

3. How often do you have six or more units of alcohol on one occasion?

(0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily ☐

4. How often during the last year have you found that you were not able to stop drinking once you had started?

(0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily ☐

5. How often during the last year have you failed to do what was normally expected from you because of drinking?

(0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily ☐

6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?

(0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily ☐

7. How often during the last year have you had a feeling of guilt or remorse after drinking?

(0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily ☐

8. How often during the last year have you been unable to remember what happened the night before because you had been drinking?

(0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily ☐

9. Have you or someone else been injured as a result of your drinking?

(0) No (2) Yes, but not in the last year (4) Yes, during the last year ☐

10. Has a relative or friend or doctor or other health worker been concerned about your drinking or suggested you cut down?

(0) No (2) Yes but not in the last year (4) Yes, during the last year ☐

Record total of specific items here ☐

If total 8 or over, alcohol use disorder very likely.

Scores above zero on items 4 through 6 indicate presence or emergence of alcohol dependence.

One standard drink is equal to…

Half a pint of ordinary strength beer, lager or cider
One small glass of wine
One single measure of spirits
One small glass of sherry
One single measure of aperitifs

Appendix 2: Fast Alcohol Screening Test (FAST)

1. MEN: How often do you have EIGHT or more drinks on one occasion?
   WOMEN: How often do you have SIX or more drinks on one occasion?

(0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily ☐

2. How often during the last year have you been unable to remember what happened the night before because you had been drinking?

(0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily ☐

3. How often during the last year have you failed to do what was normally expected of you because of drinking?

(0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily ☐

4. In the last year has a relative or friend, or a doctor or other health worker been concerned about your drinking or suggested you cut down?

(0) No (2) Yes, on one occasion (4) Yes, on more than one occasion ☐

Record total of specific items here ☐

A score >3 indicates probably hazardous drinking

If the response to question one is “never”, the FAST test is negative. If the response is “weekly” or “daily or almost daily”, the FAST test is positive.

Only ask questions two, three or four if the response to question one is “less than monthly” or “monthly”.

If the response to questions two and three are ‘never’ and question four is ‘no’, the FAST test is negative.

If there is any other response to questions two and three, then the FAST test is positive.

One standard drink is equal to…

Half a pint of ordinary strength beer, lager or cider
One small glass of wine
One single measure of spirits
One small glass of sherry
One single measure of aperitifs

Appendix 3: The Paddington Alcohol Test

Circle number(s) for specific trigger(s); consider for all the top `10.

1. FALL (inc. trip)	2. COLLAPSE (inc. fits)	3. HEAD INJURY (inc. facial)
4. ASSAULT (inc. involved)	5. NON-SPECIFIC GI	6. "UNWELL"
7. PSYCHIATRIC (inc. overdose)	8. CARDIAC (inc. palpitations)	9. SELF-NEGLECT
10. REPEAT attender	Other (specifiy)_____	

After dealing with patient's "agenda", i.e. patient's reason for attendance:

1. "We routinely ask all patients in A&E if they drink alcohol – do you drink?"
   If 'yes', go to question two.
2. "Quite a number of people have times when they drink more than usual; what is the most you will drink in any one day?" (Pub measures in brackets; home measures often x3!)

Beer/lager/cider	__ Pints (2)	__ Cans (1.5)	total units/day
Strong beer/lager/cider	__ Pints (5)	__ Cans (4)	_____
Wine	__ Glasses (1.5)	__ Bottles (9)	
Fortified wine (sherry, Martini)	__ Glasses (1)	__ Bottles (12)	
Spirits (gin, whisky, vodka)	__ Singles (1)	__ Bottles (30)	

3. If this is more than eight units/day for a man, or six units/day for a woman, does this happen:

Everyday?	=	PAT +ve	Dependent drinker	Y/N	(? Pabrinex)
At least once a month?	=	PAT +ve	Hazardous drinker	Y/N	

4. 'Do you feel your current attendance in A&E is related to alcohol? Yes = PAT+ve No = PAT -ve

If PAT +ve: "We gently advise you this drinking is harming your health. Would you like to see our health worker?"
Yes/No – give leaflet

Chapter 6

Assessment and measuring treatment outcomes

Following on from screening, this chapter looks at the evidence that should be included in a comprehensive assessment and also reviews commonly used assessment tools. Treatments are only of value if they deliver useful outcomes. This chapter explores some of the problems of measuring outcomes.

6.1 Background

The aim of assessment is to understand why individuals are seeking help and exactly how they might be helped; the product is an agreed care plan. Assessment:

- Provides a basis upon which progress in meeting treatment goals can be measured
- Allows the development of helping alliances between therapists and service users.

A comprehensive assessment package will probably contain a mixture of three types of procedures:

1 **Personal interview**. The one-to-one interview is about building a helping alliance and gathering information. Ideally, the practitioner who delivers the treatment will conduct the assessment interview. Useful guidelines for assessment can be found in standard texts (see Edwards, Marshall and Cook, 2003; Waller and Rumball, 2004). As is recommended by the National Treatment Agency, the comprehensive assessment will typically include:

   – Socio-demographic data
   – A social network description or diagram
   – Family relationships
   – Employment or daily activity description
   – Physical health history
   – Mental health history
   – Personality characteristics.

Thom *et al.* (1992) studied the impact of the first consultation session on service users' perceptions of their alcohol problems and their expectations of obtaining help from various sources. By the end of the first session, service users had increased their ratings of problem severity and their expectations of help. Commitment to treatment was enhanced and the goals of treatment were clarified. This study showed the potential of a clinical assessment for bringing about positive changes in service users' attitudes to treatment.

2 **Self-administered pencil-and-paper tests**. Most service users will need only minimal supervision for the purpose of providing simple instructions, answering questions and checking that forms have been satisfactorily completed. Service users with sight or hearing impairment and those with poor reading skills will need more face-to-face interaction.

3 **Investigations**. These usually take the form of blood tests to look for tissue damage and to corroborate reported consumption. The extent of investigations will depend on the history taken and the availability of medical staff to interpret the history (see chapter five).

An alternative to history taking and self-completion questionnaires is an interactive computer program with the same contents as would be included in questionnaires. There is evidence that this form of assessment gives equivalent, if not better, results for the same contents as pencil-and-paper tests and face-to-face interviews (Skinner and Allen, 1983).

Assessment should not be confused with the act of filling in questionnaires. Someone who has taken the decision to seek help will be disheartened if presented with a large pile of blank forms for completion in the first instance. On the other hand, accurate quantification of the service user's problem and life situation is an indispensable part of the assessment process.

It should always be remembered that assessment is not a one-off event but an ongoing and emerging process during contact with the service user. It should also be remembered that assessment is a two-way process in which service users' wants and preferences should be included and in which they should be fully involved as active participants.

6.2 Assessment tools

6.2.1 Context

There are a number of assessment packages, which are discussed more fully in the section on routine follow-up (see section 6.3). They are useful for both initial assessment and follow-ups, as they can measure outcomes. It is not essential to use a standardised package but there is merit in having a core dataset that can be compared against population or other services' data. In a guide for clinicians and researchers, the National Institute on Alcohol Abuse and Alcoholism (Allen and Wilson, 2003) describe the psychometric properties of 78 instruments, mainly North American, which may be used in the assessment, treatment and evaluation of people with alcohol problems (see also chapter five). The compilation is not exhaustive and includes scales that are not alcohol related. Waller and Rumball (2004) also describe a selection of instruments that are popular in the UK. Biochemical measures that are used for assessment may be added to the outcomes package (see chapter five).

A good assessment tool should have both high reliability and validity:

- Reliability refers to the extent to which measurements by the instrument can be reproduced, either from the same service user at different points in time (test-retest reliability), or from different raters who make the same measurements at the same point in time (inter-rater reliability). Reliability also refers to the internal consistency (the degree of inter-correlation) among the items making up a scale
- Validity refers to the extent to which the instrument measures what it purports to be measuring. Validity comes in various forms: face, content, predictive, concurrent, discriminant and construct validity.

Many instruments are available to assist the assessment and follow-up process. We describe the properties of some of the more popular instruments that tap into alcohol use and related problems. It is beyond the remit of this review to consider the many more instruments measuring constructs in domains other than substance use.

6.2.2 Evidence

6.2.2.1 Research diagnosis

The Composite International Diagnostic Interview (CIDI) is a standardised and comprehensive interview schedule for the assessment of behavioural and psychological disorders, including "alcohol dependence" and "alcohol abuse". It generates diagnoses according to the International Classification of Diseases (ICD-10; World Health Organization, 1993) and the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; American Psychiatric Association, 1994). The CIDI must be administered or supervised by a qualified mental health professional who has received the recognised CIDI training. It is completed by both interview and self-report and takes approximately 70 minutes. A WHO international study (Ustun *et al.*, 1999) compared the CIDI to two other comprehensive interview schedules. All three schedules had acceptable test-retest reliability and construct validity for alcohol dependence, but not for hazardous or harmful drinking.

6.2.2.2 Alcohol consumption

Various methods can be used to record a service-user's drinking behaviour (Sobell and Sobell, 1995). These include:

- Quantity-frequency measures
- Retrospective drinking diaries
- Time-line follow-back method (TLFB)
- Lifetime drinking history (LDH)
- Self-monitored drinking logs.

Quantity-frequency (Q-F) measures ask the service user to recall the "average" or "typical" frequency with which they consume alcohol, and the average or typical amount consumed per occasion. These are then multiplied to arrive at an overall level of consumption. Q-F measures can be supplemented by some measure of the variability of drinking.

Retrospective drinking diaries record information about quantity, frequency and pattern of drinking by means of a detailed recall of actual drinking over a given time period, using prompts of time, place and drinking companions to elicit accurate recall. A given time period might be the previous week, or if that was atypical, the last typical week in the recent past.

The most thorough and sophisticated procedure is the **time-line follow-back** method (Sobell *et al.*, 1988) which uses a calendar to elicit detailed information on drinking over an extended period of time.

The **lifetime drinking history** (Skinner, 1982) is a formal method of obtaining information about the service user's past drinking habits. It is likely that the passage of time will permit only key events to be noted, such as the introduction to drinking, periods of heavy use and of abstinence, and the onset of problems.

Self-monitored drinking logs involve the recording of information by the service user on a daily or drink-by-drink basis. This method obviously relies less on memory than others and can be useful in monitoring progress in treatment, or identifying high-risk relapse situations.

An assessment of alcohol consumption will also be a convenient time to enquire about polydrug use, since some service users will use and may have problems with other drugs. A profile of use of all common psychoactive substances (including tobacco) can be obtained.

Research reveals many problems with Q-F measures, which have been reviewed by Sobell and Sobell (1995). The main problems are that they tend to underestimate consumption and miss episodes of binge drinking. However, Q-F measures can provide an easily administered and quick assessment of drinking, if time is limited. Retrospective diary methods are generally more accurate than Q-F measures, particularly with respect to binge drinking (Redman *et al.,* 1987; Shakeshaft, Bowman and Sanson-Fisher, 1998). They are less accurate in estimating low levels of consumption, but this is clearly not a serious limitation in treatment assessments. There is an extensive body of research to support the reliability of the TLFB with a variety of types of drinker (Sobell and Sobell, 1995). Completion of the TLFB calendar with the service user can also provide useful clinical information. It may be too time-consuming for routine clinical purposes but an understanding of the principles of the method may be useful for interviewers. The LDH shows reasonably high reliability as an aggregate index of drinking over a lifespan but lacks accuracy for more recent periods of time (e.g. the year before interview) (Skinner and Sheu, 1982) and other methods should be used here. No research seems to have been conducted on the reliability and validity of self-monitoring logs. Possible problems with compliance are obvious (Sobell and Sobell, 1995).

6.2.2.3 Alcohol dependence

This is an important assessment domain and one where the advantages of standardised measurement are probably greatest. Edwards, Marshall and Cook (2003) state that while the degree of dependence is not all there is to assessment, its measurement is of great practical importance, and is essential to treatment planning. A number of well-known instruments exist, with various advantages and disadvantages (Davidson, 1987), and at least one of these should be used.

Severity of Alcohol Dependence Questionnaire

The Severity of Alcohol Dependence Questionnaire (SADQ) was one of the first measures of alcohol dependence to be developed (Stockwell *et al.*, 1979) and is based on the elements of the alcohol dependence syndrome described by Edwards and Gross (1976). It consists of 20 items and is divided into five sections referring to:

- Physical withdrawal symptoms
- Affective withdrawal symptoms
- Craving and relief drinking
- Typical daily consumption
- Reinstatement of dependence after a period of abstinence.

The SADQ is widely used in the UK and is often employed to give advice to service users on the suitability of abstinence or moderation goals. A score of 30 or above on the SADQ is conventionally taken to indicate severe dependence (Stockwell, Murphy and Hodgson, 1983). The SADQ takes about five minutes to complete.

Stockwell *et al.* (1994) developed a 16-item version suitable for use in community samples – the SADQ-C. This comes with the short Impaired Control Questionnaire to measure the extent to which respondents believe their drinking is out of control. Rather than asking about a "recent period" of heavy drinking, as in the original SADQ, the SADQ-C asks about drinking in the past three months. The complete SADQ-C takes between five and ten minutes to complete and, as with all the measures discussed in this section, does not require any special training to administer it.

In its original validation study (Stockwell *et al.,* 1979), the SADQ showed significant inter-correlations between the five sections of the questionnaire. There was also high concordance between score on the SADQ and a

clinician's rating of degree of dependence. The SADQ also showed good test-retest validity and significant correlations with observer ratings of withdrawal severity and narrowing of the drinking repertoire (Stockwell, Murphy and Hodgson, 1983). The good reliability and validity of the SADQ was independently confirmed among a sample of Irish alcohol misusers (Meehan, Webb and Unwin, 1985). It has been suggested that a lower cut-point for the designation of severe dependence may be appropriate for women (Dawe *et al.*, 2002a). In its development study (Stockwell *et al.,* 1994), the SADQ-C showed good reliability and validity in an Australian general population sample.

Alcohol Dependence Scale

The Alcohol Dependence Scale (ADS) is a 25-item self-report questionnaire based again on the alcohol dependence syndrome (Skinner and Allen, 1982). It was derived from analysis of the larger Alcohol Use Inventory and measures loss of behavioural control, psycho-perceptual withdrawal symptoms, psychophysical withdrawal symptoms and obsessive-compulsive drinking style. Several studies among a diversity of alcohol misusers have shown the ADS to have good reliability and validity (Dawe *et al.*, 2002a). The ADS is more used in North America than in the UK

Leeds Dependence Questionnaire

The Leeds Dependence Questionnaire (LDQ) is a more recent, ten-item instrument that offers a generic measurement of dependence on any psychoactive substance (Raistrick *et al.*, 1994). If preferred, the wording can be made specific to alcohol or any other drug. The LDQ is based on a psychological understanding of dependence and so does not directly measure symptoms of tolerance and withdrawal that are a function of recent drinking. It was designed to be sensitive to change over time and to be sensitive through the range of mild to severe dependence. As suggested by its length, the LDQ can be completed more quickly than the other instruments discussed here.

The development study of the LDQ (Raistrick *et al.*, 1994) showed that the instrument measured a single construct, showed high test-retest reliability and had satisfactory concurrent, discriminant and construct validities. Subsequently, Heather *et al.* (2001) examined the psychometric properties of the LDQ among a large sample of service users attending treatment for substance use disorders. The satisfactory reliability and validity of the instrument were confirmed and it was shown to give a robust and sound assessment of dependence across a range of substances. It has been shown to measure dependence during periods of abstinence (Tober, 2000). Ford (2003) has demonstrated the clinical usefulness and validity of the LDQ in a population of problem drinkers who also have a mental illness. The cut-points are <10 for low dependence, 10-22 for medium dependence and >22 for high dependence.

6.2.2.4 Alcohol-related problems

The degree to which service users experience alcohol-related problems is a different matter from their degrees of alcohol dependence. Dependence and problems are correlated but are conceptually independent areas of functioning (Edwards *et al.,* 1977). It is possible for someone to have a severe level of dependence but only few and mild problems, and vice-versa. Many earlier instruments purporting to measure problems in fact confused alcohol-related problems and dependence. In a thorough assessment of alcohol-related problems, the whole range of negative consequences that might have been experienced by the service user should be covered, including medical, psychological, financial, legal, vocational, social, marital and other interpersonal problems.

Alcohol Problems Questionnaire

The Alcohol Problems Questionnaire (APQ) (Drummond, 1990) is a "pure" measure of alcohol-related problems, developed in the UK. It covers eight problem areas: friends, money, police, physical, affective, marital, children and work. The last two of these apply only to service users with children or in work. Subscale scores are calculated for each area and a common score based on 23 items is derived. Williams and Drummond (1994) reported a high test-retest reliability for the APQ common score and moderate-to-high reliabilities for subscale scores. There was a moderate but highly significant correlation with the SADQ and levels of dependence were the strongest predictors of APQ score compared to a range of other variables.

6.2.2.5 Motivation to change

An understanding of the service user's motivation to change drinking behaviour is a key to effective treatment

and can be used to decide on the specific treatment offered. The service user's motivation in terms of Prochaska and DiClemente's (1998) stages of change model can be based on clinical judgement, or can be derived from the service user's responses to questionnaires.

University of Rhode Island Change Assessment
The University of Rhode Island Change Assessment (URICA) is a 32-item instrument with subscales corresponding to the stages of change (McConnaughy, Proachaska and Velicer, 1983). Respondents are asked about their perception of a general "problem", which they define themselves, though their attention can be directed towards drinking as the problem under consideration. A difficulty with the URICA is that the derivation of a discrete stage of change from subscale scores is not straightforward (DiClemente and Hughes, 1990). In a sample of individuals with substance use disorders, Carney and Kivlahan (1995) reported that the URICA produced consistent profiles corresponding to the stages of change which, in turn, predicted severity of alcohol and drug problems.

Readiness to Change Questionnaire
The Readiness to Change Questionnaire (RCQ) is specific to alcohol and comes in two versions:

- The original 12-item RCQ intended for use among the non-treatment-seeking population (RCQ; Rollnick *et al.*, 1992b). The RCQ should not be used with alcohol misusers in treatment
- A 15-item version (RCQ-TV; Heather *et al.*, 1999) developed specifically for the treatment-seeking population.

Both questionnaires give subscale scores for three stages – precontemplation, contemplation and action – as being most relevant to clinical decision-making. The highest score or, in the event of a tie, the tied score farthest along the continuum of change, is taken to be the service user's stage of change. Both instruments are quick and easy to administer. The RCQ can also be scored as a continuous measure (Budd and Rollnick, 1996).

In the original validation study of the RCQ (Rollnick *et al.*, 1992b), internal consistencies for stage subscales ranged from 0.73 to 0.85. Test-retest coefficients ranged from 0.78 to 0.86. The RCQ showed satisfactory concurrent, convergent and construct validity.

In the validation of the RCQ-TV, internal consistency coefficients ranged from 0.60 to 0.77. Significant relationships were observed between the RCQ-TV and the URICA. Service users allocated to the contemplation stage before treatment were less likely to show a good outcome than those allocated to the action stage, even after the effects of other outcome predictors had been taken into account.

Heather, Rollnick and Bell (1993) showed that stage of change as allocated by the RCQ was a significant predictor of outcome among male patients of general hospitals given brief alcohol intervention. Gavin, Sobell and Sobell (1998) reported low reliabilities for the subscales of the RCQ but, in this study, the instrument was inappropriately applied in an alcohol problems treatment sample.

6.2.2.6 Cognitive behavioural assessment

A detailed picture of the antecedents and consequences of alcohol use and of craving for alcohol in the individual case is useful, especially if a cognitive behavioural approach to treatment (see chapter eight) is to be adopted. This domain of assessment relies as much on skilled and systematic enquiry by the interviewer as on established questionnaires. The topics to be covered include:

- Cues or triggers (environmental or social situations, positive or negative mood states) regularly associated with heavy drinking
- Feelings of self-efficacy in coping with specific high-risk situations without relapse (efficacy expectancies)
- Expectations of reinforcement from drinking (outcome expectancies)
- Skills for coping with high-risk drinking situations without relapse.

Inventory of Drinking Situations (IDS)
The IDS (Annis, Graham and Davis, 1987) comes in a long 100-item and a short 13-item form. It is based on Marlatt and Gordon's (1985) classification of high-risk relapse situations and assesses the past frequency of heavy drinking for eight categories of cue:

- Unpleasant emotions
- Physical discomfort
- Pleasant emotions

- Testing personal control
- Urges and temptations
- Conflict with others
- Social pressure to drink
- Pleasant times with others.

The IDS has been shown to have good reliability but there is equivocal evidence on whether the structure of the questionnaire reflects Marlatt and Gordon's (1985) eight relapse categories (Donovan, 1995). It can be used to assist the service user to identify the situations and circumstances where they are most at risk of relapse.

Situational Confidence Questionnaire

The Situational Confidence Questionnaire (SCQ) is a 39-item self-report inventory designed to assess the service user's self-efficacy in a range of situations (Annis and Graham, 1988) and can be used in conjunction with the IDS. Service users are asked to give a rating on a six-point scale of how confident they are that they would be able to resist heavy drinking in each situation. As with other instruments in this section, the SCQ can be used to monitor the service user's progress in coping with high-risk situations during the course of treatment. The SCQ has been shown to have good validity in terms of predicting outcomes of treatment (Donovan, 1995).

Alcohol Abstinence Self-Efficacy Scale

The Alcohol Abstinence Self-Efficacy Scale (AASE) assesses a service user's self-efficacy in abstaining from drinking in 20 situations representing typical cues for heavy drinking (DiClemente *et al.*, 1994). It has four scales with five items each: negative affect; social/positive; physical and other concerns; withdrawal and urges. The AASE has good internal consistency and there is some evidence for its discriminant and construct validity (Donovan, 1995). The AASE may be the more appropriate measure of self-efficacy in abstinence-oriented treatment.

Alcohol Expectancy Questionnaire

The service user's expectations of reinforcement from drinking alcohol, which may be maladaptive and related to their alcohol problem, can be assessed by the Alcohol Expectancy Questionnaire (AEQ) (Brown, Christiansen and Goldman, 1987). This is a 90-item self-report instrument requiring 15–20 minutes for completion and consisting of subscales for:

- Positive global changes in experience
- Sexual enhancement
- Social and physical pleasure
- Assertiveness
- Relaxation/tension reduction
- Arousal/interpersonal power.

A large amount of research has shown the AEQ to have high internal and test-retest validity, with evidence too of good validity in several forms (Donovan, 1995).

Negative Alcohol Expectancy Questionnaire

An alternative to the AEQ is the Negative Alcohol Expectancy Questionnaire (NAEQ), which – as its name suggests – focuses on the expected negative consequences of drinking (McMahon and Jones, 1993). There are 60 items applied to three consecutive timeframes:

- Same-day consequences associated with "going for a drink now"
- Next-day expected consequences
- Long-term expected consequences if drinking were to continue at its current level.

Jones and McMahon (1994) compared the NAEQ with the AEQ and reported that, in a residential treatment sample, the NAEQ predicted the time to first drinking following treatment and level of consumption at three-month follow-up, while the AEQ did not.

Situational Competency Test

The Situational Competency Test (SCT) is an early role-play technique for assessing the strengths and weaknesses of the service user's repertoire of coping skills (Chaney, O'Leary and Marlatt, 1978). A series of 16 audio-taped situations are presented to service users who are asked to respond to each as they would in real life. Coping skills are assessed in relation to frustration and anger, interpersonal temptation, negative emotional states and intrapersonal temptation. Clearly, the SCT is a time-consuming procedure and special training is needed in its administration. Pencil-and-paper versions of coping skills assessment are also available (Donovan, 1995). The usefulness of the SCT in designing an individual treatment programme was demonstrated in the pioneering study by Chaney, O'Leary and Marlatt (1978), but more recent evidence of its relationship to treatment outcome is mixed (Finney, 1995).

Many other instruments exist for use in conjunction with cognitive behavioural therapy and these may be found in Allen and Wilson (2003).

6.2.3 Conclusions

- There are many instruments with good psychometric properties that can be combined to construct an assessment package; packages should also be suitable for outcome ratings (see chapter 15) (I)
- The CIDI provides a thorough but time-consuming assessment with satisfactory reliability and validity for diagnosing alcohol dependence according to ICD-10 or DSM-IV criteria (II)
- Q-F measures of alcohol consumption can be used when time is limited but they are likely to be inaccurate to varying degrees (III)
- Retrospective drinking diaries offer the most reliable method of recording alcohol consumption in routine clinical practice, particularly using time-line follow-back (II)
- Several reliable and valid instruments exist for the measurement of alcohol dependence and one of these should be used in assessment (II)
- The APQ is the instrument of choice for the measurement of alcohol-related problems in the UK (II)
- The RCQ and RCQ (TV) provide brief methods of assessing a service user's stage of readiness to change drinking behaviour with moderately good psychometric properties (II)
- A collection of instruments are available for use in conjunction with cognitive behavioural therapy (II)

6.3 Routine follow-up

6.3.1 Context

Actual clinical outcomes are the summation of a number of influences that include how well treatment has been delivered, how good the specific treatment was, the quality of clinical governance controls in the agency and the quality of organisational support. Outcomes can be an important component of performance management but their proper use requires resources and methodological knowledge and skills (Tonigan, 2003, pp 219–233).

To be meaningful, outcome measures need to be accompanied by a description of the cohort of service users in question, a follow-up of a representative sample from the original cohort and a chart recording the nature of interventions given and the reasons for drop-outs. The change measures – for example, dependence scores or percentage of days abstinent – can be compared in a number of ways:

- Simple statistical terms, such as comparing mean scores at baseline and follow-up
- Clinically significant change (Jacobson *et al.*, 1999; Tober, 2000, pp 182-191)
- Categorical terms, for example using ICD-10.

6.3.2 Evidence

Depending upon definition, as many as 70 per cent of service users new into treatment will have relapsed at six month follow-up. This does not imply that these individuals are lost to treatment; indeed the lapse or relapse can often be used to therapeutic advantage. Changes in drinking behaviour tend to occur in the first three months of treatment and the benefits across a range of outcome domains are typically maintained through to 12 months (Babor *et al.*, 2003b; Weisner *et al.*, 2003). It follows that a three-month follow-up will give the best indication of treatment effectiveness, while a 12 month follow-up will give a better idea of the overall benefits of treatment, albeit shaped by an individual's characteristics and circumstances. At 12 months it is possible that less than 30 per cent of new service users will still be in contact with an agency; however, it is possible to boost this to at least 80 per cent by using trained follow-up staff (Cottler *et al.*, 1996; Tober *et al.*, 2000).

6.3.3 Conclusions

- Routine evaluation of treatment outcomes is feasible but requires follow-up staff and access to statistical advice (II)
- Reporting clinically significant change is a strict test of outcome, which gives a good indication of improvement meaningful at an individual level (II)
- There is a logic to undertaking follow-ups three months and 12 months after entering treatment and then again annually (IV).

6.4 Assessment packages

6.4.1 Context

Selecting suitable outcome measures for an agency is not as simple as might be supposed. There are a number of reasons:

1 Agencies need to have ownership of their data collection, otherwise motivation will be lacking and data quality poor

2 Different tiers of services will have different assessment requirements, different commitments to aftercare and follow-up

3 Within tiers, agencies may have different treatment objectives

4 Many outcome measurement tools lack adequate validation.

That said, alcohol consumption is common to all services and outcomes (Sobell and Sobell, 2003, pp75-99) and is a logical starting point for a small common dataset. The selection of additional outcome measures might take account of whether the measures:

- Are universal – not constrained by any particular substance or social group
- Have proven validity and reliability and have published psychometric properties
- Are sensitive to change
- Have easy readability and neutral language
- Are practitioner-completed (subject to bias), self-completed (free of practitioner bias), or a mixture of both.

The alcohol research community has, to some extent, already settled the debate by choosing common measures to compare results across major trials (e.g., UKATT Research Team, 2001; Babor and Del Boca, 2003). Data from these trials provide useful comparison groups for clinical services that choose the same outcome measures.

6.4.2 Evidence

Here we describe four treatment outcome packages and one scale, all of which cover the key outcome domains and are widely used for both research and clinical purposes. These packages have been designed and tested with a particular function in mind but there is no barrier, in principle, to designing a local package made up from a selection of the individual scales available.

6.4.2.1 Comprehensive Drinker Profile

The Comprehensive Drinker Profile (CDP) (Miller and Marlatt, 1987) was designed to provide clinically useful information on the level of alcohol consumption, drinking patterns, alcohol-related problems and socio-demographic background. It is accompanied by:

- A Brief Drinker Profile, for use when time is limited, or when the client is reluctant to complete the full profile
- A Follow-Up Drinker Profile, for recording outcome after treatment in a comparable form to pre-treatment measurements
- A Collateral Interview Form, for structuring corroborative interviews with family or friends.

A trained interviewer must administer the CDP. It contains 88 items and takes two hours to complete.

No independent studies of the CDP appear to have been conducted. Dawe *et al.* (2002a) state that the CDP family of instruments "… make a good assessment tool for clinicians working with clients who present with alcohol problems" (p.66). Sobell and Sobell (1995) write that the CDP "… provides a consistent baseline dataset for treatment planning with structured parallel interviews that can be used for follow-up or with collaterals" (p.68).

6.4.2.2 The Addiction Severity Index

The Addiction Severity Index (ASI) (McLellan *et al.*, 1980) is a multidimensional structured interview for assessing dependence and problems across the full range of substance use disorders. It consists of 200 items and seven subscales measuring alcohol consumption, other drug use, medical problems, psychiatric status, family-social problems, employment problems and legal difficulties. The ASI has been updated over the years and is now in its fifth revision (McLellan *et al.*, 1992). It is widely used in treatment and research and has been translated into all major languages. Scoring takes account of subjective ratings of severity by service users and objective evidence to arrive at overall severity ratings.

The ASI need not be given by a mental health professional but needs training in its administration. The time required is estimated at 50–60 minutes. The time

frame covers the past 30 days of recent use, otherwise it refers to lifetime use.

The ASI has been widely used in both clinical and research settings and there has been supporting validation (see Rosen *et al.*, 2000; Leonhard *et al.*, 2000). Several studies have examined the psychometric properties of the ASI and it has been generally found to have good reliability and validity as an indicator of treatment outcome (Dawe *et al.*, 2002a). However, Makelä (2004), who reviewed 37 studies of its psychometric performance, has recently questioned the reliability and validity of the ASI. He concluded:

- Inter-rater and test-retest reliabilities of severity ratings and composite scores varied from excellent to unsatisfactory
- High internal consistencies were reported regularly for only three of the seven composite scores
- The remaining four composite scores (employment status, drug use, legal status and family-social relations) have low consistencies in at least four different studies
- Indices of construct validity are often low.

6.4.2.3 The Maudsley Addiction Profile

The Maudsley Addiction Profile (MAP) (Marsden *et al.*, 1998) is a brief structured interview for treatment outcome research, with 28 items covering substance use, health risks, health symptoms (ten-item scale), psychological symptoms (ten-item scale), social functioning, and criminal activity. Completion time is approximately 20 minutes. Most of the measures in MAP are standardised on a 30-day time frame

The MAP is used for both research and clinical purposes in the UK. The instrument can be added to, for example, with a measure of substance dependence. The MAP has been field tested in a European context in combination with the Treatment Perceptions Questionnaire, a standalone satisfaction rating (Marsden *et al.,* 2000a), and this extends the completion time slightly (Marsden *et al.,* 2000b).

6.4.2.4 RESULT

RESULT (Raistrick and Tober, 2003) combines the substance misuse and physical health items of MAP with self-completion measures of dependence (Raistrick *et al.*, 1994; Ford, 2003), psychological morbidity (Evans *et al.*, 2002), and social satisfaction (based on Corney and Clare, 1985). An alternative to social satisfaction would be the Alcohol Problems Questionnaire (Drummond, 1990), which is commonly used in trials but for clinical purposes falls down on the universality test (see section 6.4.1).

The package can be computerised and was designed for routine use in clinical services, combining alcohol and other drugs. Completion time is approximately ten minutes for the substance misuse history and ten minutes for the self-completion questionnaires. The time frame is 30 days. RESULT is used for both research and clinical purposes in the UK.

6.4.2.5 The Christo Inventory for Substance Misuse Services

The Christo Inventory for Substance Misuse Services (CISS) (Christo *et al.*, 2000) is a single-page outcome evaluation tool completed by the service user's therapist from direct interviews, or retrospectively from case notes. It is a ten-item scale with each item scored zero to two. The items cover social functioning, health, risk behaviour, psychological wellbeing, occupation, criminal activity, substance use, support, treatment compliance and therapeutic alliance. Completion time is approximately ten minutes. The time frame is the last 30 days. The CISS has high face validity and is used in clinical services across the UK.

6.4.3 Conclusions

- The reliability and validity of assessment packages have not been independently examined (other than one meta-analysis on the ASI) and so the evidence to support standard assessment packages is weak (IV)
- The CDP family of instruments provide a lengthy but clinically useful and thorough assessment of alcohol problems. The reliability and validity have not been independently examined (IV)
- The ASI is a widely used, comprehensive assessment tool but reliability and validity have come into question. MAP or RESULT are alternatives but have not been independently examined (IV)
- Measures that will be useful for routine clinical use can often be taken from major clinical trials (IV)
- There is ample scope to mix different scales for agencies to create a preferred package drawing on commonly used assessment tools (see chapter five) (IV).

Implications for…

Service users and carers

- Service user feedback will be useful in improving the assessment process
- Service user groups can help develop assessment tools in terms of both content and language
- Ideas on using different data collection media, such as the internet and telephone, are needed
- Encourage discussion of outcomes as a means of motivation and an aid to refreshing care plans.

Service providers

- Need to have a core assessment package, which may be "off the peg" or tailor-made to suit agency preferences – there may be specialist assessment or screening requirements beyond the core package
- Will need to identify the practitioner skills required to undertake assessments
- Think about using outcomes as one element of staff performance
- Consider whether investigations to supplement the assessment will be useful both for diagnostic purposes and for feedback to service users.

Commissioners

- Recommend only use of assessment tools that have well-established psychometric properties – aim for small shared datasets with high completion rates
- Ensure that there is the capacity to undertake competent assessments for the full range of alcohol problems
- Encourage agencies to share common datasets, allowing for agencies to use measures suiting their particular needs
- Have agreements on sharing of assessment data
- Make available attractive assessment tools, as agreed by agencies, that are suitable for use in different service tiers.

Researchers

- Independent evaluation of assessment tools and assessment packages are an important area for research
- A small minimum dataset justified by research evidence would be useful
- The predictive validity of assessment instruments needs to be quantified
- Exploration of the predictive validity of different pre-treatment measures is an important area for research
- The impact of service user choice on outcomes needs more research.

Chapter 7

Brief interventions

This is the first of four chapters dealing specifically with core psychosocial treatments for alcohol misuse. Here, we describe the use of brief interventions in different populations and settings. We start with some clarification of terminology.

7.1 Background

The topic of brief interventions has attracted a great deal of attention in the alcohol field in recent years, but this has also been accompanied by a great deal of confusion. This is partly because, rather than being a single, well-defined method of intervention, brief intervention is in fact an umbrella term covering a range of therapeutic activities. Unfortunately, the term has been used inconsistently. The main source of confusion is that there are two different forms of activity and both have sometimes been included under the rubric of brief interventions:

- With people who are seeking help from specialist services for an alcohol problem – referred to here as less-intensive treatment (see chapter eight)
- With people who are not seeking help from specialist services for an alcohol problem – referred to here as brief interventions

There are differences in length, content and style between these two classes of intervention and also important methodological differences between studies investigating them (Heather, 1995). It is important to understand that the evidence for brief interventions in non-specialist settings, such as primary care, cannot be interpreted as evidence that more intensive interventions in specialist settings are unnecessary – this is not true.

Brief interventions are carried out in general community settings and are delivered by non-specialist personnel such as general medical practitioners and other primary healthcare staff, hospital physicians and nurses, social workers, probation officers and other non-specialist professionals. They are directed at hazardous and harmful drinkers who are not typically complaining about or seeking help for an alcohol problem. They may have been identified by opportunistic screening or some other identification process; therefore, brief interventions are sometimes called “opportunistic interventions”. In this sense, opportunistic simply means that the opportunity is taken to identify a possible alcohol problem when someone has attended for other reasons. Brief interventions can themselves be subdivided into:

- Simple brief interventions – structured advice taking no more than a few minutes (sometimes also referred to as a minimal intervention)
- Extended brief interventions – structured therapies taking perhaps 20–30 minutes and often involving one or more repeat sessions.

So, to be absolutely clear on terminology, in this review simple brief interventions and extended brief interventions are special cases of brief interventions in general. For clarity, we believe brief interventions should be regarded as interventions for generic staff and not specialists (although this is not always the case in the evidence reviewed).

7.2 General effectiveness of brief interventions

7.2.1 Context

Brief interventions can be delivered in a range of settings. We begin, however, by considering evidence for the effectiveness of brief interventions taken as a whole. Brief intervention is given the highest rank in the Mesa Grande (page 44) and is therefore considered the treatment modality with the greatest amount of research support in the table, with a cumulative evidence score more than double the next highest-ranked modality. It should be noted that the category of brief intervention in the Mesa Grande includes studies carried out in specialist services and referred to in this review as less-intensive treatment (see chapter eight). Furthermore, many of the studies included in the second-ranked modality, motivational enhancement, could be described as brief interventions or less-intensive treatment. This illustrates the difficulty in

making neat classifications among the wide variety of treatments and interventions found in the literature on alcohol problems.

7.2.2 Evidence

Together with studies categorised as motivational enhancement in the Mesa Grande, there is a very large body of research evidence on alcohol brief interventions, including at least 56 controlled trials of effectiveness (Moyer *et al.*, 2002). There have been at least 14 meta-analyses or systematic reviews, using somewhat different aims and methods, of research on effectiveness of brief interventions (Bien, Miller and Tonigan, 1993; Freemantle *et al.*, 1993; Kahan, Wilson and Becker, 1995; Wilk, Jensen and Havighurst, 1997; Poikolainen, 1999; Irvin, Wyer and Gerson, 2000; Moyer *et al.*, 2002; D'Onofrio and Degutis, 2002; Berglund, Thelander and Jonsson, 2003; Emmen *et al.*, 2004; Ballesteros *et al.*, 2004a; Whitlock *et al.* 2004; Cuijpers, Riper and Lemmens, 2004; Bertholet *et al.*, 2005). All these have reached conclusions, in one form or another, favouring the effectiveness of brief interventions in reducing alcohol consumption to low-risk levels among hazardous and harmful drinkers.

In the most comprehensive and well-designed meta-analysis in this area (Moyer *et al.,* 2002), the studies were divided into 34 opportunistic interventions carried out in generalist settings among individuals not seeking treatment for alcohol problems and 20 specialist brief interventions among those who were seeking treatment. From the first group of studies, which are of interest in this chapter, small to medium aggregate effect sizes in favour of brief interventions emerged across different follow-up points.

At follow-ups of between three and six months inclusive, the effect for brief interventions compared to control conditions was significantly larger when alcohol misusers showing more severe alcohol problems were excluded from the analysis. In addition, the majority of studies of brief interventions have excluded individuals showing significant levels of dependence, so that the findings apply mainly to service users with no or only mild dependence. Therefore, service users with moderate or severe levels of dependence should routinely be referred for specialist treatment; it is possible that a few of these service users may benefit from a brief intervention but research suggests that they should at least be offered referral to and encouraged to attend specialist services for treatment of alcohol dependence.

Other evidence-based reviews consulted for this document found brief interventions to be effective:

- The Swedish Technology Assessment review (Berglund, Thelander and Jonsson, 2003) concluded: "In most of the studies [of brief intervention for secondary prevention] a significant effect of brief intervention has been shown in follow-ups for up to two years. The treatment effect is of the same magnitude as that achieved with many common medical treatments for chronic conditions" (p38)
- The Australian systematic review (Shand *et al.*, 2003a) concluded that "opportunistic brief interventions are effective in reducing alcohol consumption in problem drinkers with low levels of dependence" (p44)
- The Scottish review (Slattery *et al.*, 2003) was concerned exclusively with service users being treated in specialist services following alcohol detoxification. It concluded that brief interventions were not recommended for use in this population, as research had failed to shown any benefit.

There is mixed evidence on longer-term effects of brief interventions:

- A trial based in family medicine in Wisconsin, USA reported continuing benefits for alcohol use, binge drinking episodes and frequency of excessive drinking among recipients of brief interventions compared with controls four years after intervention (Fleming *et al.*, 2002)
- An Australian study reported that the benefits of receiving brief interventions had disappeared after ten years (Wutzke *et al.*, 2002) and it was suggested that booster sessions would be necessary to maintain the effect over this period of time
- A 10-16 year follow-up sample recruited in a pioneering Swedish study carried out as part of a health screening programme showed reduced mortality in the intervention group (Kristenson *et al.*, 2002) but it is questionable whether this study can be regarded as relevant to brief intervention because of the length and duration of the original intervention sessions.

More research is clearly needed, particularly in the UK, on the longer-term effects of brief interventions.

There is some evidence that brief interventions reduce alcohol-related mortality (Cuijpers, Riper and Lemmens, 2004), albeit from a small number of studies. Moyer *et al.* (2002) also reported that brief interventions were effective on a composite of various drinking-related outcomes, including measures of alcohol-related problems. There is also direct evidence from an Australian study in general practice that brief interventions are effective in reducing alcohol-related problems among those who receive them (Richmond *et al.*, 1995). More studies of the effects of brief interventions other than on alcohol consumption itself, including effects on mortality, general adjustment and alcohol problems, would be useful.

The issue of the cost-effectiveness of brief interventions will be addressed in chapter 14.

7.2.3 Conclusions

- Brief interventions, of various forms and delivered in a variety of settings, are effective in reducing alcohol consumption among hazardous and harmful drinkers to low-risk levels (IA)
- Effects of brief interventions persist for periods up to two years after intervention and perhaps as long as four years (IB)
- Booster sessions may be necessary to maintain the effect for longer periods of time, although more research is needed on the longevity of the effects of brief interventions (IB)
- Brief interventions are effective in reducing alcohol-related problems among harmful drinkers (IIA), although more research would be useful
- There is some evidence that they are effective in reducing alcohol-related mortality, although more research is needed (IA)
- There is no evidence that opportunistic brief interventions are effective among people with more severe alcohol problems and levels of dependence, i.e. among moderately and severely dependent drinkers (IA) and such service users should be encouraged to attend specialist treatment services.

7.3 Brief interventions in primary healthcare

7.3.1 Context

There are many advantages in delivering brief interventions in primary healthcare, due mainly to the access it provides to the majority of the general population, the absence of stigma attached to attending primary care facilities, the presence of "teachable moments" in consultations about alcohol-related illnesses, and the generally high credibility in the community of GPs and other primary care professionals (Babor, Ritson and Hodgson, 1986).

7.3.2 Evidence

Studies by Wallace, Cutler and Haines (1988) and by Anderson and Scott (1992) in the UK established the effectiveness of brief interventions delivered by general practitioners in reducing the proportion of patients drinking above medically recommended guidelines. The public health potential of GP-based brief interventions was highlighted by Wallace *et al.* when they estimated, on the basis of their findings, that routine and consistent implementation of their intervention program by general practitioners throughout the United Kingdom would result in a reduction from hazardous or harmful to low-risk levels of the drinking of 250,000 men and 67,500 women each year.

There have been five systematic reviews with meta-analysis specifically focused on the effectiveness of brief interventions in primary healthcare (Kahan, Wilson and Becker, 1995; Poikolainen, 1999; Ballesteros *et al.*, 2004a; Whitlock *et al.*, 2004; Bertholet *et al.*, 2005).

The most recent of these (Bertholet *et al.*, 2005) concluded that brief interventions are effective in reducing consumption among both men and women at six and 12 months following intervention. This review was confined to studies carried out in more naturalistic conditions of primary healthcare, excluding those studies that used patient lists, registers or specially arranged screening sessions, and is therefore more relevant to real world conditions of general practice than other reviews.

Another recent review (Ballesteros *et al.*, 2004a) concluded that their meta-analysis, although indicating a smaller effect size than reported in previous reviews,

nevertheless supported the moderate effectiveness of opportunistic brief interventions.

Yet another recent review, by the US Preventive Task Force (Whitlock *et al.*, 2004), found that "… brief counselling interventions for risky/harmful alcohol use among adult primary care patients could provide an effective component of a public health approach to reducing risky-harmful alcohol use." (p557).

With regard to gender, Ballesteros *et al.* (2004b) found in their meta-analysis that, despite indications from previous research that brief interventions may be less effective among women than men (e.g. Scott and Anderson, 1991; Anderson and Scott, 1992), there was no evidence of any difference in response between genders. Fleming *et al.* (1999) reported that brief interventions delivered in general practice were effective too among adults over 65 years old.

The effect size of brief interventions is more understandable in terms of number needed to treat (NNT – the number of hazardous of harmful drinkers that need to receive intervention for one to reduce drinking to low-risk levels). The latest estimate of NNT for brief interventions is about eight (Moyer *et al.*, 2002). This compares favourably with NNT for advice to quit smoking which has an NNT of 20, although this improves to about ten with the addition of nicotine replacement therapy (Silagy and Stead, 2003). In a sense, NNT underestimates the full effectiveness of brief intervention since, even if the drinker does not immediately reduce drinking, it may plant a seed that later becomes an active effort to cut down, or – in other words – the beginning of a movement along the cycle of change. In any event, as with smoking cessation advice, the NNT for alcohol brief interventions indicates that, if routinely implemented in primary healthcare, its potential to reduce alcohol-related harm in the population is very large.

7.3.3 Conclusions

- Opportunistic brief interventions delivered to hazardous and harmful drinkers in primary healthcare are effective in reducing alcohol consumption to low risk levels (IA)
- The public health impact of widespread implementation of brief interventions in primary healthcare is potentially very large (IB)
- NNT for alcohol brief interventions in primary healthcare is about eight and this compares favourably with advice to quit smoking (IA)
- Brief interventions in primary healthcare are equally effective among men and women (IA)
- Brief interventions in primary healthcare are effective among older adults (IB).

7.4 Brief interventions in the general hospital

7.4.1 Context

In some ways, the general hospital ward offers a setting more conducive to brief interventions than primary healthcare, mainly because patients have more time available for screening and intervention. There is abundant evidence that many types of hospital ward contain high numbers of hazardous and harmful drinkers, especially among males, not to mention alcohol dependent patients. Depending on the definitions used, it is estimated up to 40 per cent of male patients are alcohol misusers (Royal College of Physicians, 1987).

There has been one meta-analysis of opportunistic brief interventions in the general hospital setting (Emmen *et al.*, 2004). This was based on eight studies, most of which the authors regarded as having methodological weaknesses. Only one study, with a relatively intensive intervention and a short follow-up period, showed a significantly large reduction in alcohol consumption in intervention groups (Maheswaran *et al.*, 1992); this was conducted among hypertensive patients. The conclusion of the Emmen *et al.* review was that: "Evidence for the effectiveness of opportunistic brief interventions in a general hospital setting for problem drinkers is still inconclusive." (p322).

There are reasons to believe that this conclusion may be unduly pessimistic:

- An early study in Edinburgh (Chick, Lloyd and Crombie,1985) reported that a one-hour intervention on the ward by a nurse was effective in reducing alcohol-related harm in the one-year follow-up period. This harm-reduction effect of brief intervention, in the absence of significant changes to alcohol consumption, has been reported in other studies of

brief interventions (Richmond *et al.*, 1996; Monti *et al.*, 1999; Longabaugh *et al.*, 2001)

- In an Australian study, Heather *et al.* (1996) reported that, when the effects of the two interventions they investigated (brief motivational interviewing and skills-based counselling for 30-40 minutes) were combined, there was a significantly greater reduction in alcohol consumption than in an assessment-only control condition.

Nevertheless, it is clear that the effects of brief interventions on hospital wards deserve more research attention. There seems no reason *a priori* why brief interventions should be less effective in this setting than in others.

A matching effect involving the stages of change model was reported in the Heather *et al.* (1996) study. Patients assessed as being in early stages of change (pre-contemplation or contemplation) showed greater reductions in drinking if they had received brief motivational interviewing than if they had received skills-based counselling, as the stages of change model would predict. For those in the action stage there was no difference between the two forms of intervention in their effects on consumption.

7.4.2 Conclusions

- Evidence for the effectiveness of brief interventions in the general hospital setting is inconclusive (IA)
- There is some evidence that excessive drinkers identified on general hospital wards who are not ready to change drinking behaviour do better with brief motivational interviewing than with brief skills-based counselling (IIA).

7.5 Brief interventions in Accident and Emergency departments

7.5.1 Context

The Alcohol Harm Reduction Strategy for England (Prime Minister's Strategy Unit, 2004) estimated that 40 per cent of all A&E department admissions are related to alcohol, rising to 70 per cent at peak times. It is known that alcohol misuse is a major risk factor for nearly all kinds of injury (Gentilello *et al.*, 1999).

Despite the difficulties in carrying out opportunistic screening in this setting, it is possible to detect excessive drinkers in A&E departments (Huntly *et al.,* 2001). Green *et al.* (1993) found that almost half the patients they identified as having an alcohol problem accepted an invitation to return to the department for advice on drinking the following day.

7.5.2 Evidence

In the USA, D'Onofrio and Degutis (2002) reviewed the literature on brief interventions and identified four studies that were based in A&E departments and two others that included A&E as one of multiple sites. The authors concluded by recommending that "screening and brief intervention for alcohol-related problems in the Emergency Department be incorporated into clinical practice." (p627).

In a recent British study not included in D'Onofrio and Degutis's review, Crawford *et al.* (2004) carried out a pragmatic randomised controlled trial (RCT) to investigate the effects of a form screening and intervention that had been incorporated into routine clinical practice in an A&E department. Patients (n=599) identified as excessive drinkers and consenting to take part in the trial were allocated to receive an information leaflet (control condition) or a leaflet and an appointment with an alcohol health worker. The appointment was scheduled to last about 30 minutes and consisted of a non-confrontational and patient-centred discussion of current and previous drinking.

At a six-month follow-up, patients who had received the intervention were drinking at significantly lower levels than those in the control group and this difference approached significance at a 12-month follow-up. In addition, those receiving the intervention made a mean of 0.5 fewer visits to the A&E department over the following 12 months. The authors conclude: "Short-term reductions in alcohol consumption associated with referral for brief intervention for alcohol misuse benefit patients and reduce demand for Accident and Emergency services." (p1,334).

In a setting closely linked to A&E services, Smith *et al.* (2003), in another British RCT, evaluated the effectiveness of a brief intervention on drinking and alcohol problems among young men with alcohol-related face injuries. The study took place in an oral and maxillofacial outpatient surgery, where young men had been referred from the A&E department within ten days of initial presentation.

One hundred and fifty-one (151) participants were randomised to a manual-guided brief motivational intervention given by specially trained nurses, or to treatment as usual.

At one-year follow-up, there was a significantly greater reduction in alcohol consumption and alcohol-related problems in the intervention group compared with controls. The intervention group also showed a significantly lower percentage of participants classified as hazardous drinkers from the AUDIT questionnaire at follow-up than the control group. The authors' conclusion was that: "A proportion of young men change their alcohol consumption following alcohol-related injury. A nurse-led psychological intervention adds significantly to the proportion and magnitude of the response." (p43). This study is of particular interest because heavy-drinking young men are less likely to attend primary healthcare services and may be more efficiently detected in A&E and related hospital services.

Other findings have emerged from trials in A&E services in the USA:

- Monti *et al.* (1999) allocated older adolescents (18-19 years) positive for hazardous drinking to a brief motivational intervention or to standard care. At six-month follow-up, both groups had reduced consumption and there was no significant difference between them in this respect. However, the intervention group showed a significantly lower incidence of drinking and driving, traffic violations, alcohol-related injuries and alcohol-related problems. This suggests that brief interventions can be effective in ameliorating the negative consequences of drinking without lowering overall consumption
- Among male heavy drinkers of all ages, Longabaugh *et al.* (2001) showed that a brief intervention with a booster session 7–10 days after the initial session was more effective in reducing alcohol-related negative consequences than a standalone brief intervention, which was no better than standard care
- Gentilello *et al.* (1999) in Seattle reported that a brief intervention delivered mainly to male patients in a trauma centre was more effective in reducing both alcohol consumption and injuries requiring admission to either an emergency department or a trauma centre. Reductions were most apparent among those with mild to moderate alcohol problems.

7.5.3 Conclusions

- Studies in both the UK and USA provide strong support for the effectiveness of brief interventions in A&E departments and linked services (IB)
- Brief interventions can reduce the workload of A&E departments (IB)
- Brief interventions may be especially useful in reducing alcohol-related harm among male patients and particularly among young men with alcohol-related injuries whom it may be difficult to recruit for intervention elsewhere (IB)
- There is some evidence that brief interventions in A&E services may reduce alcohol-related negative consequences without necessarily reducing overall levels of consumption (IB).

7.6 Brief interventions in other medical settings

7.6.1 Evidence

7.6.1.1 Psychiatric wards

Hulse and Tait (2002) in Australia evaluated a brief intervention to reduce alcohol consumption among psychiatric inpatients following the resolution of psychiatric morbidity. Participants were randomised either to a brief motivational intervention or an information package. At six-month follow-up, the intervention group had reduced alcohol consumption significantly more than controls and included a greater proportion drinking at low-risk levels. The authors conclude that brief interventions are effective among the mid-range of psychiatric severity. In a subsequent five-year follow-up of this cohort (Hulse and Tait, 2003)), the specific effects of brief motivational intervention had disappeared, but patients who had received the intervention combined with those who had received the information pack showed fewer mental health inpatient episodes and shorter lengths of hospital stays than a group of matched controls. This last finding should be interpreted with caution owing to the non-randomised nature of the matched control group. The effectiveness of brief interventions as part of psychiatric services is clearly an important area for future research in the UK

7.6.1.2 Needle exchange programmes

Stein *et al.* (2002) in the USA investigated the effects of a brief motivational intervention for reducing alcohol use among service users of a needle exchange programme. Participants randomised to the intervention received a one-hour session of motivational interviewing with a booster session one month later, while controls received usual care. At six-month follow-up, participants in the intervention group showed significantly greater reductions in consumption, but the authors state that the optimal length of intervention in this setting deserves further study.

7.6.1.3 Prenatal care

In the USA, Chang *et al.* (1999b) assessed the impact of brief interventions on *ante partum* alcohol consumption among pregnant women receiving prenatal care. Both intervention and assessment–only control participants had reduced consumption at follow-up, but there were no significant differences between groups. Considering the importance of reducing excessive alcohol consumption among pregnant women, more studies of intervention in this context are warranted.

7.6.1.4 Somatic outpatient clinics

In a small study in Norway, Persson and Magnusson (1989) examined the effectiveness of a brief and early intervention among patients at a "somatic outpatient clinic" who had not yet experienced medical or social negative consequences from their alcohol misuse. At follow-up interviews over 12 months, participants in the intervention group showed decreased consumption, liver enzyme readings and sickness days compared with controls. The authors conclude that their early intervention programme was effective, carried out at low cost and received a positive response from patients.

7.6.1.5 General population health screening programmes

Pioneering studies of brief interventions in Scandinavian countries (Kristenson *et al.*, 1983; Nilssen, 1991) were carried out as part of general population health screening programmes. In general terms, these studies provide good evidence for the effectiveness of these interventions, although, as we have noted, it is doubtful whether they can be considered brief.

7.6.2 Conclusions

- There is some evidence that brief interventions are effective in producing short-term reductions in alcohol consumption among psychiatric patients with mid-range psychiatric disorders (IB)
- There is some evidence that brief interventions are effective in reducing the alcohol consumption of heavy drinking service users in needle exchange programmes (IB)
- There is no evidence as yet that brief interventions reduce alcohol consumption among pregnant women (IB)
- There is some evidence that brief interventions are effective among patients attending outpatient clinics for somatic disorders (IB)
- Scandinavian trials of intervention delivered as part of general population health screening programmes showed positive effects, though these interventions were more intensive than those normally considered "brief" (IB).

7.7 Brief interventions in educational establishments

7.7.1 Evidence

A series of studies by G Alan Marlatt and colleagues from the University of Washington tested the effectiveness of brief interventions on campus among heavy drinking college students (Baer *et al.*, 1992; Marlatt *et al.*, 1998; Baer *et al.*, 2001). Earlier studies used a condensed form of cognitive-behavioural therapy but more recent work has focused on brief motivational interviewing.

In the most recent study (Baer *et al.*, 2001), heavy drinking students in their freshman year were randomly allocated to an intervention group that received individual motivational feedback based on a prior assessment, followed by mailed feedback derived from six-month and one-year follow-up contacts. At a two-year research follow-up, the intervention group showed greater reductions in drinking and harmful consequences compared to a non-intervention control group. The intervention group continued to report more alcohol problems that a matched, natural history comparison group not showing heavy drinking. However, the decline in problems over time suggested that the effects of brief

motivational intervention were added to maturational processes. At a later four-year follow-up, these trends were confirmed and the authors concluded that brief interventions for high-risk college drinkers "can achieve long-term benefits even in the context of maturational trends" (p1310).

Borsari and Carey (2000) randomised college student binge drinkers to a one-session motivational intervention or a no-treatment control group. The intervention provided students with feedback regarding their personal consumption, perceived drinking norms, alcohol-related problems, situations associated with heavy drinking and alcohol expectancies. At six-week follow-up, the brief intervention group showed significant reductions in number of drinks per week and frequency of binge drinking in the past month.

In a recent study carried out in ten further education colleges in inner London, McCambridge and Strang (2004) evaluated the effects of a single one-hour, individual session of motivational interviewing on students' (16-20 years) drug use, including alcohol, cigarettes and cannabis. Control group participants received education as usual. At a three-month follow-up, students who had received interventions showed significantly greater reductions in alcohol and cannabis use, an effect that was greater among heavier users of both drugs. This effect had almost entirely disappeared at a later 12-month follow-up (McCambridge and Strang, 2005), although the authors suggest that this was mainly due to an improvement in the control group, not a return to baseline levels in the intervention group (see also Miller, 2005).

7.7.2 Conclusion

- Brief motivational interventions are effective in reducing levels of alcohol consumption and frequency of binge drinking among heavy-drinking college students (IB).

7.8 Brief interventions in other non-medical settings

7.8.1 Evidence

7.8.1.1 Social work

Given the extensive contribution of excessive drinking to the social work caseload, social services would seem to provide an important opportunity for brief interventions. However, although there has been plenty of advice on how social workers should respond to alcohol problems in their service users (e.g., Alaszewski and Harrison, 1992), there have been no controlled evaluations of brief interventions in a social work context.

7.8.1.2 Criminal justice system

It would be possible to implement brief interventions in prisons, probation settings and even police stations, as well as establishing special types of intervention for specific groups such as drink-driving offenders. There appear to have been no attempts as yet to evaluate the effectiveness of such possibilities in the UK. However, the Government intends to fund pilot research into the practical implementation of brief interventions in criminal justice settings.

7.8.2 Workplace

There has been some development and evaluation of workplace brief interventions in Australia (Richmond *et al.*, 1992) and the US (Higgins-Biddle and Babor, 1996), but no attention to this possibility in the UK.

7.8.3 Conclusions

- Studies are needed of the effectiveness of brief interventions in social work settings (IV)
- Studies are needed of the effectiveness of brief interventions in various settings within the criminal justice system (IV)
- UK research is needed on the effectiveness of brief intervention in the workplace (IV).

7.9 Simple brief interventions

7.9.1 Context

So far in this review, we have spoken of brief intervention as an umbrella term. It is now time to distinguish between simple and extended brief intervention. One of the most influential studies in this area was the WHO clinical trial in primary healthcare (Babor and Grant, 1992). The basic five minutes of advice found to be effective in this trial can be used by busy physicians or other healthcare workers who would not have time for a more prolonged intervention. The 20 minutes of assessment that preceded the WHO intervention can be replaced by the

results of screening tests and the clinician's knowledge of the person.

In addition to research evidence, there are also logistical reasons to support the implementation of simple brief interventions for hazardous and harmful drinkers across the health system. Given the huge numbers of hazardous and harmful drinkers in the general population, it is inconceivable that all could be offered any more prolonged intervention that a few minutes of simple advice. Even if they are in the pre-contemplation stage of change and do not wish help to cut down or quit drinking, hazardous and harmful drinkers have a right to receive information that their drinking places them at risk of developing medical and social problems and on the limits for sensible drinking.

Besides this basic information, simple brief interventions should include the following, all of which have support from the research literature and derive from the FRAMES acronym originally described by Miller and Sanchez (1994):

- Structured and personalised feedback on risk and harm
- Emphasis on the patient's personal responsibility for change
- Clear advice to the patient to make a change in drinking
- A menu of alternative strategies for making a change in behaviour
- Delivered in an empathic and non-judgmental fashion
- An attempt to increase the patient's confidence in being able to change behaviour (self-efficacy).

Simple brief interventions should also include goal-setting (e.g. start date and daily or weekly limits for drinking), written self-help material for the patient to take away – containing more detailed information on consequences of excessive drinking and tips on cutting down – and arrangements for follow-up monitoring.

Competence in delivering simple brief interventions does not need extensive training and one or two sessions of instructive and practical training should suffice. Assuming the necessary levels of interpersonal skills are present, training should cover the rationale and aims of brief interventions, the types of drinkers to whom they should be offered, the benefits for health and welfare that are likely to follow, an introduction to the stages of change model and perhaps some role-play practice in delivering advice with feedback on performance.

7.9.2 Evidence

The WHO trial was an international collaboration involving ten countries and 1,655 heavy drinkers recruited from a combination of various, mostly medical settings (Babor and Grant, 1992). This clearly established that, among males, an intervention consisting of five minutes simple advice based on 20 minutes of structured assessment is effective in reducing alcohol consumption, with concomitant improvements in health.

Among women, participants receiving simple advice and those just receiving an assessment both reduced consumption and there was no significant difference between these groups. However, later research and analysis have shown that women may be *more* responsive to brief intervention than men (Fleming *et al.*, 1997), suggesting that women in the WHO trial showed a positive response to receiving an alcohol-related assessment only.

Simple, structured advice should ideally be offered to all hazardous and harmful drinkers who screen positive for or are otherwise identified as such. As first suggested by Wallace, Cutler and Haines (1988), in addition to benefit for individuals, the public health impact of a widespread implementation of simple brief intervention is likely to be very large.

7.9.3 Conclusion

- Simple brief interventions consisting of simple, structured advice are effective in reducing alcohol consumption and improving health status among hazardous and harmful drinkers encountered in healthcare settings (IB).

7.10 Extended brief interventions

7.10.1 Context

An extended brief intervention typically takes 20-30 minutes to deliver and can involve a small number of repeat sessions. It should be directed towards harmful drinkers whose levels of alcohol-related harm indicate a need for it and who are willing to accept it. It may also be suitable for hazardous drinkers in the contemplation stage of change, who are ambivalent about their drinking and

wish to discuss it with a healthcare professional, or for those who do not respond to simple advice and want further assistance in reducing drinking to safer levels.

Earlier studies of brief intervention involved a condensed form of cognitive behavioural therapy and particularly of behavioural self-control training (Hester, 1995: see chapter eight). This type of approach relies on:

- Detailed self-monitoring of alcohol consumption
- Identification of high-risk situations for excessive drinking
- Development of plans to deal with high-risk situations without excessive drinking
- Formulation of simple rules to limit consumption during drinking sessions
- Discussion of alternatives to drinking as part of a healthier lifestyle
- Feedback of blood test results, usually GGT (see section 5.4.2.1), can also be useful.

More recently, attention has turned to brief forms of motivational interviewing (Rollnick, Heather and Bell, 1992), an approach which is typically based on the stages of change model. However, Rollnick, Mason and Butler (1999) have argued that extended brief intervention of this kind should not be confused with motivational interviewing as such, since the latter requires a high level of skill and training from practitioners and more time than is usually available in generalist settings. They prefer to call it "patient-centred and directive negotiation of health behaviour change" and describe a generic method, applicable to all forms of health-related behaviour change, based on the principles and techniques of motivational interviewing (Miller and Rollnick, 2002) and consistent with the principles of patient-centred medicine.

Rollnick and colleagues also argue against a "mechanical" application of the stages of change model to interventions in which service users judged to be in different stages are given different forms of intervention; they believe that motivation to change is more fluid and subtle than implied by this model and must be handled accordingly. They describe short-cut methods of assessing "importance", "confidence" and "readiness to change" and these assessments form the basis for further discussions with the patient.

The level of training required to carry out this form of brief intervention effectively is substantially greater than that for simple advice and should involve much more emphasis on experiential learning. Rollnick, Mason and Butler (1999) provide guidance on how this training should be delivered.

7.10.2 Evidence

Compared with five minutes simple advice, the WHO collaborative study found no evidence for the greater effectiveness of an additional 15 minute brief counselling or of extended counselling over three more sessions (Babor and Grant, 1992). Also, in their meta-analytic review, Ballesteros *et al.* (2004a) found no clear evidence for a "dose-response" relationship, meaning that there were no firm grounds for concluding that longer or more intensive brief interventions were superior to minimal interventions.

Other studies, however, have found increased benefits for more extended brief interventions over simple advice (Richmond *et al.*, 1995; Israel *et al.*, 1996; Poikoloainen, 1999). Although not involving a comparison with a simple brief intervention, several well-known trials have reported very promising effects of interventions consisting of two or three consultations with a primary healthcare physician or nurse (Wallace, Cutler and Haines, 1988; Anderson and Scott, 1992; Fleming *et al.*, 1997). A recent analysis by Berglund (2005), based on the data collected by the Swedish Technology Assessment (Berglund, Thelander and Jonsson, 2003), showed that, compared with the robust and stable effect across studies of single-session brief interventions, studies of repeated sessions showed a larger average effect but this was not uniform across studies. In the WHO Collaborative Study (Babor and Grant, 1992), it was found that simple advice worked better for men who recognised a recent alcohol-related problem, while extended brief interventions worked better for men who had not had a recent problem, suggesting that extended brief interventions were better suited to men in the contemplation stage of change.

Therefore, although there is some evidence to support the use of extended brief interventions, the questions of the optimal intensity of interventions, for which types of drinker and in what circumstances, are perhaps the most urgent issue in this area of research. Meanwhile, the additional offer of extended brief interventions to harmful drinkers following simple advice can be justified on pragmatic grounds. Some may ask for further discussion of their drinking or help in cutting down, while others may

show a level of harm that the clinician judges would benefit from more prolonged interventions if drinkers were willing to accept it. Therefore, a cautious and conservative implementation of brief interventions in healthcare settings would be to offer extended brief interventions to harmful drinkers following simple advice. Whether or not extended brief intervention can be offered in a specific service obviously depends on the human resources available.

7.10.3 Conclusions

- There is mixed evidence on whether extended brief interventions in healthcare settings add anything to the effects of simple brief intervention, ie, simple, structured advice (IA)
- The offer of extended brief intervention to some hazardous and harmful drinkers can be justified on pragmatic grounds (IA)
- There is some evidence that extended brief intervention is effective among male hazardous or harmful drinkers in the contemplation stage of change (IB).

7.11 Implementing brief interventions

7.11.1 Context

Despite clear evidence for its effectiveness and cost-effectiveness, and despite considerable efforts over the years to persuade them to do so, most health professionals have yet to incorporate screening and alcohol brief interventions in their routine practice. There is extensive literature on the reasons for the failure so far of this implementation and of the obstacles and incentives that affect implementation (including Heather, 1996; Babor and Higgins-Biddle, 2000; Roche, Hotham and Richmond, 2002; Aalto, Pekuri and Seppa, 2003; Roche and Freeman, 2004).

7.11.2 Evidence

A questionnaire survey of 430 GPs in the English Midlands (Kaner *et al.*, 1999a) found that:

- GPs did not to make routine enquiries about alcohol, with 67 per cent enquiring only "some of the time"
- Sixty-five per cent of GPs had managed only 1–6 patients for excessive drinking in the last year
- Given figures on GPs' average list size in the UK, this suggests that the majority of GPs may be missing as many as 98 per cent of the hazardous and harmful drinkers presenting to their practices.

A survey of GPs in England and Wales (Deehan *et al.*, 1998) found that:

- Fifteen per cent of GPs responding to the survey reported seeing no patients for drinking problems within the last month
- Of those who had seen patients because of consumption over recommended guidelines, the average number of patients seen in the past month was 3.8.

In addition, a household survey in England carried out in 1995 (Malbon *et al.*, 1996) found that, of current and former drinkers who had spoken to a medical practitioner or other health professional in the last year, only seven per cent (12 per cent of the total were men, five per cent were women) reported having discussed alcohol consumption with their GP at the surgery.

A similar lack of attention to excessive drinkers applies to other medical practitioners (Barrison, Viola and Murray-Lion, 1980; Lloyd *et al.*, 1986; Farrell and David, 1988; Huntly *et al.*, 2001) and nurses (Lock *et al.*, 2002), and to other settings in which brief intervention might be delivered (Kaariainen *et al.*, 2001).

From their survey in the English Midlands, Kaner et al. (1999a) identified the following barriers to progress in order of their endorsement by GPs:

- Lack of time among busy healthcare professionals
- Lack of appropriate training to carry out screening and brief interventions
- Little support from government health policies
- A belief that patients will not take advice to change drinking behaviour
- Lack of suitable screening and intervention materials
- Lack of reimbursement from government health schemes
- Health professionals may fear offending patients by raising the topic of drinking and find it difficult to do so
- Negative attitudes to patients with drinking problems derived from their experience of those with more severe problems.

Some of these barriers could be fairly easily overcome. Screening and intervention materials are available and need only to be widely disseminated; appropriate training could be provided; evidence that brief interventions are effective could be better communicated to health professionals. Some of the negative attitudes to this work could be changed by emphasising the difference between the targets for brief intervention and the management of severely dependent individuals with serious problems, and by facilitating arrangements for referring the latter group to specialist treatment. Fear of offending patients could be partly reduced by evidence that most patients expect GPs and nurses to enquire about their drinking in appropriate circumstances and see this as a legitimate part of medical practice (Wallace and Haines, 1984; Richmond *et al.*, 1996; Rush, Urbanoski and Allen, 2003; Hutchings *et al.*, 2006). Probably the most difficult obstacles are those to do with lack of time and of reimbursement for this work.

Research by Kaner and colleagues, as part of Phase III of the WHO Collaborative Project on Brief Interventions for Hazardous and Harmful Alcohol Use, has shown that telemarketing is the most cost-effective means of disseminating brief intervention programmes in primary healthcare (Lock *et al.* 1999).

The same research team randomised GPs to one of three groups: (i) training and support; (ii) training and no support; (iii) a control group receiving no training or support (Kaner *et al.*, 1999b). Results showed that trained and supported GPs implemented a screening and brief intervention programme more extensively and systematically than those who received training alone or the control group and that this was a cost-effective strategy for encouraging GPs to use the programme on a longer-term basis.

This was confirmed in a subsequent analysis by Anderson *et al.* (2003; 2004a) of data from several countries taking part in this WHO collaborative study. This showed that, when GPs and nurses are adequately trained and supported, screening and intervention activity increases. GPs who expressed more confidence in working with alcohol problems and who reported greater therapeutic commitment to this work were more likely to manage patients with alcohol-related harm (Anderson *et al.*, 2003; 2004a). However, training and support did not improve attitudes towards working with drinkers and even worsened the attitudes of those who were already insecure and uncommitted (Anderson *et al.*, 2004a). This suggests that training and support should be geared to the needs and attitudes of health professionals to avoid being counterproductive.

Anderson *et al.* (2004b) carried out a meta-analysis of studies testing the effectiveness of different strategies for increasing GPs' screening and advice-giving rates for hazardous and harmful alcohol consumption. Findings were that, although the paucity of studies suggested caution in interpreting the results, it was possible to increase the engagement of GPs in this activity. While more high-quality research is needed on this topic, promising programmes seemed to be those that had a specific focus on alcohol (rather than general prevention programmes) and those that were multi-component.

Part of the problem of translating research into practice in this area is the fact that most trials of brief intervention have been efficacy rather than effectiveness trials (Flay, 1986); that is, they provided a test of screening and brief intervention under optimum research conditions rather than under real-world conditions of routine practice. For this reason, research now needs to focus on ways in which the procedures and materials making up screening and brief intervention programmes can be adapted to meet the needs of routine practice, and the requirements and preferences of both practitioners and service users. Current research is being addressed to these aims:

- The English arm of Phase IV of the WHO collaborative project referred to above has carried out a Delphi study (a method designed to reach a consensus among experts on a particular topic) on how that adaptation should proceed (Heather *et al.,* 2004) and focus groups with both health professionals and patients concerning their views on this matter (Hutchings *et al.*, 2006)
- An action research project funded by the Tyne and Wear Health Action Zone (HAZ) is currently piloting screening and brief intervention in one general medical practice in each of the five HAZ areas. Various methods of screening, intervention, monitoring and specialist support provision are being tried out with the objective of developing an implementation package that is acceptable to all practices taking part
- In the Alcohol Harm Reduction Strategy for England (Prime Minister's Strategy Unit, 2004) the Government has stated its intention to fund pilot studies of implementing targeted screening and brief alcohol

interventions. This will include research in primary healthcare, A&E services, the criminal justice system and possibly other settings.

7.11.3 Conclusions

- Most healthcare professionals have yet to incorporate screening and brief interventions for hazardous and harmful drinking into their routine practices (III)
- GPs in particular tend to miss most hazardous and harmful drinkers presenting to their practices (I)
- Specific barriers to the implementation of screening and alcohol brief interventions in primary healthcare have been identified, including lack of time and lack of suitable reimbursement (I)
- Telemarketing appears to be the most cost-effective strategy for disseminating screening and brief intervention packages in primary healthcare (IB)
- Training and support can increase the implementation of screening and alcohol brief intervention in primary healthcare (IB)
- Training and support should be carefully adapted to meet the needs and attitudes of healthcare professionals (I)
- Research should focus on the effectiveness of brief interventions in real world conditions and on ways in which screening and intervention can be successfully implemented in healthcare settings (IV).

Implications for…

Service users and carers

- These are not interventions that will normally be targeted at help-seekers
- Expect more screening and brief interventions for problem lifestyle behaviours in all healthcare settings and other opportunistic points of contact.

Service providers

- Ensure that protocols and care pathways allow for screening and brief interventions
- Build role legitimacy for delivering brief interventions among staff in generic services
- Understand the place and limitations of screening and brief interventions
- Support training to deliver and incorporate brief interventions into routine practice.

Commissioners

- Understand the place and limitations of screening and brief interventions – in the main, the evidence is only for generalist settings
- Provide training and support for generic staff to deliver brief interventions
- Implement across settings where effectiveness has been demonstrated
- Commissioning of brief interventions in primary care settings would have a major impact on public health.

Researchers

- UK research is needed on the longer-term effects of brief interventions
- In addition to effects on alcohol consumption, future research should study the effects of brief interventions on alcohol problems, general adjustment and mortality
- More UK research is needed to clarify the effects of brief interventions delivered on hospital wards
- The effectiveness of brief interventions in several other medical settings requires evaluation, including prenatal and psychiatric services
- UK research is urgently needed on the effects of brief interventions in a range of non-medical settings, including social services, the criminal justice system and the workplace
- Research is needed to clarify what additional advantages can be expected from extended brief interventions compared to simple, structured advice
- Research should also investigate the characteristics of clients who are most likely to respond to simple or to extended brief interventions
- A major research effort is required to find ways of implementing and maintaining the delivery of brief interventions in routine practice in a range of medical and non-medical settings and how the barriers to such implementation can be successfully overcome.

Chapter 8

Less-intensive treatment

This chapter builds on the previous one by reviewing interventions that can still be considered brief, but are clearly aimed at help-seekers and typically extend over a number of treatment sessions. These treatments are aimed at moderately dependent drinkers although in certain circumstances they may be offered to harmful drinkers.

8.1 Background

The provision of less-intensive forms of treatment is based on research showing that they are no less effective than more intensive forms of treatment among the groups of service users in which they have been compared. Less-intensive treatments are relatively brief and typically extend from 1–4 treatment sessions. Less-intensive treatments are:

- Delivered by specialist workers in alcohol treatment agencies or by generalists who take a special interest in the treatment of alcohol problems
- Cheaper to deliver than conventional, more intensive treatments (Heather, 1995)
- Mainly intended for moderately dependent alcohol misusers, often as the initial step in a stepped care programme in specialist services
- Also suitable for harmful drinkers who have not benefited from a brief intervention and will accept referral for relatively more intensive intervention.

Although the specific treatments described in this chapter are intended mainly for use in specialist settings, it is possible to translate these approaches into generalist settings. It is also possible for generalists to deliver the treatments within the context of time pressures and other service pressures that apply on a day-to-day basis.

There is nothing unethical or uncaring about offering less-intensive treatment to suitable service users. This may be difficult for treatment providers to accept if they are wedded to a particular form of intensive treatment, but this understandable commitment to intensive treatment for all service users is contradicted by the evidence. It is desirable to offer less-intensive treatment in appropriate circumstances in order to optimise use of limited treatment resources.

The majority of treatments described in this chapter involve the participation in the treatment process of relatives or friends of the alcohol misuser. We know that the involvement of relatives can increase the prospects of a successful outcome (Epstein and McCrady, 1998). It is possible that some less-intensive treatments achieve effectiveness partly because the work of the therapist is augmented by their help.

8.2 A basic treatment scheme

8.2.1 Context

An early form of less-intensive treatment was the basic treatment scheme included in Edwards *et al.* (1977) comparison of treatment and advice. The basic treatment scheme is discussed by Edwards and Orford (1977) and consists of four elements:

i A comprehensive assessment

ii A single, detailed counselling session for the service user and, when the service user is in a close relationship, the partner

iii A follow-up system to check on progress

iv Common reasons for going beyond the basic approach, such as a short admission for detoxification, underlying or concomitant mental illness or distress, physical illness, hostel care or other social provisions, or any other reason for more extended treatment based on clinical judgement (see Edwards and Orford, 1997, p347).

8.2.2 Evidence

In the study by Edwards *et al.* (1977), 100 married male alcohol misusers were randomised to a group that received a single, three-hour session of assessment and advice in the company of their wives, or to a group that received the full range of treatment services available at a well-resourced teaching hospital. At follow-ups ranging up

to two years after entry to the study, the advice group showed no worse outcome than the treatment group.

This basic scheme was developed in conjunction with abstinence-oriented treatment, but there is no reason why it should not be adapted to a moderation goal. Although originally described nearly 30 years ago, it is still relevant to modern practice. A conservative interpretation of the evidence is that it is suitable for male service users with a moderate level of dependence and in stable relationships whose partners are willing to take part in the treatment session.

8.2.3 Conclusion

- A basic treatment scheme, consisting of three hours assessment and advice with male service users and their wives, is effective in reducing alcohol problems among moderately-dependent, male alcohol misusers with intact marriages (IB).

8.3 Condensed cognitive behavioural therapy

8.3.1 Context

A more theory-based form of less-intensive treatment is a condensed form of cognitive behavioural therapy (see chapter eight). The theory behind this kind of approach and its associated methods were described by Sanchez-Craig, Wilkinson and Walker (1987). Sanchez-Craig (1990) states that the treatment method relies on service user choice, particularly regarding choice of abstinence or moderation drinking goals.

8.3.2 Evidence

Sanchez-Craig *et al.* (1989) recruited alcohol misusers through newspaper advertisements and randomly assigned them to the following groups:

1 Three sessions of advice using a guidelines pamphlet outlining basic steps for achieving abstinence or moderate drinking

2 Three sessions of instruction in the use of a self-help manual presenting a step-by-step approach for attaining abstinence or moderate drinking

3 Six or more sessions of instruction in the methods outlined in the self-help manual.

At follow-ups at three, six and 12 months after entry into the trial, all groups had markedly reduced consumption but there were no significant differences between them on outcome measures. Female participants showed significantly better outcomes than males, particularly with regard to moderate drinking.

These findings were broadly replicated in a later study by Sanchez-Craig, Spivak and Davila (1991). Women showed better outcomes than men in the guidelines and manual conditions, but not in the therapist condition. The authors suggest that female alcohol misusers may value the personal responsibility involved in self-initiated change and may be more motivated to change than men due to the greater stigma attached to problem drinking by women. Whatever the explanation of these findings, this kind of less-intensive treatment seems especially suited to female service users with a mild or moderate level of alcohol dependence, who are suitable for a moderation drinking goal if they wish to pursue it. However, it should be noted that all service users in both the studies above were recruited via newspaper advertisements and may have been especially motivated to change.

8.3.3 Conclusion

- A condensed form of cognitive behavioural therapy (three sessions) is especially effective among female service users with a mild or moderate level of dependence (IB).

8.4 Brief conjoint marital therapy

8.4.1 Context

Conjoint marital therapy is appropriate for service users who are willing to involve a partner in the therapeutic process and whose partners are willing to take part. But how intensive must conjoint therapy be to remain effective?

8.4.2 Evidence

Zweben, Pearlman and Li (1988) evaluated a brief form of conjoint marital therapy, which was compared to a conventional form of this treatment approach. Both levels of treatment required the active participation of individuals with alcohol problems and their spouses. Eligible couples (n=116) were randomly allocated either to eight sessions of conjoint therapy based on systems theory or to a

single session of "advice counselling", also involving the spouse. At follow-ups six, 12 and 18 months after the initial appointment, both groups showed significant improvements on all marital adjustment and alcohol-related outcome measures, but there were no significant differences between groups.

The authors concluded that a single session of advice counselling was as effective as eight sessions but warned that couples in the study represented a socially stable group with a moderate level of alcohol-related difficulties and relatively non-distressed marital relationships. Therefore, this should be the target population for this form of less-intensive treatment.

8.4.3 Conclusion

- A single session of conjoint marital therapy is effective among socially stable alcohol misusers with moderate dependence and alcohol problems and relatively intact marriages (IB).

8.5 Motivational interviewing

8.5.1 Context

The most popular forms of less-intensive treatment currently available are based on the set of therapeutic principles and counselling techniques known as motivational interviewing (Miller and Rollnick, 1991; 2002). Motivational interviewing is closely linked with the stages of change model described in chapter one.

This approach to treatment of alcohol problems fits with the following observations:

- Many people who present to agencies for treatment of alcohol problems have not yet formed a definite commitment to change
- Even when an alcohol misuser seems convinced that change is necessary, there is often a lingering attachment to heavy drinking and intoxication, and a deep ambivalence towards alcohol
- Conflict is an essential part of what we mean by addiction or dependence (Orford, 2001).

Motivational interviewing includes a collection of therapeutic principles, a set of counselling techniques and, more generally, a style of interaction. It is defined by Miller and Rollnick (2002, p25) as "a client-centred, directive method for enhancing intrinsic motivation to change by exploring and resolving ambivalence." The guiding principles of the therapist's interaction with the service user are:

- Express empathy
- Develop discrepancy
- Roll with resistance
- Support self-efficacy.

A basic assumption of motivational interviewing, at least as a standalone treatment, is that, once motivated to change, service users can succeed in doing so by using their own change resources and without additional training in behaviour change skills. A full account of the theory, principles and techniques of motivational interviewing is given by Miller and Rollnick (2002).

Motivational interviewing is contrasted with the traditional confrontational approach to alcoholism treatment in table 8a. Given the popularity of the confrontational approach, there is surprisingly little evidence to support it. Alcohol misusers at all levels of severity do not show more denial

Confrontational approach	Motivational approach
Heavy emphasis on acceptance of self as "alcoholic"; acceptable of diagnosis seen as essential for change	De-emphasis on labels; acceptance of "alcoholism" label seen as unnecessary for change to occur
Emphasis on disease of alcoholism which reduces personal choice and control	Emphasis on personal choice regarding future use of alcohol and other drugs
Therapist presents perceived evidence of alcoholism in an attempt to convince the service user of diagnosis	Therapist conducts objective evaluation but focuses on eliciting the service user's own concerns.
Resistance seen as "denial", a trait characteristic of problem drinkers requiring confrontation	Resistance seen as an interpersonal behaviour pattern influenced by the therapist's behaviour; resistance is met with reflection

Table 8a: Differences between confrontational and motivational approaches

and resistance than people without drinking problems. Those who accept the label of alcoholism do no better, and may actually do worse, than those who reject it (Miller and Rollnick, 1991). When compared to alternative approaches to counselling, confrontation has been found to be less effective in general and to be harmful for service users with low self-esteem (Annis and Chan, 1983). It is important to note here that the confrontational approach runs entirely counter to the spirit of the writings of Bill Wilson, the co-founder of Alcoholics Anonymous (AA World Services, 1980) and to the treatment philosophy underpinning the 12-Step method (see chapter 12).

Miller, Benefield and Tonigan (1993) provided strong support for an interactional view of service user motivation. They randomly assigned alcohol misusers to receive confrontational counselling or a client-centred motivational counselling style. Service users in the confrontation group showed much higher level of resistance during counselling sessions than those in the other group. In addition, the more the counsellor had used a confrontational style during counselling, the greater the service user's alcohol consumption at follow-up over a year later. This and other evidence (Miller and Rollnick, 2002) strongly suggests that confrontation is counterproductive in the attempt to motivate service users for treatment and that a non-confrontational approach should be preferred (see also chapter four).

8.5.2 Evidence

The category of motivational enhancement occupies second place in the Mesa Grande (see page 44), although many of the studies included there were of opportunistic brief interventions and were not carried out among treatment samples.

Five systematic reviews of research on the effectiveness of motivational interviewing (MI) for a range of addictive disorders have been published. Noonan and Moyers (1997) reviewed 11 clinical trials evaluating MI, nine with alcohol misusers and two with "drug abusers". Their conclusion was that: "Most of these studies support MI as a useful clinical intervention. MI appears to be an effective, efficient and adaptive therapeutic style worthy of further development, application and research" (p8).

Dunn, DeRoo and Rivara (2001) reported a systematic review of MI covering 29 randomised trials over the four behavioural domains of substance abuse, smoking, HIV risk-taking, and diet and exercise. The authors concluded: "There was substantial evidence that MI is an effective substance abuse intervention method when used by clinicians who are non-specialists in substance abuse treatment, particularly when enhancing entry to and engagement in more intensive substance abuse treatment-as-usual" (p1725). Therefore, MI can be used as a preparation for the more intensive forms of treatment discussed in the next chapter (chapter eight).

Three systematic reviews of MI have recently been published by Brian L Burke and colleagues. Burke, Arkowitz and Dunn (2002) began by noting that virtually all published research in this area involves the study of adaptations of MI (AMIs), rather than MI in its relatively pure form. AMIs refer to "packaged" versions of MI in which certain methods, such as feedback of assessment results, are used as a shortcut to elicit the service user's reflections on the pros and cons of the behaviour in question, such as a drinker's check-up (Miller, Sovereign and Krege,1988), motivational enhancement therapy (Miller *et al.*, 1992) and brief motivational interviewing (Rollnick, Heather and Bell, 1992).

The reviewing method used by Burke and colleagues was based on the "box score" method developed by Miller *et al.* (1995) and, as noted in chapter three, this has been criticised by Finney (2000). However, the earlier review by Burke, Arkowitz and Dunn (2002) was superseded by later work by Burke, Arkowitz and Menchola (2003) that used quantitative meta-analysis in a technically sophisticated manner. None of the conclusions reached by Burke, Arkowitz and Dunn were overturned by this later review.

The authors identified 30 controlled trials that met their inclusion criteria, of which 15 were in the area of alcohol problems:

- Two trials (Bien, Miller and Boroughs, 1993; Brown and Miller, 1993) looked at AMI as a prelude to treatment among service users at the more severe end of the range of alcohol-related problems. Both found clear evidence of the effectiveness of AMI for this specific purpose
- Thirteen trials considered AMI as a standalone intervention.

Clear interpretation of research on AMIs as a standalone intervention from this review is difficult, because this category of studies combines the separate domains of

opportunistic intervention in the non-treatment–seeking population and less-intensive treatment in the treatment-seeking population. Nevertheless, on balance, the evidence suggested MI-based interventions among a diverse range of groups were effective, including those with significant dependence seeking help for established alcohol problems. Effect sizes were in the small to medium range for comparisons of AMIs with placebo or no treatment conditions. There was no evidence that AMIs were superior to alternative forms of treatment for alcohol problems, but here the MI-based intervention was usually less intensive than the comparison treatment, suggesting that it may be more cost-effective.

In the latest review by this team, Burke *et al.* (2004) updated the conclusions of their previous meta-analysis by including 38 studies of AMI. These conclusions were not substantially changed. The authors also provided answers to other questions regarding AMI:

- There was some evidence that MI achieves its effects in the theoretically expected manner by increasing motivation or readiness to change. However, there was no current evidence that this mechanism of change was specific to AMIs as opposed to other forms of intervention
- With special regard to AMI as a prelude to other treatment, there was a suggestion that it works by increasing treatment participation, but no firm evidence of a mediating role for increased participation in linking AMI and treatment outcome
- There were methodological weaknesses in much of the research reviewed. The greatest threats to internal validity arose from lack of proper treatment specification, insufficient attention to treatment fidelity and the rarity of checks on treatment integrity.

Finally, Burke *et al.* considered relationships between AMI and the other major and well-researched modality in the treatment of addictions, cognitive-behavioural skills training (see chapter eight). They concluded that very little is known about the relative effectiveness of these two forms of treatment, whether they are indicated for different types of service user or whether they could be profitably combined in treatment delivery.

The three government-sponsored reviews consulted for this document reached the following conclusions with respect to motivational interviewing:

- Among its post-detoxification population of interest, the Scottish review (Slattery *et al.*, 2003) concluded that MI was supported as an effective part of more extensive psychosocial treatment (p5–9)
- Based partly on its own meta-analysis, the Swedish review (Berglund, Thelander and Jonsson, 2003) concluded that "motivational interviewing increases the effect of another treatment, but has not itself been subjected to randomised study" (p56)
- The Australian review (Shand *et al.*, 2003) concluded that: "The effectiveness of motivational interviewing delivered prior to treatment is unclear and there is a need for further studies to address this issue" (p50).

The difference in conclusions between the Swedish and Scottish reviews, and the Australian review is that the Australian work highlighted the short, three-month follow-ups on which the favourable findings of the two studies of MI as a prelude to treatment proper (Bien, Miller and Boroughs, 1993; Brown and Miller, 1993) were based.

Therefore, several important questions remain regarding the effective mechanisms of MI (and MET – see section 8.6), the duration of its effects and its possible advantages and disadvantages compared to other forms of treatment. However, the relative brevity and cost-effectiveness of MI, combined with its growing popularity among treatment professionals, suggests that it should occupy a prominent place in modern treatment services.

8.5.3 Conclusions

- The non-confrontational principles and style of MI should inform the conduct of specialist treatments for alcohol problems (IB)
- MI increases the effectiveness of more extensive psychosocial treatment (IA)
- While there is no evidence at present of long-term effects, MI and its adaptations can be effective as a preparation for more intensive treatment of different kinds (IA)
- Standalone adaptations of MI are no more effective than other forms of psychosocial treatment but are usually less intensive and therefore potentially more cost-effective (IA).

8.6 Motivational enhancement therapy

8.6.1 Context

Although studies of motivational enhancement therapy (MET) were included in many of the reviews referred to above, it will be considered here separately. This is because it was evaluated in two major multi-centre trials, Project MATCH and UKATT, and is currently the adaptation of motivational interviewing of greatest interest in research and clinical circles.

8.6.2 Evidence

Findings from Project MATCH bearing on the effectiveness of MET are described in chapter three. To summarise these:

- MET over four sessions was found to be generally as clinically effective as two more intensive treatments – 12-Step facilitation therapy (TSF) and cognitive behavioural coping skills therapy (CBT), delivered over 12 sessions
- This equivalence in effectiveness applied across both aftercare and outpatient arms of the trial and in a population of alcohol misusers with relatively severe levels of dependence and problems
- Clients high in anger before treatment had better outcomes up to three years post-treatment if they had received MET rather than CBT
- Clients with high network support for drinking before treatment had better outcomes at three years post-treatment if they had received TSF rather than MET.

In addition to the two client-treatment matches we have listed, another hypothesis tested in Project MATCH was that service users with lower readiness to change, in terms of Prochaska and DiClemente's (1998) stages of change model, would do better with MET than with CBT, whereas those in the action stage of change would do better with CBT than MET. This is because the motivational content of MET is presumably helpful to those who are still ambivalent about changing their drinking behaviour, but less relevant to those who have already decided to make this change. This hypothesis was supported by the data from the outpatient arm at follow-up one year post-treatment. However, the relationship in question did not meet the MATCH investigators' stringent criterion that a matching effect should be robust over time throughout the follow-up period (Project MATCH Research Group, 1997a) and it was therefore regarded as "time dependent". Nevertheless, this finding does provide some support for matching service users to treatment on the basis of their position along the stages of change.

Findings from the UKATT relevant to MET are also described in chapter three:

- MET over three sessions was no less effective overall than social behaviour and network therapy (SBNT) delivered over eight sessions
- This applied to a sample representing service users who would normally have received treatment for alcohol problems at specialist treatment agencies in the UK
- Indications of possible matching effects from the UKATT data are not yet available.

Compared with the four-session Project MATCH version of MET, the UKATT version was reduced to three sessions in order to increase the contrast with eight sessions of SBNT (UKATT Research Team, 2001). For the same reason, in UKATT the service user's significant other (SO) was permitted to attend only the first session and was asked not to try to contribute to the treatment process outside this session. In the original version of MET used in Project MATCH (Miller *et al.*, 1992), the SO was allowed to attend up to two sessions and was explicitly requested to support the client's attempts to change drinking outside the clinic. Besides Project MATCH, most other research on MET has used the four-session version of MET with involvement of the SO and this should be regarded as the definitive version. Although the theoretical rationale for MI and adaptations of MI concerns only individual change mechanisms, the involvement of a concerned SO in the four-session version of MET may well increase the therapeutic effect.

A study by Sellman *et al.* (2001) in a community-based treatment setting in New Zealand addressed the question of whether the effects of MET were specific to this form of treatment, or whether they could also be achieved by a competent, well-intentioned and non-directive form of counselling. Individuals with mild or moderate alcohol dependence were randomised to MET or to one of two control groups: non-directive reflective listening (NDRL) or no further counselling (NFC). All participants received a

single session of feedback and education prior to randomisation.

At follow-up six months after the end of treatment, 43 per cent of those who had received MET showed "unequivocal heavy drinking" (drinking ten or more standard drinks six or more times in the follow-up period) compared to 63 per cent of the NDRL and 65 per cent of the NFC groups. This suggests that it is the specific ingredients of the MET approach that are responsible for its successful results. The authors concluded that: "MET can be considered an effective value-added counselling intervention in a real-life clinical setting" (p389).

The government-sponsored reviews reached the following conclusions regarding the effectiveness of MET:

- The Swedish review (Berglund, Thelander and Jonsson, 2003) concluded that "brief motivation-enhancing treatment appears to have the same effect as more extensive treatment" (p56)
- The Australian review (Shand *et al.*, 2003) concluded that MET "appears to be as effective as other interventions to which it has been compared" (p50)
- The Scottish review (Slattery *et al.*, 2003) concluded that "the results of Project MATCH suggest that it [MET] should not be used as a short standalone treatment in the manner of that study [four sessions]" (p5–9).

The less favourable conclusion of the Scottish review was based on the fact that, in Project MATCH, service users in the TSF group showed significantly fewer alcohol-related problems at nine-month follow-up (six months after the end of treatment) than those in the other two groups (Project MATCH Research Group, 1997a). However, although statistically significant in a large sample, this effect was small and was not regarded by the Project MATCH investigators themselves as clinically significant. It had disappeared by the 15-month follow-up when there were no significant differences between groups on alcohol-related problems. Despite the conclusion quoted above, Slattery *et al.* (2003) regarded MET as one of four effective and cost-effective post-detoxification treatments for alcohol problems emerging from their review. They also suggested that MET "might be provided first, if such a relatively low intensity approach has not already failed, and more intensive therapy then given if necessary" (p1–2).

8.6.3 Conclusions

- MET is effective as a standalone specialist treatment for service users with moderate alcohol dependence provided the service user accepts a less-intensive treatment and there is an efficient follow-up system to check on progress (IB)
- For service users with severe dependence, and provided there are no sound reasons for immediately offering a more intensive form of treatment, MET should be considered as the first step in a stepped-care programme of care in specialist agencies (IA)
- MET seems especially effective for service users showing a high level of anger at entry to treatment and possibly for those with low levels of readiness to change, although more research is needed to confirm this latter suggestion (IB).

8.7 Training in motivational interviewing

8.7.1 Context

The practice of motivational interviewing (MI), whether in a pure or adapted form, requires a high level of skill and careful training. Given the wide popularity of MI, a vital area for research is how the relevant skills and principles underlying MI can best be taught.

8.7.2 Evidence

Miller and Mount (2001) evaluated the effectiveness of a two-day workshop in MI where 15 hours of training was provided to probation officers and community correction counsellors, focusing on the techniques described by Miller and Rollnick (1991). Instructive teaching, demonstrations and small-group practice with coaching were used. Participants' self-ratings of knowledge and skill acquisition had all increased following the workshop and these gains were retained at a four-month follow-up. However, observer ratings of videotaped performance were more equivocal regarding the effects of training and it appeared to make no difference to service user interactions during counselling. The authors concluded that "a one-shot training workshop … is unlikely to alter practice behaviour sufficiently to make a difference in service user outcomes." (p468). Of equal concern was the fact that, following the workshop, counsellors

regarded themselves as quite proficient in MI and did not perceive the need for further training.

In a later study, Miller *et al.* (2004) randomised 140 licensed substance professionals to five training conditions:

1 Two-day clinical workshop only

2 Workshop plus practice feedback

3 Workshop plus individual coaching sessions

4 Workshop, feedback and coaching

5 Waiting list control group of self-guided coaching.

Audio-taped practice examples were analysed before and after training and at four, eight and 12 months thereafter. Compared with controls, the four workshop groups showed larger increases in proficiency. Clinicians who had received feedback or coaching maintained these gains better than those in the workshop-only condition. However, once again, clinicians' self-reports of MI skills were unrelated to observer ratings. The observer-rated gains that did appear represented more a reduction of MI-inconsistent responses than an increase in MI-consistent responses. The authors concluded that the effectiveness of the educational methods they studied is questionable without further support for skill acquisition and maintenance.

Burke *et al.* (2004) make recommendations regarding training in MI, list reasons for optimism regarding improvements to training effectiveness and offer suggestions for future research in this area.

8.7.3 Conclusion

- Clinicians should not offer MI and MET without having received appropriate training and having achieved a required level of competence, although research is proceeding on the most efficient ways this training should be delivered (IB).

Implications for…

Service users and carers

- Less-intensive treatments are likely to be attractive for people with a moderate severity of problem
- Service users need to be aware of the importance of arranging suitable aftercare following treatment
- Service users may be anxious at the suggestion of a brief time-limited treatment and will need to have clear plans in the event of an early relapse.

Service providers

- Motivational interviewing can be used as a general style in which to deliver other treatments
- Less-intensive treatments are well suited to being used as the first treatment in a stepped care approach
- Motivational techniques require considerable skill and suitable staff training and supervision are important.

Commissioners

- Ensure that treatment agencies are competent at delivering a less-intensive treatment such as motivational enhancement therapy
- Ensure that treatment agencies have an adequate level of training and supervision in place.

Researchers

- The optimal intensity of psychosocial treatments for different levels of dependence and alcohol-related problems needs further clarification
- Given their popularity among treatment professionals, more research is needed to elucidate the effective mechanisms of action of MI and MET, the duration of their effects, their optimal modes of delivery, and their possible advantages and disadvantages compared to other types of treatment
- It is particularly important to establish whether or not MET is superior in effectiveness to other modalities of similar intensity
- UK research is needed on effective methods of training to deliver MI and MET.

Chapter 9

Alcohol-focused specialist treatment

This is the first of two chapters looking at the effectiveness of treatments most commonly used in specialist alcohol or addiction services. In this chapter, we consider the effectiveness of psychosocial treatments focused on the service user's drinking and alcohol-related problems. These treatments are mainly relevant to service users with moderate or severe alcohol dependence.

9.1 Background

Alcohol-focused treatments do not ignore issues of general adjustment or exclude everything unrelated to drinking. However, the alcohol-focused perspective is most relevant to service users whose main difficulties are judged to be consequences of excessive drinking, or are exacerbated by drinking, and where it is considered that their more general life problems would largely abate if drinking were stopped or brought under control.

All specific treatments discussed in this chapter come under the broad heading of cognitive behavioural therapy (CBT) and have their foundations in social-cognitive learning theory and experimental psychology. The reason for this is simply that these are the treatments that tend to be best supported by research evidence. As we remarked in chapter three, it may be that some other non-CBT, psychosocial treatments would be judged effective if the necessary research had been done on them; in the absence of such research, however, they cannot be considered effective evidence-based treatments for the purposes of this review.

There is a great deal of overlap between these treatments in the specific methods they use. In addition to its firm foundations in theory and research, CBT in general has the following characteristics:

- The methods and techniques that make up the CBT approach are highly flexible and can be adjusted to the needs and preferences of individual service users
- All CBT methods are performance based – that is, they all rest on asking service users to do things rather than merely think or talk about things. The evidence suggests that performance-based methods give the best chance of successful treatment (Bandura, 1986)
- Some of the most successful CBT modalities contain some social or interpersonal element that contributes to their effectiveness.

The new pharmacotherapies that have been developed to treat alcohol problems can be considered as adjuncts to CBT (see chapter 11). Differences between the cognitive behavioural approach to treatment and the motivational approach covered in chapter eight are shown in table 9a. The efficient delivery of CBT requires special training in

Cognitive behavioural approach	Motivational enhancement approach
Assumes that the client is motivated; no direct strategies for building motivation for change	Employs specific principles and strategies for building client motivation
Seeks to identify and modify maladaptive cognitions	Explores and reflects client perceptions without labelling or correcting them
Prescribes specific coping strategies	Elicits possible change strategies from the client
Teaches coping behaviours through instruction, modelling, directed practice and feedback	Responsibility for change methods is left with the client; no training, modelling or practice
Specific problem-solving strategies are taught	Natural problem-solving processes elicited from the client

Table 9a: Differences between cognitive behavioural and motivational approaches

the principles underlying the approach and the methods included.

The treatments described in this chapter are best deployed in community settings where the service user has the opportunity to try out newly learned behaviour in the real environment and get immediate feedback on performance. However, they can also, in principle, be delivered in residential and custodial settings provided that work on cognitive and behavioural changes is strongly community-oriented (McMurran, in press).

To structure the following discussion, we will pay particular attention to those alcohol-focused psychosocial treatments for which the Mesa Grande (see page 44) provides *prima facie* evidence of good effectiveness, defined arbitrarily as a cumulative evidence score of 25 or above. For each modality, we will consider other evidence bearing on its effectiveness, what type of service user is best suited to the treatment approach in question and some other issues.

The two highest-ranked modalities in the Mesa Grande (brief interventions and motivational enhancement) have been covered in the two preceding chapters and will not be considered again here. Other modalities with a high positive CES are discussed in chapters four, ten, 11 and 12. Two other modalities in the Mesa Grande (cue exposure and relapse prevention) will also be included here because of relevance to current practice. Lastly, we consider the effects of aftercare and extended case monitoring by specialist agencies as separate but related topics.

9.2 The community reinforcement approach

9.2.1 Context

The community reinforcement approach (CRA) consists of a broad range of treatment components with the aim of engineering the service user's social environment (including the family and vocational environment) so that sobriety is rewarded and intoxication unrewarded. The use of the CRA among homeless service users is discussed in chapter four.

The CRA was originally developed by Hunt and Azrin (1973) for use with inpatients but over the years has been modified for use with outpatients. During this time, supervised disulfiram (see chapter 11) has been increasingly used as a programme component. Modern forms of the CRA (Smith and Meyers, 1995; Myers and Miller, 2001) can include all the following:

- Disulfiram with monitored compliance
- Communication skills training
- Problem-solving training
- Drink-refusal training
- Job finding
- Social and recreational counselling
- Behavioural marital therapy
- Muscle relaxation training
- Relapse prevention
- Motivational counselling

Myers and Miller (2001) accept that, in many ways, the CRA can be seen as good CBT in general. However, they argue that the systematic functional analysis of the service user's drinking and the modification of reinforcement contingencies derived from its origins in Skinner's (1953) behavioural theory make the CRA a distinctive treatment approach.

9.2.2 Evidence

The CRA appears as one of the most successful treatment programmes to have been described in the scientific literature and is ranked third in the Mesa Grande.

In the original evaluation, Hunt and Azrin (1973) tested the effectiveness of CRA when added to an inpatient programme and compared with a traditional mixture of alcohol education and Alcoholics Anonymous. At six months follow-up, clients who received CRA were drinking, on average, on 14 per cent of days compared to 79 per cent in the controls; unemployed days were 12 times higher and institutionalised days 15 times higher in the controls than in the CRA group.

Azrin (1976) evaluated improvements in the CRA, including the addition of a disulfiram component. At six months follow-up, those who received CRA showed fewer than one per cent drinking days per month, compared to 55 per cent in a control group that received a standard hospital programme. There were also very large differences in days unemployed and days spent away from home.

Working with outpatients, Mallams *et al.* (1982) evaluated one component of the CRA, a non-drinking social club. Clients encouraged to attend showed greater reductions in drinking, spent less time in heavy drinking settings and showed fewer behavioural problems than those not encouraged to attend. The added benefits of including a partner or other family member in the CRA were reported by Sisson and Azrin (1986).

Azrin *et al.* (1982) compared the effectiveness of the full CRA with the disulfiram component alone and also compared disulfiram with and without supervised administration:

- Overall, the best results were obtained by the full CRA programme, including supervised disulfiram
- The supervised disulfiram regime was superior to unsupervised disulfiram (see chapter 11)
- For single clients, disulfiram alone was ineffective and the addition of the CRA led to a significant improvement in results
- For married clients, there was no additional benefit of the CRA since the maximum number of abstinence days had already been reached in the supervised disulfiram condition.

These findings make sense if it is assumed that a partner is necessary for successful supervised disulfiram treatment and that married clients already had access to many of the rewards provided by the CRA programme. This study was based on a small sample but suggests a treatment policy in which the full CRA is targeted towards single clients.

Similar issues were investigated in a later study by Miller *et al.* (2001) who arrived at somewhat different conclusions to those just listed:

- Disulfiram with compliance training is not necessary to the effectiveness of the CRA
- The CRA is clearly superior to the traditional treatment usually provided in the USA
- Disulfiram compliance does increase the effectiveness of traditional treatment.

Therefore, the role of supervised disulfiram in the CRA is left uncertain by these findings. However, the Miller study had various methodological problems and a conservative interpretation of the evidence would suggest retaining supervised disulfiram in the full CRA.

The positive evidence for the CRA has not gone unquestioned. In the Swedish review and on the basis of their own meta-analysis of relevant studies, Berglund, Thelander and Jonsson (2003) argue that studies showing the CRA to be more effective than other treatments used a weak and poorly defined comparison group and that the CRA has not been shown to be more effective than other specific modalities, particularly 12-Step treatment in Alcoholics Anonymous. They therefore conclude that the CRA represents one treatment alternative for clients with severe alcohol dependence.

A frequently encountered objection to the CRA is that it is too expensive and time-consuming to implement, and beyond the resources of most treatment agencies. Against this, Myers and Miller (2001) state that better outcomes from the CRA relative to traditional approaches have been based on treatments of between five and eight sessions – within the range of intensity of treatments usually offered in the UK. Even if the full CRA is seen as prohibitive, the principles of the approach (functional analysis, behavioural contracting, contingency management and, more generally, the attempt to change the social environment so that sobriety is rewarded and heavy drinking unrewarded) may be applied with suitable modifications to the individual case.

9.2.3 Conclusions

- The CRA is an effective treatment modality, particularly relevant to service users with severe alcohol dependence (IB)
- Supervised administration of disulfiram is an essential component of the full CRA (IB)
- The CRA has proved especially impressive with socially unstable and isolated service users with a poor prognosis for traditional forms of treatment, including those who have failed in treatment several times in the past (IB).

9.3 Social behaviour and network therapy

9.3.1 Context

The community reinforcement approach described in the previous section was one of the influences on the development of social behaviour and network therapy (SBNT), and the principle of using social support to help

the client modify drinking and maintain changes is common to both, although it is the core of SBNT. According to Copello *et al.* (2002), the basic premise of SBNT is that "…to give the best chance of a good outcome, people with serious drinking problems need to develop positive social network support for change" (p345).

Copello *et al.* (2002) described the following components of SBNT:

- Identifying and contacting network members
- Identifying reasons why the focal person might have difficulty engaging the support of family members or friends and working with the person to overcome those difficulties
- Working with the focal person and his or her network to:
  - Reach and maintain agreement about the drinking goal and ways the network might best cope
  - Improve communication
  - Increase pleasant social activities alternative to drinking
- Maintaining the cohesion of the network
- Providing a consistent and helpful network response in the event of relapse, or failure of the person with the drinking problem to attend, and planning for future relapse
- Identifying further sources of social support for the person with the drinking problem.

9.3.2 Evidence

Although too new to be included in the Mesa Grande, SBNT was evaluated in the UK Alcohol Treatment Trial. The results of this trial are described in some detail in chapter three. In brief, SBNT as a novel and socially based treatment was no less effective over all service users in the trial than MET, an established, motivationally based treatment. The cost-effectiveness of the two treatments is discussed in chapter 14.

At the time of writing, no indications are available as to what types of service user may benefit most from SBNT, although these may emerge from future analysis. In this situation, the offer of SBNT to service users can be based on:

- Service user choice – those service users who welcome the involvement of family and friends in the treatment process
- Theoretical orientation among those clinicians who favour a socially based approach to treatment
- Therapist enthusiasm for and training to competence in SBNT.

9.3.3 Conclusion

- SBNT is an effective treatment for alcohol problems (IB).

9.4 Behavioural self-control training

9.4.1 Context

This treatment approach is sometimes called self-management training. The principles underlying the approach can be applied to either the abstinence or the moderation goal of treatment, although in practice behavioural self-control training (BSCT) is normally used with a moderation goal.

BSCT can be carried out in group or individual formats and can also be conveyed by self-help manuals, either as an adjunct to formal treatment or distributed with little or no personal contact with helpers (see chapter 12). Details of BSCT theory and methods are provided by Hester (1995) and Jarvis *et al.* (2005). The following ingredients are usually included (Hester, 1995):

- Setting limits for drinking
- Self-monitoring of alcohol consumption by the service user
- Methods to control the rate of drinking
- Drink-refusal skills training
- Setting up self-reward systems for successful behaviours
- Analysis of antecedents to excessive drinking
- Training alternative behaviours to drinking to cope with high-risk relapse situations.

9.4.2 Evidence

BSCT is ranked seventh in the Mesa Grande, which also shows that BSCT is one of most highly researched

modalities in the alcohol problems field, investigated in 31 studies and second only to brief intervention.

Walters (2000) carried out a meta-analysis of 17 RCTs of BSCT, seven of which were described as studies of alcohol-dependent individuals according to the author's criteria. Conclusions were that:

- BSCT was superior to no intervention and to alternative moderation-oriented interventions in reducing alcohol consumption and alcohol problems
- BSCT was equally effective for both alcohol dependent and non-alcohol dependent service users, and for follow-ups spanning several months to several years.

Despite this last conclusion, there is reason to believe that studies failing to find a benefit for BSCT were conducted mainly on alcohol misusers with more severe problems.

Aggregating results from a series of early studies of BSCT, Miller and Baca (1983) calculated that 60–70 per cent of treated alcohol misusers with low to moderate dependence showed clear improvement on pre-treatment status at follow-up interviews up to two years after treatment. Longer-term follow-ups ranging up to eight years post-treatment showed an increasing proportion of clients becoming totally abstinent and a consistent 10–15 per cent able to sustain moderate drinking with no alcohol-related problems (Miller *et al.*, 1992).

The Swedish review (Berglund, Thelander and Jonsson, 2003) concluded: "Self-control training has generally been offered to persons with relatively limited alcohol problems. Self-control training has shown a positive effect in comparison with no treatment or standard treatment." (p62).

The Scottish review (Slattery *et al.*, 2003) "generally supported the effectiveness of the BSCT approach in promoting controlled drinking" (p5–8). BSCT was one of four psychosocial treatments found to be clinically and cost-effective among post-detoxification service users.

Therefore, the evidence reviewed suggests that BSCT should be regarded as the treatment of choice for service users considered suitable for a moderation goal. All the criteria listed in chapter two for the selection of the drinking goal of treatment are therefore relevant to the offer of BSCT.

9.4.3 Conclusion

- BSCT is at present the most effective treatment modality available for service users considered suitable for a moderation goal (IA).

9.5 Behaviour contracting

9.5.1 Context

Behaviour contracting is a treatment method where the therapist negotiates agreement between service users and their significant others to a system of mutual expectations and obligations (reinforcement contingencies). For example, there may be a contract to the effect that the client will receive rewards from the spouse (such as attention and company) only if the client continues to take disulfiram medication, while the spouse agrees to withhold criticism if the client remains sober.

9.5.2 Evidence

Although listed as a separate category of treatment in the Mesa Grande, behaviour contracting is more usefully seen as an integral component of other successful treatment methods. It is an essential part of the community reinforcement approach (see section 9.2), a vital component of behavioural marital therapy and a particular approach to aftercare (see section 9.11). The five studies cited in the Mesa Grande as providing positive support for behaviour contracting (Gerrein *et al.*, 1973; Miller, 1975; Ahles *et al.*, 1983; Stimmel *et al.*, 1983; Keane *et al.*, 1984) all involved other treatment methods associated with positive outcomes.

9.5.3 Conclusion

- Behaviour contracting is best thought of as a component of treatment rather than a standalone therapy (IV).

9.6 Coping and social skills training

9.6.1 Context

Coping skills training does not form a separate category in the Mesa Grande but describes a range of treatment techniques aimed at enabling the service user to live a fulfilling life without excessive drinking. Coping skills training is often combined with assertiveness training and

communications skills training, depending on an assessment of the service user's particular deficits.

A major category of stress for alcohol misusers arises from the demands of interpersonal relationships. While it is not true that all alcohol misusers are deficient in social skills, many of them are and the need to reduce social anxiety is a common reason for heavy drinking. A section on social skills training is included in the next chapter, where it is regarded as a non-alcohol-focused treatment (see chapter ten). The justification for including it here also, as an alcohol-focused treatment and in combination with other forms of coping skills training, is that improvements to the service user's social skills may help them carry out alternatives to drinking in high-risk situations for heavy drinking.

Monti *et al.* (1995) describe a programme of coping and social skills training (CSST) that provides a common set of techniques to address important coping skills for daily living that the client may lack. This can be delivered on either a group or individual basis, though the group format is obviously more cost-effective and has the other advantage of allowing clients to learn from each other. CSST aims to build:

- Interpersonal skills for building better relationships
- Cognitive emotional coping for mood regulation
- Coping skills for improving daily living and dealing with stressful life events
- Coping in the context of alcohol-related cues.

The assessment of specific skill deficits is an essential guide to the contents of CSST in the individual case (see chapter six) and the specific goals of CSST should be negotiated with each client. In addition to skills training, the techniques include self monitoring, goal setting, self evaluation and self correction, until the client has acquired the necessary skills and can use them comfortably in a range of situations.

9.6.2 Evidence

Social skills training (SST) is the ninth best supported treatment modality in the Mesa Grande.

In an influential early study, Chaney *et al.* (1978) investigated the effects of three abstinence-oriented treatment methods:

- One group (CSST) practiced responding to social situations that had been assessed as high-risk drinking situations for the individual service user
- In another, the same situations were the focus of group discussions with no behavioural intervention
- The third received standard hospital treatment.

At one-year follow-up, the CSST group was clearly superior on a number of drinking measures to the other two groups.

Oei and Jackson (1980) compared SST conducted in a group format with SST on an individual basis. These two conditions were compared in turn with traditional supportive therapy on a group or individual basis. Both groups receiving SST improved significantly more than the two supportive therapy groups throughout a one-year follow-up period, but there were no significant differences between the two forms of SST. However, the group-based treatment would clearly have been less expensive to deliver than the individual regime.

In a major study of SST, Monti *et al.* (1990) compared three social learning approaches to treatment of problem drinking:

- Communication skills training in groups
- Communication skills training with the involvement of a spouse or other family member
- Cognitive behavioural mood management training in groups.

At six-month follow-up, service users in both groups receiving communication skills training were drinking less than those in the mood management group.

Ferrell and Galassi (1981) seems to be the only study that looked at clients who were specially selected because of poor social skills. The results showed a clear superiority of an assertion training group over a discussion group at follow-ups over a two-year period. Therefore, although SST appears to be effective with the general run of alcohol misusers, there may be additional advantages in offering it to those who are assessed as specifically lacking in social skills.

Project MATCH (Project MATCH Research Group, 1997a) evaluated a form of CBT in which coping skills training was a prominent part (Kadden *et al.*, 1992). Results bearing on the effectiveness of this form of CBT were noted in chapter three. To summarise:

- CBT was equal in effectiveness over all clients in the trial as motivational enhancement therapy (MET) and 12-Step facilitation therapy (TSF)
- Outpatients low in psychiatric severity at baseline did better with TSF than CBT
- There was a tendency for those with high psychiatric severity at baseline to do better with CBT than TSF, but this was not statistically significant
- Outpatients high in anger at baseline did better with MET than CBT
- In the aftercare arm, clients low in alcohol dependence at baseline did better with CBT than with TSF, whereas those high in dependence did better with TSF than with CBT.

The last finding should be interpreted as applying only to individuals who have already undergone detoxification. Although described as having low dependence in the context of the Project MATCH trial, the level of dependence here was substantially higher than the hazardous and most harmful drinkers who would normally be offered brief intervention in generalist settings.

The Scottish review (Slattery *et al.*, 2003) identified coping and social skills training as one of four clinical and cost-effective psychosocial treatments.

The Australian review (Shand *et al.*, 2003a) reached a number of conclusions with respect to skills training, a category very similar to CSST:

- Skills training has been identified as one of the most effective treatment interventions for excessive drinking and alcohol dependence, but the effective components of skills training have not been identified
- Skills training appears to be as effective as other interventions to which it has been compared
- Skills training appears to be effective as a component of a more intensive treatment programme
- Skills training does not appear to be effective as a form of aftercare treatment.

9.6.3 Conclusions

- CSST is an effective treatment modality among moderately dependent alcohol misusers (IA)
- Specific treatment goals and methods can be tailored to the needs and preferences of the individual service user (IV)
- Social skills training may be especially beneficial to service users lacking social skills (IB)
- Service users with low psychiatric morbidity may benefit more from 12-Step facilitation therapy (see chapter 12) than CSST (IB)
- Service users high in anger may benefit more from motivational enhancement therapy (see chapter eight) than CSST (IB)
- Following detoxification, service users with severe dependence may benefit more from 12-Step facilitation therapy than from CSST (IB).

9.7 Cognitive behavioural marital therapy

9.7.1 Context

There are several justifications for involving the service user's partner in treatment:

- Alcohol misusers frequently show significant marital problems (O'Farrell, 1993a)
- While it is often unclear what comes first – the marital problem or the problem drinking – there is typically a reciprocal relationship between the two where the focal person's drinking makes family adjustment worse, which in turn aggravates the drinking problem
- There is a strong association between good marital adjustment and outcome of treatment for alcohol problems (O'Farrell, 1993a)

Reasons for including the family and significant others in the treatment process are considered in more detail in chapter ten.

Cognitive behavioural marital therapy (CBMT) is based on social learning theory principles and uses specific techniques, such as behavioural contracting, communication skills training and behavioural rehearsal, to modify and support abstinence or moderate drinking. Different forms of CBMT have been described by O'Farrell (1993b; 1995) and by Noel and McCrady (1993).

9.7.2 Evidence

"Marital therapy – behavioural" is ranked ten in the Mesa Grande, with a cumulative evidence score (CES) of 44. "Marital therapy – non-behavioural" obtains a negative CES, suggesting it is not an effective treatment modality.

Evidence in favour of CBMT was reported by McCrady *et al.* (1986) in an investigation of varying degrees of spouse involvement in therapy. They found that:

- Alcohol misusers given CBMT showed more rapid reductions in drinking and better maintenance of abstinence than two control groups
- Marriages remained more stable and marital satisfaction was higher in the CBMT group
- The advantages from CBMT in drinking outcomes were maintained at 18 months follow-up (McCrady *et al.*, 1991)

Similarly, O'Farrell, Cutter and Floyd (1985) reported that:

- In comparison to a group given interactional couples therapy and a group receiving individual counselling, alcohol misusers receiving CBMT showed superior scores on an index of overall drinking outcomes
- The CBMT group showed greater improvements on a range of measures of the quality of the marital relationship
- At two-year follow-up (O'Farrell *et al.*, 1992), CBMT was no longer superior to the other two groups on drinking outcome measures, but clients who had received either kind of couples therapy showed better marital adjustment than those who had received individual counselling.

Bowers and Al-Redha (1990) reported very positive results compared with individual counselling for what they describe as "interactional couples group therapy". Since this treatment program included communication skills training, modelling and roleplay, it seems reasonable to regard it as a form of CBMT.

Regarding the initiation of treatment, Sisson and Azrin (1986) reported on the effects of a program designed to teach family members (usually wives) behavioural contingency skills for coping with alcohol misusers. This reinforcement programme resulted in significantly more alcohol misusers entering treatment than did a more traditional programme consisting of alcohol education, individual supportive counselling for the spouse and referral to Al-Anon (the self-help fellowship for spouses of members of Alcoholics Anonymous – see chapter 12). The reinforcement method has been described in detail by Sisson and Azrin (1993). Other studies have demonstrated the benefits of spouse or family member involvement on the initiation or maintenance of treatment (O'Farrell and Cowles, 1989; Mattick and Jarvis, 1993).

The three government-sponsored reviews we consulted reached the following conclusions:

- In the Scottish review (Slattery *et al.*, 1993), marital and family therapies were one of four psychosocial treatments found to be clinical and cost-effective
- The Swedish review (Berglund, Thelander and Jonsson, 2003) concluded: "Marital therapy shows better results than a waiting list control and equal or superior results compared with individual treatments. Involving family members in the patient's treatment yields positive results and it seems feasible that intervention focused only on the partner has an effect on the patient's consumption" (p70)
- The Australian review (Shand *et al.*, 2003) concluded that "behaviourally-oriented couples therapy appears to be as effective as other treatments for the treatment of alcohol use disorders. There is limited evidence for other couples or family therapy" (p50).

Clearly, CBMT can only be applied to service users who are married or in relatively long-term relationships and this immediately excludes a large proportion of the alcohol misusing population. On the other hand, O'Farrell and Cowles (1989) argue that CBMT should not be reserved for couples with serious marital difficulties and that couples with low or moderate relationship difficulties are able to work together to achieve agreed goals. The work of Zweben *et al.* (1988), summarised in chapter eight, showed that a single session of conjoint therapy for couples with only moderate alcohol problems and relatively intact relationships was as effective as eight sessions of the same approach.

In the case of severely damaged relationships, special modifications of the treatment method may be necessary that involve more individual attention in a conjoint situation. Nevertheless, it appears sensible to concentrate the use of CBMT on service users for whom there are grounds for believing there is a link between the drinking problem and the marital relationship.

9.7.3 Conclusions

- CBMT is an effective treatment for service users with partners who, with the service user's agreement, are willing to be involved in the treatment process (IA)

- CBMT can be effective in reducing the service user's drinking problem and improving the interpersonal relationship (IA)
- CBMT seems to be superior to individual treatment among service users for whom it is suited and who agree to it (IB)
- Involving partners and families can make the initiation of treatment more likely and increase retention in treatment (IB)
- Service users with relatively intact relationships and moderate alcohol problems can benefit from a single session of behaviourally oriented conjoint therapy with their partners (IB).

9.8 Aversion therapy

9.8.1 Context

The category of aversion therapy includes the oldest applications of behavioural theory in the alcohol problems field. All aversion therapies aim to reduce the service user's desire for alcohol using classical (Pavlovian) counter-conditioning techniques. This is done by pairing alcohol-related stimuli, such as the sight, smell and taste of alcohol, with one of a variety of aversive experiences. If done successfully, this method results in the service user acquiring a conditioned aversive response to alcohol and a resulting decrease in the desire to drink. However, aversion therapy is no longer considered an appropriate treatment in the UK and is mentioned here for completeness only.

9.8.2 Evidence

"Aversion therapy, nausea" (or chemical aversion therapy) has a relatively high cumulative evidence score in the Mesa Grande and a ranking of 11. "Covert sensitisation" and "apnoeic" forms of aversion therapy obtain lower rankings but still positive CES scores. "Aversion therapy, electrical" has a marginally negative CES.

Despite the positive CES for aversion therapy based on nausea, this form of treatment has been largely abandoned in the UK. This is because, whatever gains chemical aversion therapy is thought to produce, there are more pleasant, less dangerous and less ethically problematic methods of achieving at least as favourable results with less likelihood of treatment dropout.

9.8.3 Conclusion

- Aversion therapy is not recommended for treatment practice (IV).

9.9 Cue exposure

9.9.1 Context

Cue exposure (CE) is a relatively new treatment that is based mainly on Pavlovian classical conditioning theory. It is founded on the assumption that craving for alcohol or other drugs is a classically conditioned response that can be extinguished by presenting service users with drug-related cues in the absence of the reinforcing effects of drug consumption. The theory, underlying research evidence and clinical applications of CE may be found in Drummond *et al.* (1995).

9.9.2 Evidence

The category of cue exposure is included in the Mesa Grande in the group of modalities with only one or two studies. It obtains a CES of 32 but this is based on two studies by Goddard and Abrams (1993) and Drummond and Glautier (1994), which produced promising results using an abstinence goal.

In the Drummond and Glautier (1994) study, 35 severely dependent men received either CE or relaxation control treatment following detoxification. During a six-month follow-up period, the CE group showed more favourable outcomes than controls in length of time to relapse to heavy drinking and total alcohol consumption.

Not included in the Mesa Grande are two studies looking at the effectiveness of moderation-oriented cue exposure (MOCE) (Heather *et al.*, 2000; Dawe *et al.*, 2002b). Neither of these studies found MOCE to be superior to standard behavioural self-control training (BSCT) and the hypothesis that MOCE would be more effective than BSCT among service users with more severe dependence was not confirmed. Since BSCT was cheaper to deliver, it was assumed to be more cost-effective than MOCE.

Against this, Sitharthan *et al.* (1997) compared cue exposure delivered in six 90-minute group sessions among "non-dependent" alcohol misusers with directed homework practice based on cognitive behavioural therapy (CBT). The goal of treatment was moderate

drinking. At six-month follow-up, the cue exposure group reported a significantly lower frequency of drinking and a significantly lower amount consumed per occasion than the group given CBT homework. Reasons for the differences between these findings and those above investigating MOCE are not clear and Sitharthan *et al.*'s (1997) results require replication.

Cue exposure has also been investigated in combination with other treatment modalities. Monti *et al.* (1993) reported that cue exposure combined with coping skills training was no more effective than standard treatment during the first three months after treatment. However, during the next three months the CE and coping skills group maintained its gains while the standard treatment group deteriorated. The authors attributed the superiority of the experimental treatment to the effects of coping skills training rather than CE.

Rohsenow *et al.* (2001) randomised alcohol dependent participants to one of four groups:

- CE with communication skills training
- CE with placebo alcohol education
- Meditation-relaxation with communication skills training
- Meditation-relaxation with education (control group).

In the first six months of follow-up, those who had received CE or communication skills training reported fewer heavy drinking days than controls. In the second six months, CE continued to result in fewer heavy drinking days among those who had lapsed and interacted with communication skills training to decrease total alcohol consumption. The authors concluded that both CE and communications skills training show promise as elements of comprehensive treatment programmes.

The Australian review (Shand *et al.*, 2003) concluded: "there is moderate support for CE therapy as a treatment for alcohol use disorders" (p50).

The Swedish review (Berglund, Thelander and Jonsson, 2003) concluded that the CE method "should be considered promising and lead to further study" (p63).

9.9.3 Conclusions

- CE shows promise as a treatment method, particularly when combined with coping skills or communication skills training and as part of a broader CBT programme (IB)
- There is insufficient evidence at present to justify the offer of CE as a standalone treatment (IV)
- There are no grounds for replacing behavioural self-control training by CE in moderation-oriented treatment (IB).

9.10 Relapse prevention

9.10.1 Context

Relapse prevention has become one of the most confused terms in the alcohol problems treatment literature.

- In the Scottish review (Slattery *et al.*, 2003) it was applied to all treatments for service users who had attained abstinence following detoxification and for whom treatment was aimed at preventing a return to harmful drinking. In this sense, relapse prevention is characteristic of all treatment for alcohol problems, not just post-detoxification treatment, because the initial achievement of abstinence or moderate drinking is relatively easy; the main task is to prevent service users from relapsing to destructive drinking patterns. In this sense also, relapse prevention is a goal of treatment rather than a treatment modality
- It has been applied to treatment methods based on the idea of cognitive restructuring (or cognitive retraining) without much addition of behavioural, performance-based methods. It is relapse prevention in this sense that largely contributes to the negative CES for this category in the Mesa Grande (see page 44)
- The term has sometimes been applied to interventions in the form of booster sessions or aftercare taking place after the initial treatment episode has concluded (e.g. Connors, Tarbox and Faillace, 1992; O'Farrell *et al.*, 1993)
- The original relapse prevention method described by Marlatt and Gordon (1985) is firmly based in cognitive behavioural techniques – such as social skills training, coping skills training and behavioural rehearsal – that find strong support in the research literature. Useful descriptions can also be found in Dimeff and Marlatt (1995) and Parks, Anderson and Marlatt (2004).

9.10.2 Evidence

Two reviews of evidence on the effectiveness of relapse prevention (RP) have considered treatment for substance use disorders in general rather than alcohol problems alone.

In a narrative review of RCTs, Carroll (1996) included 24 studies that had evaluated an approach defined as RP or were explicitly based on Marlatt and Gordon's (1985) programme. This review reached the following conclusions:

- RP appears to be more effective than no treatment
- Although not necessarily more effective than other active treatments, RP can reduce the severity of relapse episodes if they occur
- There is some evidence of continued or delayed effects of RP
- RP may be more suited to substance users with greater levels of impairment.

In a meta-analytic review of 26 studies, Irwin *et al.* (1999) concluded that RP is effective in reducing substance misuse and improving psychosocial functioning, especially among alcohol misusers and service users with polydrug problems. These authors also noted that RP seems more effective when combined with pharmacological treatments (see chapter 11).

In considering the accumulated evidence on RP, the Australian review (Shand *et al.*, 2003) made these additional points:

- Psychosocial RP may have more impact on psychosocial functioning than on reducing substance use
- RP can be used successfully with a variety of service users in different contexts, including residential and outpatient settings.

9.10.3 Conclusions

- RP denotes a set of treatment principles and techniques that should be incorporated in all specialist treatments for alcohol problems in a variety of treatment settings (IV)
- There is good evidence for the effectiveness of the specific RP treatment programme first described by Marlatt and Gordon (1985) (IA)
- RP can improve psychosocial functioning in addition to alcohol problems (IA).

9.11 Aftercare

9.11.1 Context

This section considers ways of maintaining treatment gains in aftercare programmes scheduled at various intervals after the active treatment phase has finished. Since alcohol dependence is a relapsing condition, aftercare arrangements can make a crucial contribution to the service user's recovery. Some would argue that good aftercare is the most important ingredient of a successful treatment service (Ito and Donovan, 1986). There is also good evidence to suggest that post-treatment factors – chiefly those around the home environment – have a greater effect on outcome than the service user's pre-treatment characteristics (Moos, Finney and Cronkite, 1990).

One form of aftercare often made use of is referral to Alcoholics Anonymous (AA) or to other mutual-aid groups but this will be discussed in chapter 12. However, AA is acceptable to only a proportion of alcohol misusers and other forms of aftercare are necessary.

In addition to the general aim of maintaining treatment gains, structured aftercare can have the following purposes:

- It can enable the early detection of a relapse and attempt to limit its negative consequences
- It can help to prevent a lapse from turning into a full relapse
- It can provide an opportunity to evaluate the usefulness of new skills and behaviours the service user has been trying to put into effect, including lifestyle changes, and discuss any problems that may have arisen
- It can provide specific booster sessions for skills and behavioural changes that need strengthening
- Generally, it is a means of monitoring and recording progress, and of reinforcing the service user's successes.

Aftercare can be run either on an individual or group basis. In the individual situation, there is more opportunity to consider the service user's unique problems in adjustment and any specific coping deficits that remain.

Groups can provide a useful support network and the chance to learn from other people's mistakes. Attention can also be paid to mundane but crucial practical matters, such as housing problems and access to welfare entitlements.

As to the timing of aftercare appointments, three, six and 12 months after treatment is standard, but some service users may need to be seen before three months or seen more frequently. Although aftercare programmes should be highly structured, they should also be flexible to accommodate individual needs and circumstances.

An aftercare programme, no matter how skilfully designed, will be ineffective if service users ignore it. Unfortunately, rates of attrition commonly found, for example, three months after treatment are roughly 50 per cent (Marlatt and Gordon, 1985). Special procedures to decrease attrition are clearly needed. Some very simple devices can be helpful:

- Service users can be provided with a calendar indicating appointment times
- They can be sent a reminder letter or telephoned a week before the next appointment
- If an appointment is missed for whatever reason, another can be scheduled as soon as possible and, when the service user does arrive, the reasons for the missed appointment can be carefully discussed
- Probably of most importance, the service user can be prepared for aftercare before the active treatment phase has ended by a clear explanation of its purposes and its significance in the recovery process.

Aftercare principles and procedures are described by Jarvis *et al.* (2005). O'Farrell (1993b) describes a complete couples relapse prevention programme to follow behavioural marital therapy. Ossip-Klein and Rychtarik (1993) discuss the use of behavioural contracts between the alcohol misusers and family members to improve aftercare participation.

9.11.2 Evidence

Aftercare is not a specific treatment modality and is therefore not included in the Mesa Grande.

Although the amount of research on aftercare is not large, the evidence in its favour is impressive. Ahles *et al.* (1983) studied a group of male alcohol misusers given aftercare arranged by the behavioural contracting method. This was compared with a control group which had aftercare scheduled session by session. At one-year follow-up, the rate of abstinence in the experimental group was 40 per cent compared with 11 per cent in the control group.

In an evaluation of their couples relapse prevention programme, O'Farrell *et al.* (1993) showed that the addition of the programme to behavioural marital therapy significantly improved drinking and marital outcomes among alcohol misusers and their wives.

Ito and Donovan (1986) carefully reviewed the evidence on the effects of aftercare available when they wrote and concluded that it was an important and effective type of intervention for alcohol problems.

One study found no evidence of the benefits of aftercare. Connors, Tarbox and Faillace (1992) compared group aftercare, telephone aftercare and no aftercare among alcohol misusers without physical dependence who had completed an eight-week drinking reduction programme. Those in aftercare groups showed large reductions in drinking at one-year follow-up but no greater than those recorded in a no-treatment control group that received follow-up only. The relatively mild nature of the alcohol problems among these service users may have accounted for this negative finding.

Based on eight studies evaluating aftercare, the Swedish review (Berglund, Thelander and Jonsson, 2003) concluded that different forms of aftercare produced few differences in outcome.

9.11.3 Conclusions

- Planned and structured aftercare is effective in improving outcome following the initial treatment episode among service users with more severe alcohol problems (IB)
- Among various forms of aftercare described in the literature, there is no evidence as yet that any one is more effective than others (IB)
- Aftercare may not be effective with service users showing less severe problems owing to the good prognosis of such service users without aftercare (IB).

9.12 Extended case monitoring

9.12.1 Context

Stout and colleagues have developed a long-term, low-cost programme of "extended case monitoring" (ECM) in the treatment of alcohol misusers with chronic, recurrent problems. This can be seen as a form of aftercare but we are including it separately because it has implications beyond the provision of continuing care following conventional treatment – implications for the reallocation of resources in the cost-effective delivery of care over time (see chapter two).

Stout *et al.* (1999) begin by noting that, although treatment services for alcohol misusers have been considerably reduced in intensity over recent years, they are still designed to deal with severe acute crises. This has the disadvantage that services are crisis-oriented, reactive and expensive on a per-episode basis. By contrast, the model of delivery they propose is proactive rather than reactive, focused on long-term rather than short-term outcomes and designed to minimise overall long-term healthcare costs.

The ECM model is based on three sources of evidence on the value of long-term contact with service users:

1 Case management – a standard part of social work aimed at helping severely ill people to function in the community

2 Telephone contact or counselling after treatment termination – used frequently in smoking cessation services

3 Research follow-ups – demonstrated to have some therapeutic effects (Sobell and Sobell, 1981).

The model is also consistent with the backing from research on the role of social support in recovery from addictions. It is expected that the contact provided by ECM is perceived by service users as a source of social support and that this contributes to positive outcomes.

The key elements of the ECM approach (Stout *et al.*, 1999, p24) are:

- Continued low-intensity contact with the service user via a supportive, non-judgmental interaction
- Continued contact with a supportive significant other, if available
- Monitoring not only of substance use but also of other major life problems
- Facilitating a re-entry into a more active treatment environment as necessary
- Monitoring is more than a research follow-up or impersonal encounter, less than a traditional treatment intervention
- The case monitor serves as a resource to the service user in need.

An example of a detailed ECM protocol is given by Stout *et al.* (1999).

9.12.2 Evidence

Stout and coworkers have conducted an RCT of the ECM approach and initial results are reported in Hilton *et al.* (2001).

The ECM intervention tested involved telephone contacts on a tapering schedule for two years, although contact rates were increased if there was judged to be the risk of relapse. Compliance with the intervention was excellent, with 49 per cent of service users completing all planned contacts and 98 per cent at least half of them.

The main results were:

- Analysis of data for a sub-sample of service users indicated no significant effects of intervention on percentage of days abstinence or drinks per drinking day across three years following study enrolment
- However, in line with the researchers' hypothesis, there was a statistically significant effect on percentage of heavy drinking days during the third year, with mean frequencies of heavy drinking twice as high in the controls (24 per cent) as in the ECM group (12 per cent)
- Users showed a longer average time to first drink and to the first three days of heavy drinking than the control group, suggesting that ECM prevents lapses and reduces the severity of relapses
- ECM was particularly useful for service users who were able to maintain a period of at least two months' abstinence
- There was a statistically significant effect of intervention on the costs of outpatient treatment for substance use disorders, with cumulative savings in

the first year estimated at US$240 per ECM case relative to controls

- Against expectations, there was no higher use of treatment services during the first three months of the programme in the ECM group than in the controls.

Noting particularly the evidence in favour of ECM, the Scottish review (Slattery *et al.*, 2003) concluded that: "There is some evidence that even low-intensity continuing contact may have a beneficial effect … Consequently, it is good practice for specialist services to make special arrangements for the continuing care of each individual." The effectiveness and cost-effectiveness of the ECM approach clearly require dedicated research in UK treatment systems.

9.12.3 Conclusion

- Findings of one trial are promising regarding the effectiveness and cost-effectiveness of ECM (IB).

Implications for…

Service users and carers

- The strongest evidence base is for cognitive behavioural treatments. It is the "doing things" element of these treatments that is most important
- Involving family or friends in treatment is often helpful
- It is important to keep in touch with helpers after active treatment and also to consider attending local mutual aid or similar groups
- It takes 12–24 months.to build confidence in a new lifestyle and feel safe from relapse.

Service providers

- People who are more complex by virtue of severe dependence, psychological morbidity or social disorganisation are likely to need intensive treatments. The cognitive behavioural family of interventions are well researched and shown to be effective for this group
- There should be clarity of drinking goal before starting treatment. Different approaches are recommended to achieve abstinence and moderation
- The most effective treatments typically involve family members or friends who will be supportive of achieving the chosen drinking goal
- The skills required to deliver more intensive treatments and especially to work with family and friends will be rooted in good quality training and clinical experience
- Providers will need to consider how aftercare is to be delivered. There are options other than face-to-face appointments.

Commissioners

- A repertoire of intensive treatments to include those that involve family and friends should be available as part of an integrated treatment system. These will most often be abstinence oriented
- There should be clarity on how people move in and out of active treatment and aftercare. Service providers should have a clear aftercare strategy
- More severely dependent and damaged service users may develop a long-term or chronic need for active treatment. Commissioning arrangements will need to make special provision for this group
- Mutual aid is an important source of support during active treatment and of continuing aftercare.

Researchers

- More trials are needed of CBT modalities compared to non-CBT treatments that theory suggests should be effective
- More research is warranted on cue exposure, particularly on the conditions that would make it effective and with which types of service users
- More UK research on aftercare is needed
- UK research on extended case monitoring would be very useful
- CRA needs a cost-effectiveness analysis.

Chapter 10

Non-alcohol-focused specialist treatment

This chapter complements the previous one on specialist treatment. It is important, in principle, to make the distinction between treatments directly addressing alcohol problems and those with a less direct approach, although in practice there is much overlap. The main topics covered are coping skills, counselling, family work and complementary therapies.

10.1 Background

There is a strong tradition in the UK of using treatment approaches that are focused on areas other than alcohol misuse. The rationale stems from two propositions:

- The idea that problem drinking is a "symptom" of some other problem, for example difficulty coping with life generally or family dysfunction
- The observation that having a rewarding and full life can be a protection from problem drinking.

There is the potential for a huge variety of interventions to be included here and so we have limited the scope of this chapter to the four non-alcohol-focused interventions that have positive cumulative effectiveness scores listed in the Mesa Grande (see page 44). In practice these approaches are relatively under-researched – nonetheless, we believe the popularity and potential of non-alcohol-focused interventions merits a separate chapter in this review.

Non-alcohol-focused interventions (NAFIs) are treatments for problem drinking and should be judged by their ability to bring about improvements in problem drinking behaviours, as well as other areas of a person's life that have been targeted by the intervention. The use of NAFIs does not necessarily imply that problem drinking is secondary to some dysfunction, deficiency or disorder. However, where a NAFI ends and a specific treatment for co-morbidity or a psychosocial condition begins is bound to be a grey area and potentially a cause for confusion when trying to conceptualise a rational repertoire of therapies within an agency. We have taken the view that alcohol services cannot be expected to deal with every problem that may trouble an individual. It follows that serious problems, for example schizophrenia or sexual abuse, occurring alongside alcohol misuse merit treatment in their own right by professionals with the proper training and support. Models of Care for Alcohol Misusers (DH, 2006) encourages this kind of multi-agency working.

10.2 Families and significant others

10.2.1 Context

Family interventions can be delivered at any tier of service but do need specially trained staff. Though often thought of as helpful for drinkers at the pre-contemplation stage, the interventions can be used in all stages of change. The Mesa Grande project finds social therapies, including family interventions, to be highly scored. Problem drinking has an adverse effect on families (Velleman *et al.,* 1993) and other people – spouses, children, family members and less-intimately related people such as friends, workmates and publicans. The Alcohol Harm Reduction Strategy for England notes that it is difficult to quantify these impacts and in particular the implications for child protection. It is common for partners of problem drinkers to seek help for themselves or their partners.

There is evidence that support groups and networks are helpful for engaging problem drinkers and helping those affected by the drinking (O'Farrell and Fals-Stewart, 2001). Social networks, including families, have become central to some treatment approaches and a better understanding of the process of change out of addictive behaviours (Copello and Orford, 2002; Longabaugh, 2003). The idea of developing social networks supportive of not drinking or taking drugs was described by Galanter (1993), and incorporated into social behaviour and network therapy (Copello *et al.*, 2002; see chapter three). An advantage of working with social network members is that participants themselves are expected to derive benefit over and above helping the problem drinker. Therapies involving family and friends can be directed at different goals, though these are not mutually exclusive:

- Engaging the problem drinker in treatment (see also chapter 15)
- Changing the drinking behaviour of the problem drinker (see also chapter nine)
- Improving the quality of life for family and friends

In a major review of family interventions, Copello et al. (2005) concluded there exists a strong evidence base for family work. That said, the authors also pointed to a need for more studies in routine clinical practice and for raising the profile of family interventions in the addictions field generally.

The achievement of abstinence, or moderation of drinking, does not necessarily lead to marital and family harmony. The problem drinker may feel a sense of achievement at their success and expect family life to be normal again almost straightaway. On the other hand, family members may feel resentment and mistrust, as well as wondering how the accumulated practical costs of alcohol misuse, such as debts, social embarrassments and legal matters, are to be sorted out.

10.2.2 Evidence

10.2.2.1 Engaging problem drinkers in treatment

There are a number of approaches to engaging resistant problem drinkers, which have been developed in the US, based on using some form of confrontation (Copello *et al.*, 2005). More suited to the UK is the community reinforcement and family training (CRAFT) approach, which has its roots in Hunt and Azrin's (1973) community reinforcement approach and teaches behaviour change strategies (see chapter nine). Meyers *et al.* (2002) randomised 90 concerned significant others to one of two CRAFT programmes or a 12-Step programme. The best CRAFT intervention, which included group aftercare, was able to engage nearly 80 per cent of resistant drinkers in treatment compared to nearly 30 per cent in the 12-Step programme. A rather different approach, based on supportive measures and guidance for the concerned other, has been applied to dealing with agency contacts, typically by telephone, from concerned others. Garrett *et al.* (1999) reported a 65 per cent success rate at engaging problem drinkers.

10.2.2.2 Therapy with families and significant others

Family members and significant others are often recruited to be part of treatment programmes focused on the problem drinker (see chapter nine). There is scope for confusion about the aims of therapy, because different frameworks are applied to similar problems and use similar terminology:

1 Family systems theory sees problem drinking as symptomatic of dysfunctional relationships

2 Disease theory sees the family as having an illness characterised by problem drinking and co-dependency, which requires abstinence

3 A behavioural approach locates problem drinking primarily within the individual.

The effectiveness of family and couples therapies is most clearly shown where these follow cognitive behavioural principles and have a focus on the problem drinking (Berglund, Thelander and Jonsson, 2003; Shand *et al.* 2003). Nonetheless, family members typically show benefits from alcohol-focused treatments. McCrady, Epstein and Hirsch (1999) added maintenance treatments to behavioural couples therapy and found 66 per cent of problem drinking partners had improved at six months but there were no differences between maintenance therapies, one of which was relapse prevention.

O'Farrell (1995, p203) has described an approach based upon the principle of increasing positive interchanges, in which training family members in communication techniques is an essential element. However, in a study of this approach, Zweben, Pearlman and Lii (1988) found no differences in outcome among 116 problem drinkers assigned to either eight sessions of conjoint communications-interactional therapy or a single session of conjoint advice (see also chapter eight). Both groups showed improvement on a broad spectrum of family adjustment measures. There had been only a modest degree of marital disengagement prior to treatment and this may account for the failure to find differences between the two therapies.

Similarly, Noel *et al.* (1987) found that cognitive behavioural marital therapy appeared to prevent dropout from treatment and it was suggested that this was due to the involvement of the spouse in the treatment process.

Behavioural marital therapy (BMT) has been the most systematically evaluated family intervention. O'Farrell *et al.*

(1998) followed up 59 couples assigned to BMT or BMT with relapse prevention sessions over 30 months. Both groups delivered significant improvements in marital adjustment and drinking behaviour, but BMT plus relapse prevention was superior at preventing the decay of treatment gains through the follow-up period and achieved better results with those couples having the most severe problems. The newer social behaviour and network therapy (Copello *et al.*, 2002) extends the idea of family intervention for use with the wider social network, but can be used with families alone.

10.2.2.3 Working with significant others alone

The seminal work of Orford and Edwards (1977) paved the way for interventions that are more effective than support alone for significant others, usually wives. The authors found that wives of problem drinkers developed coping strategies to enable them to manage their husbands' drinking behaviour and the findings were consistent with other research into coping. The number of coping strategies they used was a function of the amount of hardship experienced by living with their drinking husbands – high frequencies of coping behaviour will generally be associated with poorer outcomes in terms of their husbands' drinking. However, some coping behaviours – those that can be categorised as reflecting engagement in the marriage – tend to be associated with improvements in the husband's drinking, while behaviours categorised as disengaging from the marital bond carry a poor prognosis. This work has been refined and led Copello *et al.* (2000) to devise a brief family intervention suitable for use in a primary care setting (see also chapter seven). Of 91 professionals recruited, 36 completed training and delivered the package to relatives; post-treatment, the relatives showed a decrease in physical and psychological symptoms.

The CRAFT approach (Meyers *et al.*, 1998) and social behaviour and network therapy (Copello *et al.*, 2002), both described earlier in this chapter, are targeted at the problem drinker but have spin-off benefits for significant others. Other work in this area is mainly from outside the UK and consists of only small studies (Copello, Velleman and Templeton, 2005). Al-Anon is an important source of support (see chapter 12). It is beyond the scope of this review to look at interventions for children of problem drinkers but practitioners need to be familiar with these services.

10.2.3 Conclusions

- Families and friends benefit from involvement in treatment, whether or not it is alcohol focused (IB)
- The strongest evidence available supports the use of cognitive behavioural couple and family therapies (IB)
- Coping skills training for the spouse or partner of problem drinkers is effective (II)
- Family interventions require suitably trained staff but they can be delivered in a variety of settings, including primary care (IIB).

10.3 Social skills training

10.3.1 Context

These are a collection of treatments likely to be delivered by Tier 3 and 4 services and usually thought of as appropriate to the action or maintenance stages of change. Social skills training has slipped from a ranking of two in 1995 (Miller *et al.*, 1995) to nine in the most recent Mesa Grande. This is because new publications in this area are few, as research interests have shifted. Using a different methodology, Holder *et al.* (1991) also found social skills training to be highly effective, citing ten studies with positive outcomes and none with negative outcomes; all these studies were published in the late 1970s and early 1980s.

The scope of social skills training is ill-defined and best understood as a subset of coping skills, which are themselves a subset of relapse prevention strategies (Larimer *et al.*, 1999). The panoply of relapse prevention strategies are not applied in the UK with the same rigour as in the US, but much more on a selection from a menu basis. Some social skills training is targeted at dealing with drinking situations (see chapter nine) and some at triggers such as anger or stress.

10.3.2 Evidence

Monti, Gulliver and Myers (2002) have produced a comprehensive coping skills manual and training guide, from which topics can be selected (see table 10a) as deemed appropriate. There has long been debate in the UK as to whether there is sense or benefit in giving skills training where an individual has no skills deficit. Monti, Gulliver and Myers (1994) argue that, since some 40 per cent of relapses are triggered by social situations, there is

always good reason to assess coping skills and, furthermore, these interventions can be matched to precise relapse risk situations. Shapiro (1995) has argued in favour of developing new, integrated psychotherapies. He suggests that, although the different elements of a treatment may appear diverse in terms of their theoretical origins, these elements can be bound together if the overarching understanding of the treatment is coherent and clear. Social behaviour and network therapy (Copello *et al.*, 2002) is an example of an integrated therapy that includes social skills rehearsal through the device of having core and optional coping skills sessions.

10.3.3 Conclusions

- The effectiveness of social skills training may have been overestimated because early studies made comparisons against treatments that were less effective than now (III)
- Social skills training can be matched to need, whether this is very specific in individuals who otherwise function well or for individuals scoring high on sociopathy (III)
- Care planning for relapse prevention might be expected to include an assessment of social skills deficits (IV).

Interpersonal skills	Intrapersonal skills
Non-verbal communication	Managing urges to drink
Introduction to assertiveness	Problem solving
Conversation skills	Increasing pleasant activities
Giving and receiving positive feedback	Anger management
Listening skills	Managing negative thinking
Giving constructive criticism	Seemingly irrelevant decisions
Receiving criticism about drinking	Planning for emergencies
Drink refusal skills	
Resolving relationship problems	
Developing social support networks	

Table 10a: Coping skills (adapted from Monti et al., 2002)

10.4 Counselling

10.4.1 Context

Counselling has become a rather imprecise term that can mean anything from structured therapies to befriending, giving support or simply having a chat. Counselling should not be used as a description of an intervention without further qualification. For many therapists, counselling refers to methods of client-centred or non-directive working that are commonly credited to Rogers (1967). The diversity of non-directive or client-centred counselling is enormous, ranging from purist Rogerian therapy to varieties that borrow from alcohol-focused treatments. Rogers claims that counselling is effective with "chronic alcoholics" but offers little research evidence. Indeed, what is most striking is the absence of research generally, either to support or to refute the effectiveness of counselling, with only eight studies included in the Mesa Grande. Some would argue (Hettema, Steele and Miller, 2005) that motivational interviewing (see chapter eight) is a natural development of Rogerian counselling, but the style is different and, of course, it is directive. Therapists may find difficulty moving from a client-centred approach to a more directive therapy (see table 10b for differences with motivational interviewing).

10.4.2 Evidence

Rogers (1967, p280–84) summarises the purpose of psychotherapy as achieving significant learning. By this he means that the service user not only acquires new knowledge, but also internalises the new material to such a degree that there are changes in "basic personality characteristics, in constructive ways". He goes on to describe the essential elements for significant learning to be possible (see table 10c). Rogers has achieved a profound and enduring influence on therapy in general, no less so within the world of alcohol treatment, and much in Rogerian therapy is intuitively correct for addictions. Client-centred therapy is less concerned with delivering a specific treatment and more about maximising the therapist characteristics that enable someone to form a strong therapeutic relationship (see chapter four). This may be a problem in that Berglund, Thelander and Jonsson (2003) found that, of 22 studies comparing specific against non-specific treatments, 16 favoured the specific.

Non-directive approach	Motivational enhancement approach
Allows the service user to determine the content and direction of counselling	Systematically directs the service user towards motivation for change
Avoids injecting the counsellor's own advice and feedback	Offers the counsellor's own advice and feedback where appropriate
Empathic reflection is used contingently	Empathic reflection is used selectively to reinforce certain points
Explores the service user's conflicts and emotions as they currently exist	Seeks to create and amplify the service user's conflicts

Table 10b: Differences between non-directive and motivational approaches

In a critique of Rogers (and other forms of therapy), Masson (1997, p245) states that there is "… something lacking in Rogers and his writings, and that is sensitivity to people's real suffering". Masson objects to the style of therapy where therapists repeat back to clients what they have said using different words; he asserts that if therapists were perfect mirrors, then the service user would soon tire of this technique and be quick to terminate therapy. He suggests that since this does not happen, it is dishonest of therapists to pretend that they do not interpret and influence the service user's world. Masson is concerned that it is far too easy to declare oneself a client-centred therapist and that without adequate training, an awareness of the possible harm from therapy may be lacking. It is difficult, at least by using commonly accepted methodology, to evaluate an intervention such as Rogerian counselling, which has no declared pre-treatment objective and creates a tautology from defining success or failure in terms of holistic, non-directed outcomes after treatment has finished.

10.4.3 Conclusions

- Rogerian methods of counselling are less about specific therapies and more about how to deliver therapy, or to optimise therapist characteristics (IV)
- Client-centred therapy is effective but less so than a specific structured therapy that is equally well delivered (IB).

10.5 Self-esteem and complementary therapies

10.5.1 Context

Alternative or complementary therapies are popular in the UK – however, evidence in support of these interventions is either weak or absent. It is to be expected that service users will benefit from, for example, aromatherapy or

Element	Features
Facing a problem	An acknowledged problem The problem has not been dealt with successfully A fear of personal failings that account for the problem Secondary problems usually exist
Therapist congruence	Therapists must be honest to themselves, not play a role Therapists must know exactly how they feel about themselves and the client Therapists must express exactly how they feel
Unconditional positive regard	Therapists experience warm, non-possessive caring for client Caring is unconditional of behaviour or feelings coming from the client Therapists create a safe climate in which therapy can occur
Empathic understanding	Therapists have an accurate understanding of the client's world Therapists sense the client's private world as if it were their own A clear separation of the client's world and the therapist's world
Communication	The client receives the communications that the therapist is attempting to make

Table 10c: Essential conditions for significant learning (adapted from Rogers, 1967)

massage in the sense of a non-specific, feelgood factor that helps to build self-esteem and the overall therapeutic alliance (see chapter four). These strategies might, therefore, be considered appropriate elements of a care plan for problem drinkers. Coopersmith's (1968) assertion that a healthy or high level of self-esteem is "probably the most important requirement for effective behaviour" would now be challenged. However, even though self-esteem is an imprecise construct, it is commonly referred to in clinical practice by both practitioners and service users (Robson, 1988).

Equally, achieving high self-esteem is thought to be important to the process of moving round the stages of change (Prochaska and DiClemente, 1984, p24–28). We are not aware of any specific treatment targeted at raising self-esteem and simply flag the need for further review. Any stage of change is appropriate for this collection of interventions and any tier of service delivery can offer a repertoire of help in this area.

10.5.2 Evidence

Acupuncture has attracted more research interest than other complementary therapies and has a Mesa Grande ranking. Recent large trials have, however, have produced negative findings. A randomised placebo controlled study with 503 participants found no significant differences between acupuncture and conventional 12-Step treatment alone on measures of alcohol use, although nearly half the subjects receiving acupuncture reported a reduced desire to drink (Bullock *et al.*, 2002). Acupuncture has been used as a treatment for addiction to substances other than alcohol but the results are not encouraging. For example, a trial with 620 participants found that acupuncture did no better than a relaxation control group in reducing cocaine use (Margolin *et al.*, 2002).

10.5.3 Conclusions

- Self-esteem continues to hold interest as a concept of relevance to addictions but there are a lack of specific self-esteem therapies (IV)
- Complementary therapies are best thought of as having a general feelgood effect that helps to build the therapeutic alliance (IV).

Implications for…

Service users and carers

- There is a choice of effective treatments for couples, either together or alone
- Family interventions are important because they are the most likely to benefit the whole family, irrespective of how well the person with the drinking problem may be doing
- Getting involved in activities that just make you feel good can be important
- Getting involved in skills learning, which may or may not be directly linked to drinking, can be important.

Service providers

- Working with couples or families can be a useful part of an agency's treatment repertoire – staff require particular competences
- Working on individual social skills training for relapse prevention can be a useful part of an agency's treatment repertoire – staff require particular competences
- Consider the place of non-directive counselling as an option for aftercare
- Consider the use of a repertoire of feelgood therapies.

Commissioners

- Social therapies have a strong evidence base – family interventions should be available in all service delivery tiers at appropriate levels of complexity
- Expect complementary or feelgood therapies to be part of a more comprehensive treatment package – not standalone interventions
- Ensure that treatment agencies have maintenance stage interventions, such as social skills training, within their repertoire.

Researchers

- Studies are needed to identify the active ingredients in social skills training
- Non-directive counselling should be evaluated in comparisons with directive intervention such as motivational interviewing
- The active ingredients in complementary and feelgood therapies require investigation.

Chapter 11

Detoxification and pharmacological enhancements to treatment

This chapter looks at pharmacotherapies and their interaction with the psychosocial interventions discussed in chapters 7–10. The pharmacotherapies are categorised as detoxification, relapse prevention and nutritional.

11.1 Background

Pharmacotherapies and psychotherapies (or talking therapies) can be viewed as two quite separate forms of treatment, delivered by different professionals with different philosophies. Carroll (1997) argues that it is unhelpful to do this and it is the integration of therapies that will deliver the most cost-effective outcomes and should, therefore, be the basis of good practice. Others (Woody, 2003; Berglund, 2005) support the argument that psychosocial interventions and pharmacotherapies, when suitably combined, consistently improve addiction outcomes.

It is expected that most treatment will be rooted in a psychosocial intervention, which may or may not be enhanced by a pharmacotherapy. These principles are the essence of Project COMBINE, which is discussed in more detail in section 11.4.5 (COMBINE Study Research Group, 2003). There is a rationale for not relying on pharmacotherapies alone, namely that new learning is more likely to be the result of a psychosocial intervention. There may also be philosophical objections to prescribing in a way that implies taking tablets is a solution to life's problems – especially so for individuals who are seeking help because of difficulties with their use of a psychoactive substance such as alcohol.

Pharmacotherapies are generally targeted at a narrow spectrum of symptoms or psychological problems and are usually insufficient to constitute a treatment package when given alone. The most standalone pharmacotherapy will still require careful explanation of its purpose, possible side-effects and the proposed method for monitoring its use. Done in a motivational style (see chapters four and eight), this brief interaction can create a helping alliance between prescriber and service user, which will increase compliance with medication, enhance optimism and increase positive expectancies.

The British Association for Psychopharmacology has produced evidence-based consensus guidelines for the pharmacological management of substance misuse (Lingford-Hughes *et al.*, 2004). The guidelines focus strictly on pharmacotherapy and should be viewed as essential reading for all prescribers.

Subsequent sections of this chapter cover the evidence for the effectiveness of different classes of pharmacotherapy:

- Medications for detoxification
- Relapse prevention medications
  - Sensitising agents
  - Anti-craving agents
- Nutritional supplements.

In theory, the same arguments apply to substitution for alcohol as for opiates. However, the pharmacology of alcohol does not lend itself to substitution therapy. Alcohol does not act on a discrete receptor or single neurochemical system, nor is there a methadone equivalent. A long-acting benzodiazepine would be the best candidate to act as an alcohol substitute, but the evidence is insufficient to merit further consideration here, given both the problems of benzodiazepine dependence and the range of alternative treatments for alcohol dependence.

There is no evidence on the extent of prescribing knowledge and skills regarding addiction pharmacotherapies. The cost to the NHS and the harm to the individual of inappropriate prescribing to people who misuse alcohol is also unknown, but widely believed to be substantial. In a knowledge vacuum, prescribing habits are likely to be influenced by familiarity with medications rather than evidence of efficacy. For example, Mark *et al.* (2003) found that, of 1,388 substance misuse physicians in the US, the average percentage of patients with alcohol dependence given the following medications were:

- Naltrexone: 13%,
- Disulfiram: 9%,
- Antidepressants: 46%
- Benzodiazepines: 11%.

Around three-quarters of the physicians rated themselves as very familiar with the research findings on benzodiazepines and antidepressants. Selected serotonin reuptake inhibitors (SSRIs) were given the highest safety and efficacy ratings, notwithstanding recommendations (Garbutt *et al.*, 1999) that SSRIs should only be used where there is psychiatric co-morbidity. Equally, there is a culture of "prescribing against the evidence", which is justified by not wanting to upset service users for fear of confrontation or dispute, complaints or medico-legal action, and antipathy to the service (Butler *et al.*, 1998). However difficult, it is important to have locally agreed and consistently applied prescribing protocols.

11.2 Detoxification

11.2.1 Context

Detoxification is a common procedure which might be undertaken in any treatment setting; planned detoxification is commonly undertaken in the early part of the action stage of change. Although detoxification is typically concerned with prescribing medication to minimise withdrawal symptomatology, it is important to take a broader view of case management (Raistrick, 2004). Detoxification is the process of rapidly achieving an alcohol (or drug) free state. In 80–90 per cent of cases, detoxification is without complications and in many cases can be treated without medication. Because detoxification is so often a straightforward and uncomplicated procedure, there is always the danger of complacency and missing complications which, at the extreme, can be life-threatening. An effective detoxification programme will:

- Achieve an alcohol-free state usually within 5–10 days for uncomplicated cases
- Monitor for any complications or co-existing conditions – safety is paramount
- Keep the service user as comfortable as possible and prevent withdrawal symptoms acting as a trigger (antecedent cue) to further drinking.

11.2.2 Evidence

There is evidence that multiple detoxifications are associated with a poorer treatment response (Malcolm *et al.*, 2000) and it follows that resources should be committed to minimising failure rates by preparation for detoxification. This may include:

1 Giving information (Gossop and Green, 1988; Hawker and Orford, 1998) about the nature of withdrawal symptoms and what to expect during detoxification

2 Assessing the stage of change and refreshing care plans accordingly

3 A decision on where detoxification will be undertaken – at home, in hospital or in a community setting

4 A discussion of any practical issues, such as childcare arrangements, time off work and travel

5 The identification a friend, relative or agency staff to provide support

6 Arrangements for follow-up, including a discussion of whether the service user wishes to take disulfiram or other medication post-detoxification

7 Planning daily activities for the weeks immediately after detoxification.

11.2.2.1 The nature of withdrawal

Regular alcohol consumption leading to neuroadaptive tolerance to the effects of alcohol is a prerequisite of alcohol withdrawal (for example, as listed in table 11a). The neuroadapted state is sometimes referred to as physical dependence but this terminology is confusing and should be avoided. There are three alcohol withdrawal states, which sometimes occur sequentially but may equally occur independently – tremulousness, seizures and delirium.

There are a number of scales for rating the severity of alcohol withdrawal in order to assess optimal prescribing and have early warning of complications (see Metcalfe *et al.*, 1995; Raistrick, 2004). According to Palmstierna (2001), the risk of delirium is increased by 35 per cent when there is concurrent infection, 13 per cent by severe tachycardia and 12 per cent by autonomic nervous system hyperactity during intoxication in spite of standard withdrawal treatment.

	Most common symptom	Most specific symptom
1	Depression	Whole body shakes
2	Anxiety	Facial tremulousness
3	Irritability	Hand and finger shakes
4	Tiredness	Cannot face the day
5	Craving	Panicky
6	Restlessness	Guilt
7	Insomnia	Nausea
8	Confusion	Visual hallucinations
9	Sweating	Weakness
10	Weakness	Depression

Table 11a: The ten most common and most specific symptoms of alcohol withdrawal (adapted from Hershon 1977)

11.2.2.2 Treatment of complicated alcohol withdrawal

Hospitalisation for alcohol detoxification is indicated only when withdrawal is likely to be complicated (see Raistrick, 2004). Homeless or socially isolated people may need supported accommodation to achieve detoxification, but not necessarily in an acute medical or psychiatric bed. The indications for hospital admission are:

- Alcoholic delirium or seizures present at the time of assessment
- A history of seizures or alcoholic delirium and high alcohol intake
- A history of high dose polydrug use
- Pyrexia greater than 38.5ºC
- A history of recent head injury with loss of consciousness
- Illnesses requiring medical or surgical treatment (liver decompensation, pneumonia, other infections, dehydration, malnutrition, cardiovascular failure)
- Wernicke's encephalopathy
- Conditions requiring psychiatric admission (suicidal intent, severe anxiety or depression, psychotic illness).

Co-morbidity, for example a co-existing anxiety state, may increase the severity of withdrawal (Johnston *et al.*, 1991) but not necessarily to a degree that necessitates residential detoxification. Similarly, physical health problems, for example hypertension (Aguilera *et al.*, 1999), may extend detoxification but also show clinically significant improvement as a consequence of detoxification. The management of these cases should be overseen by a suitably experienced consultant.

11.2.2.3 Treatment of uncomplicated alcohol withdrawal

Community-based detoxification can be delivered in the home, on an outpatient or day patient basis, or within a supported residential facility. The model of home detoxification developed by Stockwell *et al.* (1990) involves daily visits from a psychiatric nurse trained to assess withdrawal and monitor for complications; any prescribing or medical care is provided by a consultant-led team or on a shared-care basis with a general practitioner. Successful home detoxification also requires supportive and sensible friends or relatives to stay with the service user during the detoxification.

For people without a home or without the support of friends or relatives, a community-based facility is a safe alternative to inpatient care. For example, in a study of 1,629 admissions to a detoxification centre staffed by care workers, only four people required transfer to psychiatric care and 17 to a general hospital (Mortimer and Edwards, 1994). The homeless tend to drink relatively modest quantities of alcohol spread throughout the day and usually do not experience marked withdrawal problems, which are associated with high peak blood alcohol levels.

The management of uncomplicated alcohol withdrawal in whatever setting may or may not include the use of medication. Whitfield *et al.* (1978) describe the safe detoxification of 1,024 people who presented to non-drug detoxification centres with a variety of medical complications and severities of withdrawal. The success of these centres depends on training staff to feel confident about monitoring withdrawal in order to identify those service users in need of medical help, as well as training that enables staff quickly to form helping alliances with service users.

When medication is used to treat uncomplicated alcohol withdrawal, chlordiazepoxide (Librium®) is recognised as the gold standard (Duncan and Taylor, 1996). Diazepam has been used as if equivalent to chlordiazepoxide although, theoretically, it has greater dependence-forming potential. Chlordiazepoxide has similar efficacy to other benzodiazepines, but has the advantages of having a low dependence-forming potential and unique metabolites

which can be detected on urinary toxicology screening. This may be helpful where polydrug use is an issue. Doses of chlordiazepoxide of 100–200mg daily are typical. A front-loading technique can reduce the total amount of withdrawal medication required and shorten the period of close monitoring by qualified staff (Day, Patel and Georgiou, 2004). Where there are prodromal signs of delirium, a loading dose of chlordiazepoxide 100mg can be effective in aborting progression to delirium. The different pharmacokinetic profiles of other benzodiazepines determine their therapeutic place (Raistrick, 2004).

There is evidence that chlormethiazole (Hemineverin®) is superior to benzodiazepines at preventing alcoholic delirium. However, this drug has a high dependence-forming potential, a risk of fatal respiratory depression if taken with alcohol and can quickly accumulate to toxic levels if there is liver damage. The evidence points to using chlormethiazole on an inpatient basis only and as a second-line medication. Carbamazepine (Tegretol®) has been used where there is a history of withdrawal seizures and is a rational alternative to chlordiazepoxide (Williams and McBride, 1998). Medicated withdrawal has the disadvantage of prolonging abnormal brain function (Funderburk *et al.,* 1978) to a degree which may trigger further drinking and so detoxification should always move to relapse prevention as soon as possible.

A well-planned detoxification will include an early follow-up appointment. For some service users, the post detoxification period is difficult – probably a combination of facing an accumulation of problems that have occurred during a drinking episode, the high expectations of significant others and some neurochemical readjustments. For psychoactive drugs in general, Wines *et al.* (2004) found that in the 24 months after detoxification 19.9 per cent of individuals had suicidal thoughts, 46.5 per cent for those who had previously had suicidal thoughts and 8.4 per cent for those without prior thoughts; 6.9 per cent made suicidal attempts, 24.1 per cent for those who had made previous attempts and 2.3 per cent for those without prior attempts.

11.2.2.4 Conclusions

- Chlordiazepoxide is the drug of choice for uncomplicated detoxification. Diazepam is an acceptable alternative (IB)
- Preparation is important to build service user confidence and maximise the benefits from each detoxification episode (III)
- Home detoxification, as compared to centre-based detoxification, is relatively expensive but in rural areas, at least, may be the best option (IV)
- Detoxification with complications, such as physical or mental illness, should be managed with guidance from an addiction specialist (III)
- Detoxification is usually straightforward but monitoring is important to pick up the approximate five per cent of service users who progress to experience complications (II)
- Post-detoxification is a time of heightened risk as well as opportunity (III).

11.3 Medications for relapse prevention

11.3.1 Sensitising agents

11.3.1.1 Context

These medications carry some risk and are best thought of as maintenance and action stage treatments. Sensitising agents produce an unpleasant reaction when taken with alcohol. Disulfiram (Antabuse®) is clinically useful, citrated calcium carbimide (Abstem®) is no longer available, and metronidazole (Flagyl®) and the inky cap mushroom, which also produce a reaction with alcohol, have no therapeutic use as sensitisers. Disulfiram is ranked 22 in the Mesa Grande, but this should be viewed as pessimistic since the studies reviewed do not necessarily adhere to what is now recommended practice.

At a psychological level, sensitising agents work by changing the expectations of the drinker about the consequences of taking alcohol. For example, a service user may have learned through the process of operant conditioning that taking a drink will relieve withdrawal symptoms (negative reinforcement) or that it will be enjoyable to drink with friends in the pub (positive reinforcement). Taking a sensitising agent alters these expectations of the consequences of drinking from something good to something unpleasant (see figure 11a). For many, these changed expectations are sufficient to prevent drinking and for those who do drink, there will

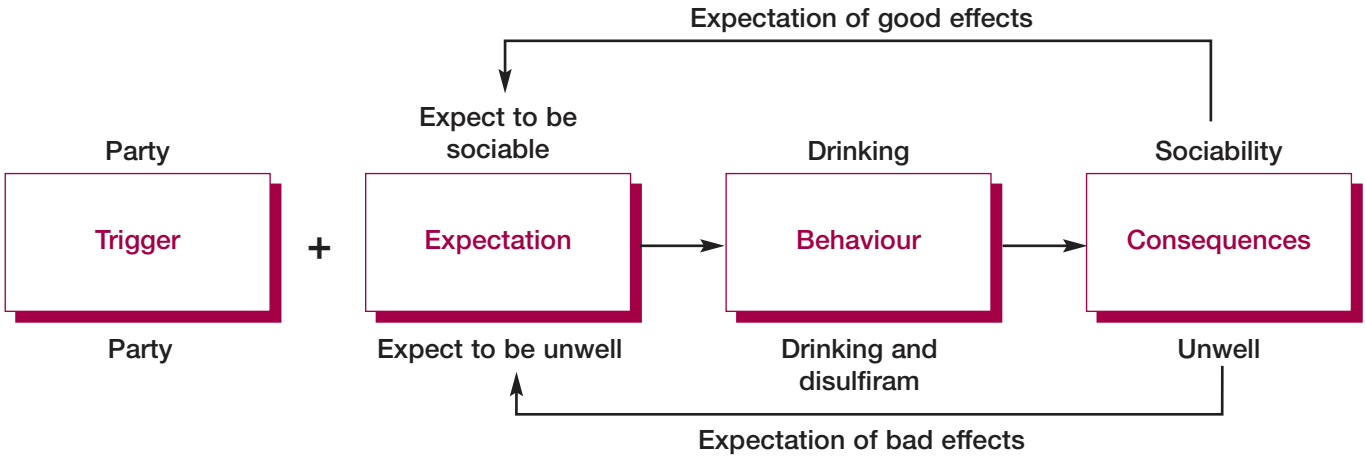


Figure 11a: Disulfram's psychological mode of action

The figure illustrates two different scenarios. In both cases, going to a party is the trigger for thinking about having a drink. The upper loop represents the usual positive reinforcement expected from drinking. The lower loop represents the changed expectation from drinking when taking a sensitising drug and the consequences if drinking should occur

be a negative consequence (or punishment) – the disulfiram-ethanol reaction. The changed expectations of drinking may only be changed for the time that disulfiram is taken – in other words, the underlying positive associations with drinking remain intact, hence the importance of a psychosocial intervention to bring about more stable change.

Disulfiram inhibits liver enzymes responsible for the breakdown of acetaldehyde, which is the principal metabolite of ethanol, and of dopamine. Acetaldehyde is a toxic substance and it is the raised levels that are responsible for the disulfiram-ethanol reaction which is characterised by flushing, tachycardia, sweating, nausea, vomiting and headache. There is considerable variation in sensitivity to acetaldehyde such that there may be no reaction with standard doses of disulfiram. Disulfiram should be prescribed with caution and is contraindicated in cardiac failure, coronary artery disease, hypertension, pregnancy and in people with a history of psychotic disorder. Given the side-effect profile of disulfiram, prescribers should review patients on a 3–6 month basis (Fuller, 1989).

11.3.2 Evidence

Hughes and Cook (1997) reviewed 24 outcome trials of oral disulfiram and 14 trials of implanted disulfiram. They concluded that methodological problems, which are to some extent unavoidable, make interpretation of the research data difficult. However, the evidence does not support the use of implanted disulfiram but does support the use of supervised oral disulfiram as part of a treatment programme selected as appropriate to the individuals and their social circumstances.

The well-designed study of Fuller and Roth (1979) found that at six month follow-up, abstinence was achieved in 42 per cent of subjects receiving a therapeutic dose of disulfiram but only in 17 per cent of those receiving vitamins; there was an intermediate benefit for those given a non-therapeutic dose of disulfiram, which was in effect the placebo control. Equally, Chick *et al.* (1992) at six month follow-up found significant superiority for disulfiram treatment in terms of more days' abstinence and less alcohol units consumed. Heather (1993b) has stressed the importance of the supervised administration of disulfiram; unsupervised disulfiram alone might deliver approximately 20 per cent days abstinence, whereas with the addition of social support and supervised administration, up to 100 per cent days abstinence can be achieved at 3–6 month follow up.

Martin *et al.* (2003) found that court-mandated disulfiram increased compliance from 42 per cent to 87 per cent. Disulfiram retains a clear role in the treatment of alcohol misuse (Fuller and Gordis, 2004).

11.3.3 Conclusions

- Disulfiram taken supervised is an effective component of relapse prevention strategies (IA)
- Service users who drink on top of disulfiram without causing a disulfiram-ethanol reaction should be

offered 400mg, then 600mg and an alcohol challenge; there is a significant risk of toxicity at higher doses (III).

11.4 Anti-craving medications

11.4.1 Context

These medications are most obviously suited to the maintenance and action stages of change, but there is latitude in their use given the low risk when taken with alcohol. Acamprosate and naltrexone are ranked three and six respectively in the Mesa Grande, but these high rankings should be interpreted cautiously as they reflect a high volume of studies finding consistently positive but small effects. There are a number of medications acting upon endogenous neurochemical systems that play some role in mediating the reinforcement potential of psychoactive substances, the craving for a psychoactive drug effect or the attenuation of the unpleasant consequences of withdrawal.

A range of medications, including antipsychotics, tricyclic and SSRI antidepressants, dopamine agonists and serotonin antagonists, have been investigated. None of these have evidence for effectiveness in the treatment of alcohol misuse or dependence in the absence of psychiatric co-morbidity (Berglund, Thelander and Jonsson, 2003 p260-268) and will not be considered further.

This section is focused on naltrexone and acamprosate, which are both used as components of relapse prevention. Many of the trials have been conducted in North America, where an abstinence model dominates, so it is not always straightforward to generalise results to the UK, where these medications may be used with people who are not motivated to aim for abstinence.

11.4.2 Evidence

A meta-analysis (Carmen *et al.*, 2004) included 33 trials but was only able to compare acamprosate and naltrexone on abstinence. The duration of studies ranged from three to 24 months and all the studies included psychosocial support. Compared to placebo, the odds ratio of acamprosate being associated with abstinence was significant at 1.88, while naltrexone failed to reach significance at 1.26. The data available did not allow the meta-analysis to test claims that either drug is an anti-craving agent.

One study (Rubio *et al.*, 2001) randomly allocated patients to acamprosate or naltrexone and followed up at 12 months. Participants had good family support and attended an unstructured relapse prevention group. The naltrexone group did significantly better on most outcome measures, including accumulated abstinence, time to relapse and the need for additional medication. There were more side-effects with naltrexone but only half as many dropouts.

In a study combining both drugs (Kiefer *et al.*, 2003), the combination treatment did better than acamprosate but not naltrexone only.

11.4.3 Naltrexone (Nalorex®)

Naltrexone is an opioid antagonist, which is thought to be effective by blocking endogenous opioid pathways stimulated by alcohol use (Sinclair, 2001). In psychological terms, the positive reinforcement of alcohol use is diminished; opioid pathways are only one way in which alcohol exerts its reinforcing effects, so the overall theoretical importance of blocking opioid systems is modest. Berg *et al.* (1996) have published a favourable risk-benefit analysis of naltrexone. Naltrexone is not yet licensed in the UK for alcohol treatment.

Volpicelli *et al.* (1992) studied 70 alcohol-dependent subjects in a placebo-controlled trial where all subjects received standard rehabilitation treatment. At 12 weeks, 54 per cent of the placebo-treated subjects had relapsed, compared to 23 per cent of naltrexone subjects. This significant group difference occurred, in part, because those subjects in the naltrexone group who took a drink did not continue drinking; in other words, their drinking did not constitute a full-blown relapse.

O'Malley *et al.* (1992) carried out a similar study with 97 participants comparing coping skills and supportive therapy with adjunctive naltrexone or placebo. The naltrexone-treated subjects drank on significantly fewer days (approximately 50 per cent) and consumed significantly fewer units of alcohol (approximately 25–50 per cent) than the placebo-treated group. Sixty-one percent of subjects receiving naltrexone and supportive therapy achieved three months of continuous abstinence, compared to only 28 per cent in the coping skills group. However, of those subjects who did relapse, those who

had received coping skills therapy did better than those who had supportive therapy.

Combining naltrexone with a psychosocial treatment, Monterosso *et al.* (2001) achieved a low attrition rate, 18 per cent, and significantly fewer heavy drinking days – five per cent for naltrexone against nine per cent for controls. Sinclair (2001) showed progressive decreases in craving which persisted after finishing medication. However, Chick *et al.* (2000a) found no difference for naltrexone compared to standard treatment.

11.4.4 Acamprosate (Campral®)

The action of acamprosate on neurochemical systems is unclear (Littleton, 1995). It is probably not a simple GABA agonist, which would make it susceptible to the same problems of dependence as benzodiazepines, but more likely it is able to mimic GABA or inhibit the action of stimulant amino acids such as glutamate at the NMDA receptor. Not everyone benefits from acamprosate and most of the trials include a psychosocial intervention.

Paille *et al.* (1995) conducted one of a number of major multicentre trials that demonstrated the efficacy of acamprosate. In a placebo-controlled trial of acamprosate as an adjunct to post-detoxification rehabilitation, subjects received a high dose (2g daily), low dose (1.3g daily) or placebo for 12 months – two-thirds of placebo subjects, but only half of acamprosate subjects dropped out by one year. There was a dose-related increase in time to first drink (153 vs 135 vs 102 days) and total abstinence days (223 vs 198 vs 173) for the three groups.

Whitworth *et al.* (1996) recruited 455 subjects to a placebo-controlled, multicentre trial. All participating centres used similar psychosocial rehabilitation programmes. At one year 18.3 per cent of the acamprosate-treated subjects and 7.1 per cent of placebo-treated subjects had achieved continuous abstinence from alcohol. Sass *et al.* (1996), in a similar trial of 272 subjects, achieved a better outcome with 44.8 per cent of acamprosate-treated subjects continuously abstinent for one year against 25.3 per cent of placebo-treated subjects. They also found acamprosate subjects had longer periods (224 vs 163 days) before relapse.

Against the trend of benefits from psychosocial components to treatment, De Wildt *et al.* (2002) found that neither minimal motivational enhancement nor brief cognitive behavioural therapy improved drinking outcomes as compared to acamprosate alone. Against the trend of acamprosate efficacy, the major UK trial (Chick *et al.*, 2000b) found no difference between active drug and placebo. This was attributed to the delay between detoxification and starting acamprosate. In a meta-analysis of 17 studies that included 4,087 individuals, continuous abstinence rates were significantly higher at six months for the acamprosate patients. The effect sizes at three, six and 12 months were 1.33, 1.50 and 1.95 respectively, giving a 13.3 per cent superiority to acamprosate over placebo (Mann *et al.*, 2004). Similarly, Berglund, Thelander and Jonsson (2003, p268–69) present 16 studies involving 4,158 participants, showing an effect size of 0.26 for their meta-analysis. Chick, Lehart and Landron (2003) reviewed 15 studies and calculated a 50 per cent reduction in drinking for those taking acamprosate compared to placebo. Pelc *et al.* (1997) have published a favourable risk-benefit report for acamprosate.

11.4.5 Project COMBINE

Project COMBINE (Anton *et al.*, 2006) was designed to evaluate the efficacy of two relapse prevention medications in various combinations with behavioural treatment. A total of 1,383 recently abstinent individuals with a primary diagnosis of alcohol dependence were recruited and randomised to one of eight treatment conditions where tablets were taken: naltrexone, acamprosate, naltrexone plus acamprosate, or placebo, all with medical management and with or without "combined behavioural intervention". A ninth group received no tablets and no medical management, only the combined behavioural intervention.

Medical management was usually delivered by nurses or doctors over nine sessions and essentially comprised boosting motivation, encouraging support for abstinence and ensuring adherence to the pharmacotherapy. Combined behavioural intervention was delivered by professionals who had competence in psychosocial treatments. It was an integrated and flexible package of up to 20 sessions, including motivational interviewing, coping skills, 12-Step facilitation and community support.

At 12-month follow-up the main outcome measure, percentage of days abstinent, increased from 23–30 per cent to 59–69 per cent. Participants receiving naltrexone fared better than other groups, but overall it is difficult to see clinically significant differences between the nine

interventions. In contrast to most other studies, there was no evidence of benefit from acamprosate. Relapse into heavy drinking days (≥2 drinks for women and ≥5 for men) was somewhat less in all the medication groups, including placebo, but again there were no striking between-group differences. The claim that naltrexone with medical management could be delivered in healthcare settings to people who might otherwise receive no treatment is best seen as one of several options for generic health settings. Cost-effectiveness data is needed to guide any policy based on Project COMBINE findings.

11.4.6 Conclusions

- Both naltrexone and acamprosate show minor positive effects in relapse prevention when used in conjunction with psychosocial interventions (IA)
- Naltrexone is most clearly indicated to help individuals who have lapsed or "slipped" and acamprosate is best suited to supporting abstinence among those who fear craving will lead to a lapse (III)
- There is considerable variation in outcomes, suggesting trial methodologies or treatment delivery are an important influence on outcome (IA)
- There are too few studies to compare naltrexone against acamprosate.

11.5 Nutritional supplements

11.5.1 Context

People who misuse alcohol, particularly regular heavy drinkers, often have a poor diet. It is usual to consider vitamin supplements at detoxification. The logic for this is that detoxification will often follow a period of particularly heavy drinking, but also that medical and nursing staff are invariably available to assess and treat.

11.5.2 Evidence

Severe vitamin deficiencies may lead to a variety of conditions of which Wernicke's encephalopathy is most critical (Cook, Hallwood and Thompson, 1998). Wernicke's is caused by thiamine deficiency, which is commonly seen in heavy drinkers because they have a poor intake of vitamins, poor absorption due to gastritis and high demand because the metabolism of alcohol depends upon thiamine as a co-enzyme. Cook, Hallwood and Thompson (1998) estimate that 80 per cent of cases are sub-clinical and only ten per cent of cases present with the classic triad of confusion, ataxia and ophthalmoplegia. Wernicke's is important because the condition is reversible with adequate thiamine, but without immediate and adequate treatment can result in irreversible brain damage known as Korsakoff's syndrome.

The British Association for Psychopharmacology Guidelines (Lingford-Hughes *et al.*, 2004) recommend a graded response depending on risk:

- Low-risk drinkers without neuropsychiatric complications who appear healthy and are believed to take a reasonable diet – minimum thiamine 300mg daily during detoxification or periods of particularly high alcohol intake.
- High-risk heavy drinkers who are malnourished – thiamine 250mg daily as Pabrinex® IM or IV for 3–5 days.
- Confirmed or strongly suspected diagnosis of Wernicke's – thiamine 500mg daily as in Pabrinex® IM or IV for 3–5 days.

11.5.3 Conclusions

- High dose parenteral thiamine is an effective treatment for Wernicke's encephalopathy (I)
- Consideration should be given, as a harm reduction measure, to prescribing vitamin supplements at any stage of change where nutritional deficiencies are likely (IV).

Implications for…

Service users and carers

- Service user groups, family and friends can all provide essential support for people during community-based detoxification
- Help to create a positive prescribing culture by engaging in discussion with doctors about the best use of different medications
- Service user groups, family and friends can all provide essential support for people, including supervision of medication, if used as part of a relapse prevention package.

Service providers

- Define at what level the agency will be involved in detoxification programmes and ensure the availability of suitably skilled staff
- Consider opportunities for nurse or pharmacist prescribing, particularly in residential or daycare environments
- Have in place detoxification care pathways that offer guidance on the use of different settings
- Have in place a policy for prescribing relapse prevention medications which take account of cost effectiveness
- Ensure that there are adequate clinical governance procedures to maintain adherence to evidence-based prescribing.

Commissioners

- Detoxification is usually straightforward and possible in most settings – detection and management of withdrawal complications require skilled staff
- A medical facility is indicated for a small proportion of detoxifications – a non-medical residential facility is indicated for individuals lacking social support
- There are significant benefits from prescribing relapse prevention medications – the reported effect sizes vary, indicating that service user selection and treatment delivery are important variables.

Researchers

- Further evaluation of the cost-effectiveness of relapse prevention medications
- Determine the optimum duration of prescribing relapse prevention medications
- Construct an algorithm for predicting complications during withdrawal and matching to appropriate case management.

Chapter 12

Self-help and mutual aid

Having covered formal treatment methods in previous chapters, we turn in this chapter to how alcohol misusers can help themselves to recover from their problems without the aid of formal treatment. The chapter is divided into separate sections on individual self-help and collective mutual aid.

12.1 Background

The majority of alcohol misusers in society recover from their problems without any professional or other formal assistance (Sobell, Cunningham and Sobell, 1996; Klingemann, 2004; see chapter 15). While there is evidence that formal treatment increases the prospects of recovery, particularly for those with more serious problems (Timko *et al.*, 2000; Weisner, Matzger and Kaskutas, 2003a), there are obviously resources outside the healthcare system that can help people to resolve their alcohol problems. Alcohol misusers can take advantage of books and computer programmes to help their recovery, or access mutual aid groups formed when sufferers from a particular disorder band together to help each other. What can be termed "assisted natural recovery" comes in two forms:

- Individual self-help
- Mutual aid groups.

12.2 Individual self-help

12.2.1 Self-help manuals

12.2.1.1 Context

Self-help manuals, sometimes called "bibliotherapy", are highly cost-effective in principle. They can be used:

- As an adjunct to treatment or counselling while it is in progress
- As a form of continued intervention following counselling
- As an alternative to treatment when alcohol misusers purchase self-help manuals from bookshops, or are recruited to use them by newspaper advertisements or other media.

It is the last of these uses that is of prime interest in this chapter.

The targets for self-help manuals are hazardous drinkers and harmful drinkers with no alcohol dependence or relatively low levels. Self-help manuals may be of particular value to those hazardous and harmful drinkers who live in remote areas without accessible treatment services. There are also those harmful drinkers who are unwilling to attend treatment agencies because of a special sensitivity to the stigma of admitting an alcohol problem and they too may be suitable for the self-help approach (Heather, Kissoon-Singh and Fenton, 1990).

Although it is not inconceivable that some moderately or even severely dependent alcohol misusers could benefit from self-help manuals, a safe policy is to try to discourage them from doing so and persuade them to seek formal treatment. For this reason, manuals should state clearly at the outset that they are not intended for those with serious problems and should include a list of addresses of helping agencies.

The majority of self-help manuals or books are aimed at a moderation drinking goal and are based on cognitive behavioural principles (for example, Miller and Munoz, 1982; Heather and Robertson, 1996; Robertson and Heather, 1998). Chapters typically cover:

- Information regarding recommended levels of alcohol consumption
- The ill-effects of alcohol
- Self-monitoring of drinking
- Functional analysis of the reader's drinking behaviour
- Goal setting
- Coping skills for high-risk situations
- Self-reinforcement
- Alternative activities to drinking
- Advice on relapse prevention.

12.2.2 Evidence

"Self-change manual (bibliotherapy)" is the fifth ranked treatment modality in the Mesa Grande with a high cumulative evidence score (see page 44).

An early series of studies by WR Miller and colleagues (Miller and Taylor, 1980; Miller, Taylor and West, 1980; Miller, Gribskov and Mortell, 1981) showed that a cognitive behavioural self-help manual, given after or instead of formal treatment to alcohol misusers with mild to moderate levels of dependence, was as effective as one-to-one or group-based treatment programmes and presumably more cost-effective.

The research of the Miller group involved some contact by all participants with a treatment service. Heather, Robertson and Whitton (1986) recruited alcohol misusers through newspaper advertisements without any contact with treatment services. Respondents were randomised to receive either a self-help manual (an early version of Robertson and Heather, 1998) or a general advice and information booklet containing addresses of helping agencies.

At six-month follow-up, the self-help manual group showed a significantly greater reduction in alcohol consumption and greater improvements on measures of physical health and alcohol-related problems. These gains were maintained at one-year follow-up (Heather *et al.*, 1987).

Heather, Kissoon-Singh and Fenton (1990) confirmed the effectiveness of a self-help manual but showed that added telephone contact did not improve outcome.

Sitharthan, Kavanagh and Sayer (1996) investigated the effects of a cognitive behavioural correspondence course sent to mildly dependent alcohol misusers in five batches over four months. This was compared with the same frequency of correspondence containing only information about the effects of alcohol and advice on self-monitoring. Results showed superiority for the cognitive behavioural course and this was maintained at six-month and one-year follow-ups.

A similar approach was taken by Sobell *et al.* (2002) in a large study of media-recruited alcohol misusers who had never had any contact with treatment services. Participants were randomised to either:

- A bibliotherapy or drinking guidelines group that received two pamphlets with information about the effects of alcohol and guidelines for low-risk drinking and self monitoring
- A motivational enhancement or personalised feedback group, where feedback was provided on the basis of participants' own assessment of their drinking and related problems.

Both groups showed sizeable reductions in alcohol use in the year following intervention compared with the year before, but there were no significant differences between groups. Many of those with poorer outcomes engaged in a natural stepped-care process by seeking formal treatment.

The authors conclude that public health campaigns of this kind "… could have a substantial effect on reducing alcohol problems and associated costs, as well as getting some individuals into treatment" (p936). The validity of this conclusion is limited by the absence of a non-intervention or more minimal intervention control group.

The Swedish review (Berglund, Thelander and Jonsson, 2003) concluded that: "The effect of bibliotherapy is the same or better than that of therapist-managed treatment for patients with a low level of alcohol dependence" (p56).

The Australian review (Shand *et al.*, 2003) concluded: "Available evidence suggests that self-guided materials are effective in reducing alcohol consumption among excessive drinkers" (p50).

12.2.3 Conclusions

- Self-help manuals based on cognitive behavioural principles are an effective and cost-effective adjunct or alternative to formal treatment among alcohol misusers with mild to moderate dependence (IB)
- Self-help manuals or correspondence courses can be effective when delivered through the post to media-recruited alcohol misusers (IB)
- Community-level mail interventions as part of a public health approach show promise (IB), but more research is needed on the effectiveness of a personalised and motivationally based type of intervention.

12.3 Computer and internet-based self-help programmes

12.3.1 Context

A modern alternative to written self-help materials is computer-based or internet-based programmes for home use and several such developments have taken place.

The appeal of self-help via the internet is that it allows privacy and flexibility of access. In a study of the website of the mutual aid group Moderation Management (see section 12.7.5), it was shown that nearly half of those accessing the site were women (Humphreys and Klaw, 2001). This is important because women are more sensitive to the possible stigma of admitting alcohol misuse than men (Sanchez-Craig, Spivak and Davila, 1991).

12.3.2 Evidence

Hester and Delaney (1997) examined the effectiveness of a computer-based version of behavioural self-control training (see chapter nine). The programme was delivered to clients either immediately or following a ten-week waiting period. Results showed that the programme was effective compared to waiting list controls and when later delivered to the waiting list control group. Gains shown after the initial interventions were maintained at a 12-month follow-up.

In a rigorous trial in New Zealand, Kypri *et al.* (2004) randomised university students scoring positively on the AUDIT (see chapter five) to either 10–15 minutes of internet-based assessment and personalised feedback on their drinking, or to a leaflet-only control group. Their findings were:

- At six-week follow-up, students in the intervention group reported significantly lower alcohol consumption, lower frequency of binge drinking, and fewer personal problems than controls
- At six-month follow-up, personal problems remained lower in the intervention group, although alcohol consumption did not differ from controls
- At six-month follow-up, academic problems were lower in the intervention group.

An internet-based programme to help alcohol misusers has been developed in the UK and is run by Alcohol Concern (www.downyourdrink.org.uk) but an evaluation of this has not yet been reported.

12.3.3 Conclusions

- A computer-based form of behavioural self-control training is effective among alcohol misusers suitable for a moderation goal (IB)
- An internet-based assessment and brief intervention program has short-term beneficial effects among university students (IB)
- Further development and evaluation of internet-based programmes for alcohol misusers is needed (IV).

12.4 Collective mutual aid

12.4.1 Alcoholics Anonymous

12.4.1.1 Context

In modern times, the first mutual aid group to be formed in the alcohol field was the Fellowship of Alcoholics Anonymous (AA), which was founded in 1935 in the USA when medical and scientific interest in alcohol problems was low. Since then, AA has been enormously successful in reaching alcohol misusers around the world and has helped many hundreds of thousands of people.

There are estimated to be two million active members of AA worldwide in nearly 99,000 groups in over 140 countries (Emrick, 2004), although the demographics of AA membership vary widely across different countries. AA have established a website in the UK: www.alcoholics-anonymous.org.uk.

It would be more accurate to describe AA as a way of life than a form of treatment. In the early days of AA, professional involvement was eschewed; later, links with the helping professions were more welcomed (Slattery *et al.*, 2003). This topic will be returned to later.

From the treatment policy point of view, AA is an extremely cost-effective means of combating alcohol-related harm (Humphreys and Moos, 1996) and is entirely self-financing. From the individual's point of view, it is highly accessible and offers help on a continuous, 24-hour basis. No formal treatment service can match AA for the continuity of support it offers to its new adherents.

Members of AA believe they suffer from a disease, which is present before they ever come into contact with alcohol

and that results in a permanent inability to control drinking. The "disease of alcoholism" model espoused by AA is said to afflict a small minority of drinkers and cannot be cured, but only arrested by total and lifelong abstinence. Adherents believe that without such a commitment to abstinence, further drinking leads invariably to progressive deterioration, insanity or death.

The code of AA principles and practice finds expression in the Twelve Steps, supported by the Twelve Traditions (Alcoholics Anonymous World Services, 1980) (see figure 12a). The references to "a higher power" in these codes reveal the strong spiritual element in AA teaching.

A crucial feature of the AA recovery programme is the practice known as "12-Stepping" in which an established member takes responsibility for helping and advising a new recruit. This is regarded as essential to beginning the recovery of the new recruit and to maintaining the recovery of the older member. This activity is supported by regular meetings at which "recovering alcoholics" tell their personal stories and AA recruits are urged to attend these meetings almost every night at first and then on a regular basis for the rest of their lives.

In addition to its spiritual content, the social organisation of AA provides support for a new life without alcohol, together with a new self-concept and social identity. Further description and comment on AA can be found in McCrady and Delaney (1995) and Emrick (2004).

There are two organisations that provide help for families of alcohol misusers: Al-Anon for spouses and Alateen for teenage children.

12.4.2 Evidence

It has proved difficult to conduct research on the effectiveness of AA, mainly because of the anonymity upon which it properly insists and because of the problems in forming randomised control groups.

The Fellowship of Alcoholics Anonymous claims a success rate of 65 per cent sobriety at one year or more (Alcoholics Anonymous, 1990), but this only applies to those who persevere with regular AA attendance; as a general statement of outcome among all those who attend or are referred to AA, it must be regarded with caution.

Several studies have shown either that alcohol misusers who attend AA are more likely to recover than those who do not (Humphreys, Moos and Cohen, 1997; Ouimette, Moos and Finney, 1998) or that frequency of AA participation is positively correlated with good outcome (Connors, Tonigan and Miller, 2001). However, these studies are subject to the problem of selection bias; those who attend AA meetings, or do so more frequently, may be more motivated to solve their alcohol problem than others, while those who do not attend or drop out from AA may already have relapsed.

In the Mesa Grande (see page 44), Alcoholics Anonymous obtains a fairly high negative rating, indicating ineffectiveness. However, the studies on which this rating is based used court-referred alcohol misusers who had been mandated to attend for treatment. This is likely to underestimate the effectiveness of AA because:

- Such individuals are poor prospects for success from any form of treatment
- The involuntary nature of referral to a voluntary organisation like AA limits any conclusions that can be reached.

Kownacki and Shadish (1999) carried out a review and meta-analysis of 21 controlled studies of AA and residential treatment based on 12-Step principles, with a particular focus on their methodological quality. With regard to AA itself, there were three randomised trials and nine quasi-experimental (non-randomised) studies. They concluded:

- Randomised studies yielded worse results for AA than non-randomised studies, but were biased by the selection of coerced participants
- Attending conventional AA was no worse than no treatment or alternative treatment
- Several components of AA seemed supported (recovering alcoholics as therapists, peer-led self-help therapy groups, teaching the 12-Step process, doing an "honest inventory").

Although the only requirement for membership of AA is a desire to stop drinking, there are good reasons to believe it is helpful to particular kinds of individual. Of all those who initially attend AA or are referred to it by a professional worker, it is likely that only a small proportion will attend regularly (McCrady and Delaney, 1995) – the rest either attend on a spasmodic basis or drop out completely. Since those who attend regularly are likely to have a good outcome, it is important to know what kind of people they are.

The Twelve Steps of Alcoholics Anonymous

1. We admitted we were powerless over alcohol – that our lives had become unmanageable.
2. Came to believe that a power greater than ourselves could restore us to sanity.
3. Made a decision to turn our will and our lives over to the care of God as we understood him.
4. Made a searching and fearless moral inventory of ourselves.
5. Admitted to God, to ourselves and to another human being the exact nature of our wrongs.
6. Were entirely ready to have God remove all these defects of character.
7. Humbly ask Him to remove our shortcomings
8. Made a list of all persons we had harmed, and became willing to make amends to them all.
9. Made direct amends to such people wherever possible, except when to do so would injure them or others.
10. Continue to take personal inventory and when wrong promptly admitted it.
11. Sought through prayer and mediation to improve our conscious contact with God, as we understood him, praying only for knowledge of His will for us and the power to carry that out.
12. Having had a spiritual awakening as the result of these steps, we tried to carry this message alcoholics, and to practice these principles in all our affairs.

The Twelve Traditions of Alcoholics Anonymous

1. Our common welfare should come first; personal recovery depends upon AA unity.
2. For our group purpose, there is but one ultimate authority – a loving God as He may express Himself in our group conscience. Our leaders are but trusted servants; they do not govern.
3. The only requirement for AA membership is a desire to stop drinking.
4. Each group should be autonomous except in matters affecting other groups or AA as a whole.
5. Each group has but one primary purpose – to carry its message to the alcoholic who still suffers.
6. An AA group ought never endorse, finance or lend the AA name to any related facility or outside enterprise, lest problems of money, property and prestige divert us from our primary purpose.
7. Every AA group ought to be fully self-supporting, declining outside contributions.
8. Alcoholics Anonymous should remain forever non-professional, but our service centres may employ special workers.
9. AA, as such, ought never be organised; but we may create service boards or committees directly responsible to those they serve.
10. Alcoholics Anonymous has no opinion on outside issues; hence the AA name ought never be drawn into public controversy.
11. Our public relations policy is based on attraction rather than promotion; we need always maintain personal anonymity at the level of press, radio and films.
12. Anonymity is the spiritual foundation of all our traditions, ever reminding us to place principles before personalities.

Figure 12a: The Twelve Steps and Twelve Traditions of Alcoholics Anonymous

In a meta-analytic review of the literature on AA, Emrick *et al.* (1993) found that those most likely to affiliate successfully:

- Had a history of external supports to stop drinking
- Were more likely to have experienced loss of control over drinking
- Were more anxious about their drinking
- Were obsessively involved with their drinking
- Believed alcohol improved mental functioning.

It is important to note that these findings on successful AA affiliation were confined to US alcohol misusers.

Mankowski, Humphreys and Moos (2001) showed that greater involvement in 12-Step groups after discharge from formal treatment is related to the degree of compatibility between the alcohol misuser's personal belief system and that of the mutual aid group. Tonigan, Miller and Schermer (2002) reported that atheists and agnostics were less likely to initiate and sustain AA attendance than spiritual and religious individuals and recommended that this be taken into account when encouraging AA participation.

In a survey of service users carried out in conjunction with the Scottish Health Technology Assessment Report (Slattery *et al.*, 2003), it was found that most respondents had attended at least one meeting of AA. While all said they recognised that AA works well for many people, most felt it was not suitable for them. Those who found it beneficial, although in a minority, seemed to gain considerable support.

The results of this survey confirm the view that AA is not suited to all alcohol misusers. Some may be put off by the spiritual aspects of AA teaching and others may have difficulty in revealing the details of their personal lives to others. This argues for a range of mutual aid approaches to be made available.

There have been no controlled trials of the effectiveness of Al-Anon, but there is evidence that members show improvements in emotional adjustment through participation in the organisation (Humphreys, 2004). Members of AA tend to do better if their spouses are affiliated to Al-Anon – however, affiliation to Al-Anon by the spouse does not appear to make alcohol misusers more likely to attend AA or to initiate formal treatment.

Hughes (1977) showed that, among teenage children of alcohol misusers, Alateen members had significantly fewer emotional problems that those in matched comparison groups.

12.4.3 Conclusions

- AA appears to be effective for those alcohol misusers who are suited to it and who attend meetings regularly (IIA)
- AA is a highly cost-effective means of reducing alcohol-related harm (II)
- Not all alcohol misusers find the AA approach acceptable (II)
- Coercive referral to AA is ineffective (IA)
- Al-Anon and Alateen are effective in providing emotional support to families of AA members (IIB).

12.5 12-Step facilitation therapy

12.5.1 Context

Although not a form of mutual aid, 12-Step facilitation therapy (TSF) is included here because of its relevance to AA attendance. A brief description of TSF is provided in chapter three and the full treatment approach is laid out in Nowinsky, Baker and Carroll (1992).

12.5.2 Evidence

The findings from Project MATCH bearing on the effectiveness of TSF were described in chapter three. To recapitulate:

- TSF was as effective overall as two effective, widely-used, scientifically based treatment approaches (CBT and MET)
- In the outpatient arm of the trial, clients low in psychiatric severity at baseline reported more days abstinence if they had received TSF than if they had received CBT. This matching effect had disappeared by the three-year follow-up and only a minority of clients would benefit from it
- At the three-year follow-up, clients in the outpatient arm with high social network support for drinking did better with TSF than MET. The matching strategy of assigning such clients to TSF would have only a modest effect on treatment outcome

- The benefit of TSF for clients with high network support for drinking was mediated by attendance at AA meetings
- In the aftercare arm, clients low in alcohol dependence at intake reported more days abstinence with CBT than with TSF at one-year follow-up, whereas those high in dependence reported more abstinent days with TSF than with CBT.

Humphreys *et al.* (1999) also reported that formal treatment oriented around the 12-Step principles resulted in a higher proportion of service users attending AA which, in turn, resulted in higher rates of abstinence.

TSF is clearly relevant to the practice of treatment professionals working in alcohol specialist agencies. The findings of Project MATCH provide guidance on which service users should be offered TSF. More generally, the literature on AA suggests which individuals should be advised and encouraged to attend AA, either as an adjunct to treatment or as a form of aftercare, but this is best seen as a matter of clinical judgement taking into account the unique set of personality characteristics, beliefs and lifestyle of the service user.

Emrick (2004) argues that, to bring about the successful affiliation of service users referred to AA, practitioners should familiarise themselves as much as possible with its philosophy, structure and therapeutic processes. This also applies to other mutual aid groups described in this chapter. Guidance to treatment providers on how to make best use of AA is also given by Tonigan and Toscova (1998).

It should again be noted that all the research in this section was done in the USA where the popularity of AA and knowledge of the 12-Step philosophy among the general public is probably greater than in the UK (Humphreys, 2004). These cultural differences may affect in unknown ways the kinds of people who are most suited to AA and 12-Step programmes in each country.

12.5.3 Conclusions

- TSF is an effective form of treatment for alcohol problems (IA)
- Based on research in the USA, TSF and referral to AA is best suited to:
  - Service users in outpatient treatment with low psychiatric severity
  - Service users in outpatient treatment with high social network support for drinking
  - Service users with high levels of alcohol dependence who have undergone detoxification (IA).
- To facilitate successful affiliation among service users referred to AA, treatment providers should familiarise themselves with its philosophy, organisation and therapeutic methods (IV).

12.6 12-Step residential treatment

12.6.1 Context

An offshoot of AA has been the growth of private, profit-making treatment for alcohol problems based on 12-Step principles. The most commonly encountered are known as Minnesota Model (or Hazelden-type) programmes. The US companies in question promote their products overseas, including in the UK. Although not a form of mutual aid, 12-Step residential treatment will be considered briefly here because of its close ties with the tenets of the Fellowship of Alcoholics Anonymous.

The philosophy and programme of the Minnesota Model have been described by Cook (1988). The philosophy is based on the assumption that the individual has an incurable biological and personality disease, characterised by denial. Therefore, the programme usually takes the form of lengthy inpatient treatment involving intensive group therapy and confronting the alcohol misuser's supposed denial.

As indicated in chapter eight, there is no evidence that confrontation is an effective treatment for alcohol problems and some evidence suggests it is counterproductive. Although some kinds of alcohol misusers may need inpatient treatment (see chapter four), inpatient programmes on the whole represent a cost-ineffective response to alcohol problems.

12.6.2 Evidence

In their meta-analysis of controlled trials of 12-Step treatment, Kownacki and Shadish (1999) included two randomised and two quasi-experimental studies of residential treatment based on 12-Step principles. They concluded that: "Residential AA-modelled treatments performed no better or worse than alternatives" (p1897).

From a naturalistic study of results from 15 substance abuse treatment programmes in the USA, Ouimette, Moos and Finney (1998) found that cognitive behavioural and 12-Step treatments were of equal effectiveness.

12.6.3 Conclusion

- 12-Step residential treatment confers no added benefit compared with other forms of treatment and is less cost-effective than outpatient treatment (IA).

12.7 Other mutual aid groups

12.7.1 Context

There are a large number of different types of mutual aid societies in various parts of the world, many of them influenced positively or negatively by AA (Room, 1998; Humphreys, 2004). Among these is a collection of groups originating in the USA that eschew 12-Step and other AA principles, and propose a different basis for mutual aid for alcohol misusers.

The importance of these mutual aid groups is that they may be able to retain some of the advantages of AA – the understanding and acceptance by fellow sufferers, the group cohesion, the constant availability of help and the high cost-effectiveness – while at the same time abandoning the spiritual aspects of AA and some of its more dogmatic tenets that deter many alcohol misusers from participating.

Mutual aid groups vary in the degree to which they welcome or encourage the involvement of treatment professionals. The advice of professionals can be helpful to groups, especially if they attempt to base their programmes on scientifically validated principles, but too much professional involvement can stifle the development of a true, peer-led mutual aid organisation (Humphreys, 2004), as apparently happened with a UK group in the 1980s called Drinkwatchers (Barrison, Ruzek and Murray-Lion, 1987).

12.7.2 Women for Sobriety

Women for Sobriety (WFS) was founded primarily as a feminist alternative to AA and admits only women. It was inspired by a perception of AA meetings as male-dominated and frequently chauvinistic in content. The emphasis in AA on powerlessness, lifetime dependence on the group and the reprocessing of past traumas was thought to be detrimental to women's best interests and counter-therapeutic.

Instead, WFS stresses personal control, the development of an identity as a competent woman, putting the past behind oneself and the belief that, once a woman can cope with life without alcohol, she no longer needs the group. These principles, among others, were formalised in the New Life Acceptance Program containing 13 affirmations, as an antidote to the 12-Steps (see Kirkpatrick, 2000).

In a mailed survey of WFS members, Kaskutas found that most women were middle class and well-educated (see Humphreys, 2004). A low proportion were atheists and a large number continued to attend AA (Kaskutas, 1992). About half of respondents reported a history of severe alcohol dependence.

WFS currently has no branches in the UK (personal communication from WFS office). The group's internet address is www.womenforsobriety.org.

12.7.3 Secular Organizations for Sobriety

Another alternative to AA is intended for all those who are uncomfortable with the spiritual content of the 12-Steps. Secular Organizations for Sobriety (SOS) avoids what it sees as the indoctrination of the 12-Steps and substitutes six "suggested guidelines" for sobriety. These guidelines view the attainment of sobriety as quite separate from religion and spirituality and aim to promote "non-destructive, non-delusional and rational approaches to living sober, rewarding lives" (Christopher, 1992).

Although rejecting the AA form of sponsorship, SOS recognises the importance of supportive family and friends, targeting a lot of its activity to enabling them to understand and cope better with the alcohol misuser's behaviour.

A survey of SOS members (Connors and Dermen, 1996) found they were predominantly white, male, in full-time employment, well-educated and, as might be expected, non-religious in outlook. However, the majority reported a history of severe alcohol dependence, often with other drug dependencies.

Since its inception 1985, SOS has grown rapidly in the USA and now boasts over 1,000 groups. It has reached the UK, but recent evidence suggests that an initial expansion has now dissipated (personal communication from SOS member).

12.7.4 SMART Recovery

SMART (Self Management and Recovery Training) originated in 1994 from a split in another mutual aid group called Rational Recovery.

Rational Recovery was essentially a mutual aid version of rational-emotive behaviour therapy (Ellis and Velten, 1992) and was specifically intended for those alcohol misusers who were not attracted to AA. It challenged the AA assumptions of a permanent disease and the necessity for continuing attendance at meetings.

SMART Recovery continues to provide an alternative to AA but "the near-evangelic anti-AA rhetoric of Rational Recovery is not evident in its literature" (Humphreys, 2004 p84). Addiction is conceptualised as a learned behaviour that can be changed using cognitive behavioural principles. SMART Recovery is the only mutual aid group among those discussed that takes scientific evidence to be its main authority and its advisory board consists primarily of professionals in the addictions field.

SMART Recovery methods are based on a four-point programme (Horvath, 2000):

- Building and maintaining motivation to abstain
- Coping with urges
- Managing thoughts, feelings and behaviour
- Balancing momentary and enduring satisfactions.

There appear to be no surveys of SMART Recovery's membership (Humphreys, 2004). The organisation claims about 250 groups, almost all in the USA. However, the website www.smartrecovery.org lists contacts in the UK.

12.7.5 Moderation Management

All the mutual aid groups we have discussed are firmly based within the abstinence tradition, believing with AA that only total and lifelong abstinence can ensure a recovery from alcohol dependence. Moderation Management (MM) is the only group that explicitly tries to help its members attain moderate drinking. MM does not deny that many alcohol misusers with severe dependence should aim for total abstinence, but clearly states that it is not intended for such people (Rotgers and Kishline, 2000).

MM members are encouraged to follow a nine-step cognitive behavioural programme after completing a 30-day period of abstinence (Kishline, 1994). If this cannot be completed, it is taken as evidence that the person's problem may be too severe for the MM approach.

Treatment professionals are permitted to start and give advice to MM groups, but ultimate control rests with the members.

A survey of MM members (Humphreys and Klaw, 2001) showed they were predominantly white, employed and well-educated, although MM attracts a relatively high proportion of women (49 per cent of membership) and people under 35 years of age (24 per cent). The great majority had only mild alcohol dependence, high social stability and little interest in abstinence-oriented treatments. They would probably have attempted to solve their alcohol problems only if offered a program that permitted continued drinking at a safer level.

There appear to be no MM groups in the UK at present. The MM international website is www.moderation.org.

12.8 Evidence

Research on the effectiveness of these mutual aid groups is beset by the same difficulties that apply to research on AA, chiefly the impossibility of randomising members to a control group or another treatment alternative.

12.8.1 Women for Sobriety

From a cross-sectional survey of WFS members, Kaskutas (1996a,b) reached the following conclusions:

- The average member had been sober for 3.5 years
- WFS involvement was associated with higher self-esteem, less negative thinking and better emotional adjustment
- It was not possible to tell whether these gains were due to WFS or to the high social stability and economic advantages of the typical member.

12.8.2 Secular Organizations for Sobriety

In Connors and Dermen's (1996) survey, most SOS members they contacted were totally (70 per cent) or mostly (16 per cent) abstinent, but no causal inference may be based on this evidence. There appear to have been no longitudinal studies of SOS with comparison groups.

12.8.3 SMART Recovery

There appears to have been no research conducted relevant to the effectiveness of SMART Recovery.

12.8.4 Moderation Management

Stewart and colleagues compared the alcohol problems of people who telephoned an MM helpline with those of new and of established members of MM groups (see Humphreys, 2004). They found that the telephone callers reported fewer drinks on drinking days and drank less frequently than the other two groups. They interpreted this evidence as showing that alcohol misusers with good prognoses were less likely to affiliate with MM than those with worse prognoses. The study's results were also consistent with the MM claim that it helps mildly dependent alcohol misusers to reduce alcohol-related harm.

Clearly, more research is needed on the effectiveness of these mutual aid groups. However, *prima facie* evidence of benefits to members, as well as the potential benefits of mutual aid groups in general, suggests that treatment professionals should encourage their growth in the UK.

12.9 Conclusions

- WFS is attractive to some women with serious alcohol problems and many members show good outcomes, although this cannot definitely be attributed to the effects of the group (III)
- Many SOS members with serious alcohol problems show good outcomes, although this cannot be definitely attributed to the effects of the group (III)
- SMART Recovery offers a scientifically based form of mutual aid, but nothing is known of its effectiveness (IV)
- MM attracts alcohol misusers with relatively mild alcohol problems who wish to aim for moderation and many members show reductions in alcohol-related harm (III)
- Treatment providers should encourage and support the development of non-12-Step mutual aid groups (IV)
- Research is needed on the effectiveness of non-12-Step mutual aid groups (IV).

Implications for…

Service users and carers

- There is an extensive range of self-help in the form of self-help manuals and books, websites and correspondence courses
- Mutual aid groups, including 12-Step and other less-spiritual approaches, are an effective means of getting support both during treatment and as aftercare.

Service providers

- Understand local mutual aid groups and how to work harmoniously with them
- Have available suitable literature available for self-help and mutual aid
- Create a treatment culture where mutual aid is valued and encouraged.

Commissioners

- Have an awareness of the potential of self-help and mutual aid
- Encourage the mutual aid movement locally.

Researchers

- An important area for research is the evaluation of computer and internet-based self-help programmes
- UK research is needed on the effects of mutual aid groups, including AA and non-12-Step groups.

Chapter 13

Psychiatric co-morbidity

Most of the interventions described in chapters 4–12 will be helpful to people with mental health problems, albeit they may need to be used in modified form. This chapter covers the prevalence of co-morbidity, its impact, some evidence on integrated treatment and a consideration of service models.

13.1 Background

The Department of Health (2002) has given clear guidance on service delivery for people who have both mental illness and alcohol misuse problems. The essential policy directive is that mental health teams will have primary responsibility for individuals who have severe and enduring mental illness – referred to as mainstreaming. Co-morbidity (also called dual diagnosis) is usually thought of as the co-existence of an alcohol misuse or alcohol dependence problem and one or more additional mental illness or behavioural disorders. In other words, the concept is about having multiple problems within the domain of psychological health in its broadest sense. Co-existing physical conditions, such as pregnancy, liver cirrhosis and gastritis, may also play an important role in the progress and outcome of a drinking problem and may also require specialist treatment in their own right, but are outside the scope of this review.

The variety of possible explanations of co-morbidity (Poole and Brabbins, 1996) accounts for some of the difficulty in making progress towards general conclusions or principles that have a solid research base:

i Alcohol dependence or regular drinking is directly a cause of co-morbidity, for example alcoholic hallucinosis, anxiety and stress, and brain damage

ii Intoxication is directly a cause of co-morbidity, for example pathological intoxication and amnesia

iii Alcohol withdrawal is directly a cause of co-morbidity, for example anxiety, dysphoria and alcoholic delirium

iv Drinking exposes a predisposition to a mental illness or psychological state that would not otherwise have been manifest, for example anxiety, depression and Wernicke's encephalopathy

v Psychological vulnerability is a predisposition to problem drinking, for example through low self-esteem and identity problems

vi Mental illness is a precipitant of problem drinking, for example hypomania, major depression, some psychotic states and social phobia

vii Problem drinking and co-morbidity arise independently of each other but may then interact to maintain problem drinking and exacerbate mental health problems.

The diagnostic skills (Kranzler *et al.*, 1996a) needed to undertake assessments and make competent care plans for co-morbidity require specialist staff.

13.2 The validity of co-morbidity diagnoses

13.2.1 Context

In order to grapple with the complexities of co-morbidity, it is necessary to have an understanding of a diagnostic system (see chapter one). The Diagnostic and Statistical Manual (DSM) provides operational definitions which were originally designed for research purposes and is widely used in North America. ICD, The International Classification of Mental and Behavioural Disorders (World Health Organization, 1992) is better suited to clinical applications and this is the standard UK system.

13.2.2 Evidence

In an attempt to investigate the stability of co-morbid mental disorder, Penick *et al.* (1988) assessed 241 male problem drinkers on admission to hospital and after one year. Consistent with other studies, a high prevalence of mental disorder was found on admission; 30 per cent of the men had one psychiatric disorder and a further 26 per cent had two or more. The identification of antisocial

	Alcohol		Cannabis		Cocaine		Opiates	
Disorder	%	Odds ratio	%	Odds ratio	%	Odds ratio	%	Odds ratio
Schizophrenia	3.8	3.3	6.0	4.8	16.7	13.2	11.4	8.8
Affective	13.4	1.9	23.7	3.8	34.7	5.9	30.8	5.0
Anxiety	19.4	1.5	27.5	2.3	33.3	2.9	31.6	2.8
Anti-social	14.3	21.0	14.7	8.3	42.7	28.2	36.7	24.3

Table 13a: Lifetime prevalence and odds ratio of mental illness and substance misuse (adapted from Kessler et al., *1994)*

personality disorder and major depression was reasonably stable over one year as compared to mania and anxiety (US and UK definitions may differ). The results suggest that some psychiatric syndromes are enduring, robust and independent of alcohol misuse, but others are symptom clusters arising from alcohol misuse and mimic mental illness.

In a comprehensive review of co-morbidity, Crawford and Crome (2001) report a greater certainty of diagnosis for major mental illness, such as affective disorder and schizophrenia. They note the frequency and question the validity of multiple co-morbidity diagnoses, especially where these include Axis II disorders (see chapter one). Verheul *et al.* (2000) looked to see if Axis II symptoms occurring with Axis I disorders could be attributed to a contamination effect. They found that improvement in substance misuse co-varied with mood and anxiety symptoms but not with improvement of Axis II pathology. However, personality disorder symptomatology co-varied with mood.

13.2.3 Conclusions

- Broadly speaking, diagnostic systems are reliable for both Axis I and Axis II disorders when used correctly (IIA)
- Some diagnostic categories, notably personality disorders, are subject to greater variation than others (IIA)
- It should be expected that some symptom clusters will be artefacts of substance use and co-vary. Particular caution should be exercised with regard to diagnosing depression and anxiety (IIA)
- Validity depends on having staff skilled in diagnostics and using comparable diagnostic systems (III).

13.3 Estimates of prevalence

13.3.1 Context

There are formidable difficulties to estimating the size and the nature of co-morbidity. The reasons for these difficulties are related to the choice of data collection method and its purpose. A number of key variables have a marked influence on estimates:

- Diagnostic criteria
- Time frame
- Substances used
- Method of recruitment
- Age and gender.

It is beyond the scope of this review to evaluate screening and diagnostic tools for mental illness. However, it may be helpful to briefly mention tools that are popular in co-morbidity work. The General Health Questionnaire (GHQ) was originally designed as a screening instrument (Goldberg, 1972; Goldberg and Williams, 1991). It has become common practice to use the GHQ as a measure of psychiatric morbidity and as a means of following change. However, since neither usage is strictly correct, it is probably best to use the GHQ for screening only. There are several different versions, which mainly differ in length.

The Clinical Outcomes in Routine Evaluation (CORE) scale is a validated instrument capable of measuring change in psychological health (Evans *et al.*, 2002). It is a 34-item self-report instrument, which is part of a larger package for evaluating psychosocial therapies. CORE covers four domains: subjective wellbeing (four items), problems and symptoms (12 items), life functioning (12 items), and risk to self and others (six items).

The Mini International Neuropsychiatric Interview (MINI) is a brief structured interview for diagnosing major

psychiatric disorders (Sheehan *et al.*, 1998). MINI covers 16 categories of mental illness and can be mapped onto both DSM-IV and ICD-10 diagnostic systems. These tools should only be used by staff with the required competencies.

13.3.2 Evidence

There is good data from large-scale epidemiological surveys upon which to base estimates of the possible demand on services from problem drinkers with co-morbidity. The Epidemiological Catchment Area Study database, generated from 10,291 interviews, was analysed by Regier *et al.* (1990) to give the prevalence of co-morbid alcohol, other drug and mental disorders in the US community and institutional population. The lifetime prevalence of any alcohol disorder was 13.5 per cent in the general population. compared to 22.5 per cent for people with mental disorders. The lifetime odds ratio for experiencing problem drinking associated with schizophrenia was 3.3; affective disorder, 1.9; anxiety, 1.5; and antisocial personality, 21, compared with the general population. In specialist alcohol treatment services more than half the service users had co-morbid mental disorders.

In a similar analysis of the US National Co-morbidity Survey of 8,098 persons aged 15–54 years, Kessler *et al.* (1994) calculated prevalence rates and odds ratios for a more comprehensive range of mental disorders which are compared to the total survey population in table 13a. For over 80 per cent of respondents, the mental illness disorder predated substance misuse and this sequencing was strongest for conduct disorders and anxiety states.

In the UK, Strathdee *et al.* (2005) screened 589 service users in a variety of primary care settings. Positive screens for substance use services and primary care respectively were:

- Psychosis: 37 and 13 per cent
- Depression: 63 and 39 per cent
- Anxiety: 68 and 58 per cent
- Social phobia: 47 and 17 per cent.

The authors concluded that primary care services should determine what severities of disorder would warrant referral to either substance misuse teams, with the capacity to treat co-morbidity, or mental illness teams.

	Drug services (total=216)	Alcohol services (total=62)
Schizophrenia	3%	3%
Bipolar affective disorder	1%	5%
Non-specific psychosis	5%	11%
Personality disorder	37%	53%
Affective and anxiety disorders	68%	81%
Severe depression	27%	34%
Mild depression	40%	47%
Severe anxiety	19%	32%

Table 13b: Presence of co-morbidity in drugs and alcohol services (adapted from Weaver et al.*, 2004)*

The Co-morbidity of Substance Misuse and Mental Illness Collaborative (COSMIC) study has generated detailed prevalence data, which contains helpful pointers to service models (Weaver *et al.*, 2003). Interviews were conducted with 400 mental health and 353 substance misuse patients, all from NHS provider agencies. Of the community and mental health patients, 44 per cent reported a past year problem of illicit drug use or harmful alcohol use; this self-report was, in the main, confirmed by hair and urine analysis. Of the drug and alcohol service patients, 75 per cent and 85 per cent respectively had a past year psychiatric disorder (see table 13b).

The substance misuse team keyworkers were not good at picking up psychiatric problems and the community and mental health team keyworkers were not good at picking up alcohol problems, though rather better at illicit drugs. Nonetheless, the COSMIC team judged that the majority of patients were correctly placed. They described a high referral potential for 13.5 per cent of the CMHT patients, 18 per cent of drug service patients and 32 per cent of alcohol service patients.

This impression of correct placement is supported by a further analysis (Weaver *et al.*, 2004) that shows a pattern of higher provision, yet a degree of unmet need among co-morbid patients. As would be expected, there seems to be an interaction between improvements in substance use behaviour and improvements in mental state. The picture is of clinical teams working in parallel when

collaborative working and linking with wraparound services would be helpful in bridging unmet need.

The very high prevalence of psychiatric disorder among drug and alcohol service users and the apparently low detection rate by keyworkers needs further consideration. A diagnosis of at leat one personality disorder category was made for 37 per cent of the drug misusing group and 53 percent of the alcohol misusing group (Bowden-Jones *et al.*, 2004). It is possible that substance misuse practitioners consider cluster B personality disorders, mild to moderate anxiety and depressive disorders to be part and parcel of users of addictions services. It is unlikely that many individuals with these diagnoses would be referred to a community mental health team and, if they were, it is unlikely they would be taken on for treatment. The need for careful diagnosis remains. Where co-morbidity is identified, there are theoretical benefits from using an integrated cognitive behaviour therapy (Graham *et al.*, 2003a).

13.3.3 Conclusions

- Co-morbidity is common among problem drinkers: up to ten per cent for severe mental illness, up to 50 per cent for personality disorder and up to 80 per cent for neurotic disorders (I)
- Both Axis I and Axis II disorders are commonly thought of as part and parcel of substance misuse, implying that service users are not given a diagnosis or adequate treatment (III)
- Co-morbidity is so common as to be the norm and it follows that practitioners in both mental health teams and addiction teams need to be competent at delivering integrated treatment (III).

13.4 The importance of co-morbidity

13.4.1 Context

Co-morbidity is a key issue because it is very common and cuts across different clinical services. It follows that there is a high risk of service users with complex needs receiving no treatment or inadequate treatment; mental health services are more likely to exclude people with co-morbidity than addiction services (Todd *et al.* 2004). Some illustrative studies are used here to give a fuller picture of the impact of co-morbidity across all domains of an individual's wellbeing.

13.4.2 Evidence

People who have a drink problem and one or more additional psychological or mental health problems, including dependence on other drugs, have a less favourable prognosis than those people with an uncomplicated drinking problem. Additionally, people with a co-morbidity problem use many more health and social care resources than those without co-morbidity. For one agency, Coyle *et al.* (1997) found that ten per cent of service users consumed 54 per cent of the agency treatment resources and many of these individuals had co-morbidity problems. That said, individuals who do engage with treatment tend to have better outcomes (Granholm *et al.*, 2003)

Kranzler *et al.* (1996b), in a prospective three-year follow-up of 225 problem drinkers, examined a range of drinking outcomes for subjects given a co-morbid diagnosis of either major depression, antisocial personality disorder or illicit drug misuse. The results were consistent with other studies in that subjects with co-morbidity had more drinking days and consumed more alcohol on drinking days than subjects without co-morbidity.

Ross and Shirley (1997) compared four groups of Ontario women: healthy women, women with mental illness, and problem-drinking women with and without co-morbidity. Compared to the other three groups, the problem-drinking women with co-morbidity were more frequently single, on a low income, more likely to experience a greater severity of problem drinking and to binge drink, and more likely to be regular smokers and cannabis users. The problem drinkers with co-morbidity were more likely to use both mental illness and substance misuse services. This pattern of service use by women may, in part, be due to a gender difference in problem definition and help-seeking behaviour, but means that these women had a high exposure to healthcare staff who, in turn, had opportunities for intervention.

In the UK, Menezes *et al.* (1996) focused on the clinical, social and financial implications of people with severe mental illness and substance misuse problems. Of 171 subjects with psychotic illness, 31.6 per cent also misused alcohol and 13.8 per cent misused other drugs. In the preceding two years, the co-morbid group spent almost twice as many days in hospital as those without such problems. The authors suggest that alcohol may interact with the symptoms of psychotic illness, slowing recovery and producing manifestations of illness such as

suicidal or violent behaviour. In a review of completed suicide, standardised mortality rates (100 = expected suicide rate) were calculated for alcohol use disorders (Wilcox *et al.*, 2004) and found to be significantly raised: the total for all subjects was approximately eight times the expected rate (978 95% CI 898–1,065, males only approximately five times (483 95% CI 444–524), females approximately seventeen times (1,690 95% CI 1246–2241).

In a detailed discussion of risk assessment and management, Johns (1997) concluded that co-morbidity is a major correlate of violence. Data from the Epidemiological Catchment Area survey in the USA showed a relationship between violent behaviour in the past year and substance use and mental illness; the prevalence of violence was 2.3 per cent for those with no major psychiatric disorder, seven per cent for major mental illness, 19.7 per cent for substance misuse only, and 22 per cent for co-morbid individuals. The national survey of co-morbidity in medium security forensic units (Scott *et al.*, 2004) found 51 per cent had an illicit drug problem and 40 per cent an alcohol problem. Of those reconvicted within two years, 49 per cent had an alcohol problem compared to 39 per cent of those not reconvicted. There are important implications for the management of community care patients and for joint working between addiction and other psychiatrists.

Smith and Hucker (1994) make a strong case, based on a review of schizophrenia and substance misuse, for advising an abstinence goal for people with severe and enduring mental illness. The argument is based on evidence of increased rates of violence, increased risks of suicide, poor compliance with treatment, overall poor outcomes and increased use of treatment resources. A balancing argument is that a well-stabilised person with, for example, schizophrenia, may benefit from the social interaction that accompanies light drinking.

13.4.3 Conclusions

- Co-morbidity is associated with high levels of use of health and social care services (IIA)
- Misuse of alcohol and other drugs exacerbates psychiatric symptomatology (IIA)
- Misuse of alcohol and other drugs is associated with poor compliance with mental illness treatment (IIA)
- Alcohol misuse is associated with high rates of completed suicide (IA)
- Severe and enduring mental illness requires specialist practitioners with competencies in psychiatric co-morbidity (IV).

13.5 Symptoms of anxiety, depression and insomnia

13.5.1 Context

Symptoms of anxiety and depression are very common among problem drinkers entering treatment programmes. Estimates of prevalence vary widely depending upon service user characteristics, measurement criteria and settings. The evidence suggests that as many as 80 per cent of problem drinkers entering treatment will experience clinically significant symptoms, often as a mixed picture of dysphoria, anxiety, depression, panic and insomnia. In severe cases, ideas of self-harm and hopelessness may give cause for concern. Inappropriate prescribing in these circumstances is costly and may be hazardous.

13.5.2 Evidence

Psychiatric symptoms rapidly subside as substance misuse is controlled. After one or two weeks of abstinence, a person believed to have a mental illness may become symptom-free; hence the importance of methodology when estimating prevalence rates of psychiatric co-morbidity. Brown and Irwin (1991) have demonstrated a week-on-week fall in anxiety scores post-detoxification, which continued through to three months follow-up. Subjects experiencing lapses into drinking within the three months following treatment had higher anxiety scores than continuous abstainers, but across all diagnoses still had greatly reduced scores compared to those recorded at initial assessment. Anxiety spectrum disorders and major depression are most likely to be substance induced, but overall studies show 70–80 per cent of co-morbid mental illness to predate alcohol misuse (Bakken *et al.*, 2003). In a review of 14 treatment studies of anxiety and alcohol misuse co-morbidities, Oei and Loveday (1997) conclude that it is important to make the specific anxiety disorder diagnosis, because optimal treatment for these conditions cannot be integrated with alcohol misuse treatment. Antidepressants are commonly

prescribed to people who misuse psychoactive substances – unlike anxiolytics, which typically have addictive potential, these drugs are viewed as safe for use with substance misuse diagnoses. There are theoretical mechanisms of action on the substance misuse itself but, with the exception of nicotine dependence, there is no convincing evidence to support the efficacy of antidepressants as a treatment for addiction. In a meta-analysis of 29 studies, Torrens *et al.* (2005) conclude that the evidence supports the use of antidepressants only where there is co-morbid depression.

Insomnia is not usually a diagnosis in itself but is ubiquitous around substance use and misuse. Even modest alcohol consumption will cause disruption to normal sleep patterns without necessarily inducing additional symptomatology. Summarising the effects of alcohol on sleep, Vitiello (1997) lists: i) feelings of tiredness from the sedative effect of alcohol, ii) reduced REM (dream) sleep in the first half of the night followed by increased REM (dreaming) and wakefulness in the second half, iii) tolerance to the suppression of REM with chronic alcohol misuse, and iv) REM-rebound (nightmares) on alcohol withdrawal once tolerance is established. The normal sleep pattern begins to be restored after three months and is usually within normal limits nine months post-detoxification in regular heavy drinkers. Evidence on the effectiveness of different hypnotics for short-term use is equivocal and a pragmatic solution is to select the cheapest (NICE, 2004a).

13.5.3 Conclusions

- Prescribing of antidepressants and anxiolytics is generally not indicated during periods of drinking or withdrawal – ideally reassess after two weeks abstinence (IIA)
- Judicious and short-term use of hypnotics may be helpful where insomnia is identified as a cue for continued drinking (IIA)
- Neurotic disorders such as depression, anxiety spectrum disorders and obsessive compulsive disorders may emerge post-detoxification (IIA)
- The evidence is insufficient to guide specific treatment plans for co-morbidity of neurotic disorders. Optimal use of treatments is best defined by experienced clinicians (III).

13.6 The concept of personality disorder

13.6.1 Context

A theme running through this chapter is the difficulty in making reliable personality disorder diagnoses. ICD characterises personality disorder as "… deeply ingrained and enduring behaviour patterns, manifesting themselves as inflexible responses to a broad range of personal and social situations. They represent either extreme or significant deviations from the way the average individual in a given culture perceives, thinks, feels and, particularly, relates to others."

The usefulness of the concept is in marking the severity of personality characteristics and thereby triggering a treatment response. There is some risk that individuals with "troubled" or "odd" personalities are incorrectly given a psychiatric diagnosis; however, personality disorder is a diagnosis of inclusion which has the purpose of pointing to appropriate treatment (NIME, 2003).

13.6.2 Evidence

Sievewright and Daly (1997) have reviewed the causes of personality disorder and good practice in approaches to diagnosis. They find personality disorder to be distinct from the variety of personality traits – some good and some bad that are recognised in all individuals – and also to be distinct from personality change which occurs in adult life secondary to severe stress, serious mental illness or brain syndromes. Bowden-Jones *et al.* (2004) showed an association between severity of personality disorder and psychopathology, that is, the psychiatric manifestations of the disorder. They also found an association with social problems and use of services. With reference to co-morbidity with cluster B personality disorders, which are common accompaniments of substance misuse (see table 13c), Walker (1992) proposes that treatment should be based upon cognitive and behavioural principles and should avoid interpretative or analytical approaches. Understanding the cognitive distortions of this service user group underpins a practitioner style, which Walker suggests should be characterised by:

i Expression of self-confidence

ii Truthfulness

Disorder	Drug services (total=216)	Alcohol services (total=62)
Cluster A disorders	**3.7%**	**6.5%**
Paranoid	2.7%	4.8%
Schizoid	0.9%	3.2%
Cluster B disorders	**30.1%**	**24.2%**
Antisocial	10.2%	11.3%
Emotionally unstable – impulsive	15.8%	3.2%
Emotionally unstable – borderline	7.7%	9.7%
Histrionic	3.6%	3.2%
Cluster C disorders	**13.0%**	**35.5%**
Anankastic	0.9%	3.2%
Anxious	5.0%	27.4%
Dependent	8.1%	16.1%

Table 13c: Prevalence of personality disorder

(Source: Bowden-Jones et al. *(2004). Note that individuals may have more than one diagnosis.)*

iii Unemotional communication

iv Consistent self-image

v An ability to set and enforce limits

vi Self-control.

While coping and social skills training (see Monti *et al.*, 2002) is often seen as a treatment for problem drinkers generally, it is equally often felt to be inappropriate by service users with uncomplicated drinking problems. The approach used by Monti and colleagues was derived from a treatment for disturbed psychiatric patients and could well be suited to problem drinkers with difficult personalities and organic brain syndromes.

13.6.3 Conclusions

- Personality disorder is a diagnosis of inclusion, albeit with risks of misdiagnosis, that points to treatment (I)
- Personality disorder is a diagnosis of inclusion requiring specialist practitioners with competencies in psychiatric co-morbidity (IV)
- Pharmacotherapy has a limited place in treatment, whereas there is evidence to support the use of structured psychotherapies (III).

13.7 Integrated treatment for co-morbidity

13.7.1 Context

People with complex problems, such as co-morbidity, challenge the organisational effectiveness of and communication between provider agencies. Typically, there is a need to deliver integrated psychosocial interventions and integrated pharmacotherapies for both substance misuse and mental illness, and to access wraparound services. Service models need to be geared to these objectives. The management of severe and enduring mental illness and the neuropsychological complications of alcohol misuse are the province of specialists in psychiatry, clinical psychology and neurology, and will not be reviewed in detail here.

13.7.2 Evidence

From a theoretical point of view, there is a compelling argument to integrate the psychosocial element of treatment for both substance misuse and mental illness (Graham *et al.*, 2003b). These authors use case vignettes to demonstrate how thoughts and behaviours to do with drinking become intertwined with both mental illness symptoms and more ingrained personality schema. There are common ingredients particularly to do with motivation, developing coping skills and enhancing social support that point to the effectiveness of an integrated approach.

Graham *et al.* (2003c) describe an evidence-based integrated package based on cognitive behavioural principles, which they call C-BIT. This is a very helpful guide and can be applied to a wide range of co-morbidity problems. As with treatments for substance misuse alone, it is to be expected that packages sharing the common key ingredients of treatment will also be successful; however, the evidence base favours cognitive behavioural based treatments, albeit that these are the most commonly used interventions and, therefore, the most studied (Jerrell and Ridgely, 1995).

The importance of family interventions was highlighted in chapter ten and applies equally to co-morbidity – in one study, for example, family intervention and cognitive behaviour therapy for co-morbid psychosis were better than standard care at 12 month follow-up, on both a global assessment including days abstinent and also in terms of symptom improvement, which was less

consistent (Barrowclough *et al.*, 2001). There is evidence that involving positive influences from an individual's social network, notably carers, improves outcomes (Schofield *et al.*, 2001). There is also evidence that social support in the form of self-help focused on the drinking problem is helpful but insufficient as a psychosocial intervention (Brooks and Penn, 2003; Ouimette *et al.* 2001).

There is no good evidence that pharmacotherapies will be different to those used for the separate conditions (Crome and Myton 2004). These authors suggest that some antipsychotics that act on dopamine neurotransmitter systems may directly reduce alcohol use. The relationship between mental state and drinking is difficult to untangle but there is no reason to suppose that there is any specific co-morbidity medication. Sievewright and Daley (1997) concluded that there is a minimal role for pharmacological treatments with personality disorders and that this role should be limited to low-dose antipsychotics for paranoid or schizoid states, and borderline and antisocial personality disorders.

The case for abstinence, particularly for individuals with psychosis, has already been made. Therefore, medications designed to achieve abstinence or reduce consumption are of particular relevance. In theory there is a risk that disulfiram will exacerbate psychotic symptoms; however, Mueser *et al.* (2003) found that, while 21 per cent of patients with severe mental illness reported side-effects from disulfiram, there were no significant psychiatric complications and 64 per cent achieved abstinence at 12 months. Petrakis *et al.* (2003) report that patients receiving treatment with naltrexone had significantly fewer drinking days, heavy drinking days and less craving than those on placebo, without any effect on psychiatric symptoms.

13.7.3 Conclusions

- Cognitive behavioural techniques offer a flexible approach for the treatment of co-morbidity, including both Axis I and Axis II disorders (II)
- Involvement of social support systems, particularly family and friends, is important for people with co-morbidity problems (II)
- Pharmacotherapies designed to reduce craving and drinking can be used safely with individuals suffering from a psychotic illness, albeit that due cautions must be exercised (III)
- People with mental illness require specialist practitioners with competencies in psychiatric co-morbidity (IV).

13.8 Service models

13.8.1 Context

There is an historical context to possible service models. In the oldest model, serial services, service users receive treatment by either the substance misuse team or the community mental health team and then, when treatment is complete, move to the next service. In the parallel model, the service user receives treatment from different agencies simultaneously but the services operate independently – a common arrangement today. The debate is really about whether to opt for an integrated but standalone co-morbidity service or a shared care model. Both are workable and suit different situations (see figure 13a). Shared care in this case is between mental illness and addiction services.

13.8.2 Evidence

The integrated service model is favoured in the USA and is well suited to the US funding system (Drake *et al.*, 1998). In the UK the case for shared care is stronger:

i The NHS has a track record of successful shared care working, including substance misuse services

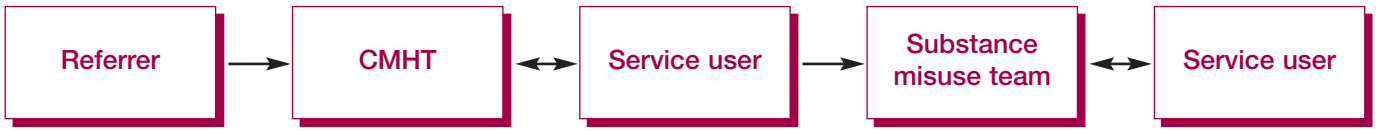
ii Taking the COSMIC (Weaver *et al.*, 2003) prevalence data, co-morbidity is the norm, so there would be very few individuals who were not placed with an integrated co-morbidity service

iii The evidence from COSMIC (Weaver *et al.*, 2004) suggests that parallel services actually do well at meeting service user needs and improvements by adopting formal shared care protocols would be relatively easy.

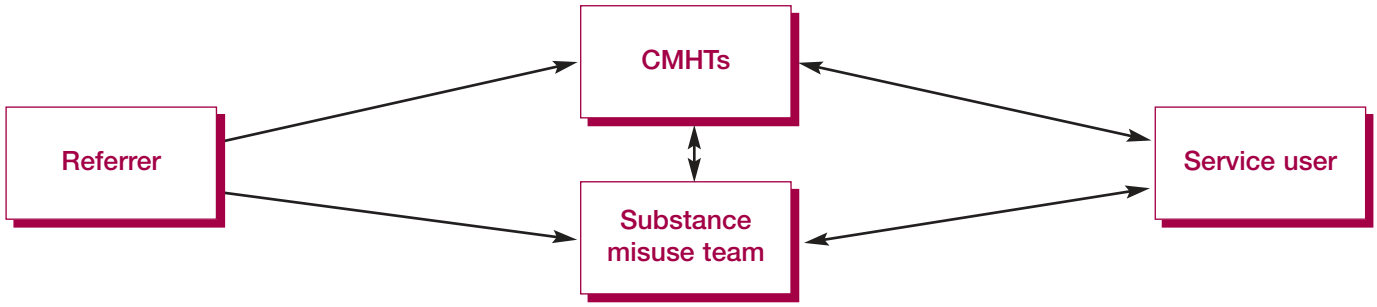
A Cochrane review (Jeffery *et al.,* 2000) found only six randomised trials comparing programmes and concluded that there was no evidence to favour serial, parallel, or integrated treatment. It should probably be accepted that informed belief rather than definitive evidence will continue to determine the pattern and range of clinical services. The four service models are illustrated in figure 13a.

A frequent complaint from service users is that they are forever being referred to another service or another

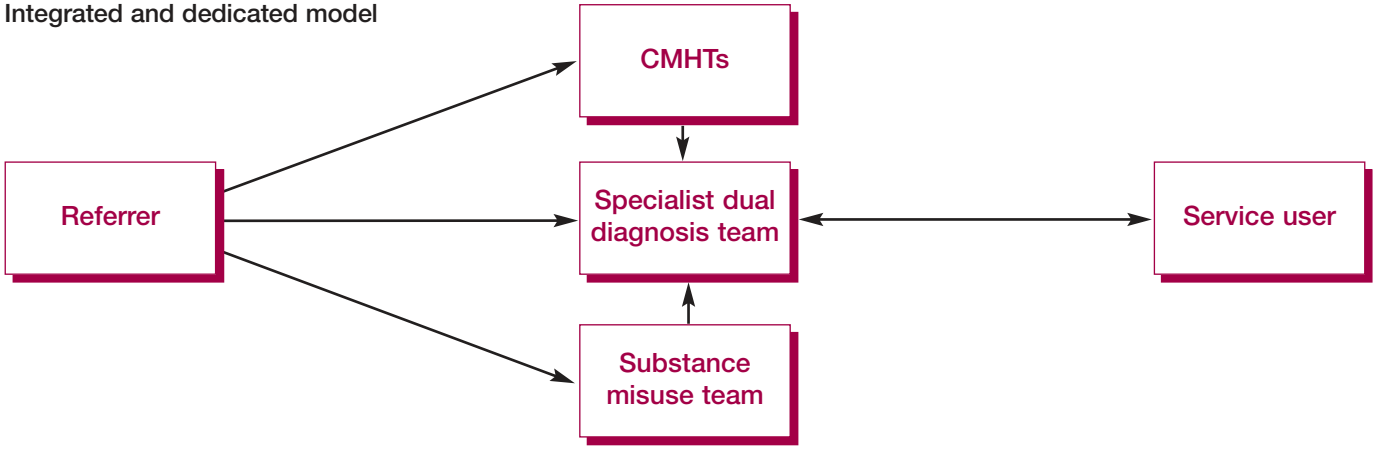
Serial model



Parallel model



Integrated and dedicated model



Shared care model

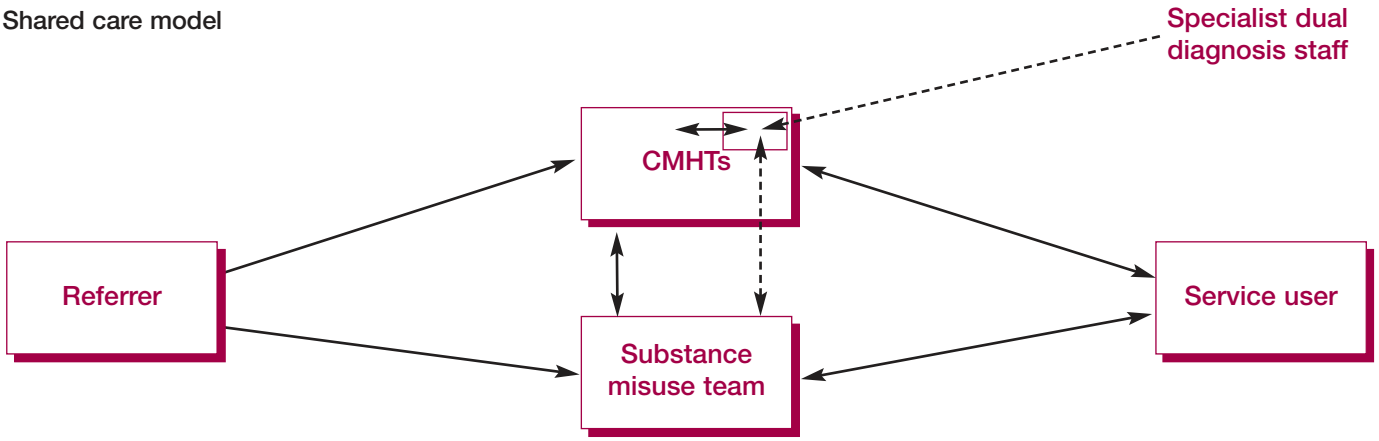


Figure 13a: Co-morbidity service models

(Reproduced with permission of the Sainsbury Centre for Mental Health)

	Low degree of mental illness	High degree of mental illness
Low level of substance use	**Mainstream or addiction service** Anxiety spectrum disorders Depressive disorders Moderate severity personality disorders	**Mainstream service only** Korsakoff's psychosis and dementia Severe personality disorder Obsessive-compulsive disorder
High level of substance use	**Addiction service only** Withdrawal states including delirium Wernicke's encephalopathy Residual psychoses	**Mainstream and addiction services** Schizophrenia Bipolar affective disorder Post-traumatic stress disorder

Table 13d: Example of possible allocation of care by diagnostic group (Adapted from Department of Health (2002))

therapist. Practitioners find people with co-morbidity demanding, particular where this includes personality disorder (Bowden-Jones *et al.*, 2004). It follows that staff working with co-morbidity must be well supported in order that there is no temptation to move people on to another service except for sound clinical reasons. As a first step it will be helpful to have clear, local agreement on which services are responsible for which service users and a useful tool to achieve this understanding is the quadrant idea described in Mental Health Policy Implementation Guide: Dual Diagnosis Good Practice Guide (Department of Health, 2002) – table 13d is an example of how this might work locally.

All service users with moderate or severe mental illness and substance misuse problems should be seen by mainstream psychiatric teams or specialist addiction teams with competence in mental illness. The question is how to divide up the workload so that every service tier has a primary team who they can expect to remain with for the duration of their illness.

There are many ways to "cut the cake" and table 13d illustrates one possible distribution of responsibility between mental health teams and addiction teams. Where the severity of both substance misuse and mental illness is low to moderate, the first agency attended by a service user might be competent to deal with both problems.

The dominant problem is likely to determine the referral pathway. When the severity of both substance misuse and mental illness is high, then shared care working between mental illness and addiction teams might be the best solution. These two extremes of need are probably quite easy to agree at a local level – what is more difficult is deciding which service users with co-morbidity should be taken in by the mental illness team alone or the addiction team alone. The guiding principles should be to match the need to the clinical team and to minimise the likelihood of movement between teams.

13.8.3 Conclusions

- There is insufficient evidence to support any particular service model; however, there is theoretical and anecdotal evidence to favour either an integrated or shared care approach (IV)
- There is a need to configure services and construct care pathways in such a way that people with co-morbidity are not excluded from treatment and are not moved from one agency to another (III).

Implications for…

Service users and carers

- Treatment, especially pharmacotherapy, is likely to be complex and there are benefits in having a single and constant treatment provider.
- Make educational material available to inform service users of the risks of taking alcohol or other drugs if mentally ill
- Encourage the involvement of family and friends for support and specifically to assist with supervision of medications
- Encourage the involvement of service user groups to provide support and help to access wraparound services.

Service providers

- The permutations of co-morbidity disorders are numerous, so there are benefits from adopting a single integrated therapy – probably rooted in cognitive behavioural techniques
- Avoid polypharmacy. The usual range of pharmacotherapy can be used in combination, but frequent efficacy and compliance checks are suggested
- Personality disorder is a diagnosis for inclusion – agencies need to accommodate this group of service users within the treatment system
- Consideration should be given to recording accurate categorical diagnoses using ICD or other standard codes.

Commissioners

- Theoretical considerations and some research data point to preferring an integrated or shared care service model for psychiatric co-morbidity
- There needs to be clarity at a local level as to which service providers have the expertise to treat different diagnostic categories of psychiatric co-morbidity and a description of care pathways
- Co-morbidity training will be required at different levels for different grades of staff. Practitioners working in co-morbidity services will need suitable qualifications
- Agencies not providing co-morbidity services may be encouraged to use one of the standard screening instruments for mental illness for assessment and referral purposes.

Researchers

- Evaluation of integrated treatment packages for different categories of psychiatric co-morbidity is urgently needed
- Since people with co-morbidity can be hard to reach, methods of improving compliance with treatment need to be investigated
- There needs to be further research to build confidence in combining pharmacotherapies and possibly to identify simple but effective regimens for the less-compliant service users.

Chapter 14

Cost-effectiveness of treatment

Previous chapters have considered the effectiveness of treatment without regard to economic costs and benefits. In this chapter, we turn to the crucial question of the cost-effectiveness of treatment and its relevance to the provision of treatment for alcohol problems in England.

14.1 Background

The purpose of this chapter is to assess the evidence on the cost-effectiveness of alcohol treatment and its relevance to service provision in England. Planners need to consider the health and social gains that can be achieved from their budgets. This implies that comparisons must be made of the cost per unit of health or social gain across a number of service-user groups, such as people with alcohol problems and those with heart problems. However, such economic efficiency arguments may only be one of a number of criteria used to plan services.

The wider the comparisons are in economic evaluations, the more important the techniques used to convert outcomes into monetary values. In these terms, those interventions that result in net savings would be preferred to those interventions that result in net costs. Following general guides on economic evaluations, such as Drummond *et al.* (1997), Gold *et al.* (1996) or official guidelines such as HM Treasury (2003), such evaluations would consider all the costs and consequences (both good and adverse, individual or social) of an intervention or programme compared to some alternative.

These economic studies can be performed at a number of levels and from different viewpoints. For example, an important question when fixing the overall budget for the treatment of alcohol problems is whether such treatment is cost-beneficial overall; that is, the overall value to individuals and society is positive compared to the alternative of no treatment or a lower level of treatment.

Alcohol problems impact on individual drinkers, their families, communities and the whole of society, across health, workplace, crime and social domains. In these circumstances, most economists would advocate that any evaluation should take the broadest viewpoint and include all the costs and consequences occurring in the alternative situations being evaluated. There are often no incentives for budget holders to be interested beyond the implications for their sector. For example, in its new guidelines, the National Institute for Clinical Excellence (NICE), while recognising that in some areas there may be wider potential implications, suggest that submissions to its evaluation process would normally be undertaken from a health and social care perspective (NICE, 2004). However, the recent study of the cost of alcohol in England suggests a substantial element falls in the criminal justice sector (Rannia, 2003). Omitting specific domains, particularly crime outcomes, could potentially bias any economic evaluation. Sindelar *et al.* (2004) have recently demonstrated using US data that treatment could be ranked differently by choosing one of the many possible outcome categories and they recommend the consideration of all outcomes.

Also, in submissions to NICE, economic evaluations are usually expressed in terms of the net cost per quality adjusted life year (QALY) gained. The NICE guidelines suggest that therapies that yield a gain of one QALY for £20,000 or less, compared to the reference case (the current best treatment available), would normally be recommended for NHS use on economic evidence alone. There is a debate as to whether economic evaluations of alcohol treatment can be expressed in terms of generic healthcare measures such as QALYs.

Well-conducted economic evaluations involve an explicit comparison, such as the reference case used by NICE. In general, this will follow similar comparisons used in effectiveness studies. For example, brief interventions for hazardous drinkers would be compared with some minimal intervention. Treatments for problem drinkers, however, are less likely to have similar comparisons and are more difficult to group into topics. Earlier studies and reviews have examined the cost-effectiveness of the same type and length of programme delivered either in an inpatient or residential setting, or on an outpatient basis (Godfrey, 1994).

Ideally, economic evidence would be available in the type of detail that is available for effectiveness. Unfortunately, the available studies are limited and some are of low quality. Guidelines have been published to judge the quality of economic evidence, such as the ten-question checklist set out in Drummond *et al.* (1997). These well-recognised sets of criteria are used in this review to comment on the reliability and relevance of the economic evidence available to English practice.

Most existing economic reviews have found few high-quality studies and conclude that more research is required before general conclusions can be drawn (Godfrey, 1994). Brooks (2002), in commenting on the 2001 review of the effectiveness of alcohol interventions conducted in Sweden (an earlier Swedish language version of Berglund, Thelander and Jonsson, 2003), notes that only 16 primary economic studies were identified. He criticises the conclusions drawn in the main report for ignoring economic aspects and suggests that judgement on effectiveness alone may lead to an inappropriate distribution of scarce resources. Many existing economic studies, as in the drug treatment field, have not included individual and family effects but have focused on social cost changes. While these are important in building a case for treatment, there is a major problem in using such designs to make comparisons between treatment modalities and care has been taken in this review not to over-interpret the limited good-quality economic evidence available.

Later reviews have, however, attempted to draw more positive economic conclusions by taking effectiveness evidence and modelling economic consequences (Ludbrook *et al.*, 2002; Slattery *et al.*, 2003). These studies along with recently published data from UKATT and other primary studies will be drawn upon in this chapter.

The available economic evidence will be reviewed to address the following questions:

- Does alcohol treatment lead to more overall benefits than costs compared to no treatment or a lower level of treatment?
- Are brief interventions cost-effective compared to simple advice or no intervention?
- Are there differences in the cost-effectiveness of intensive treatment by setting?
- Are there differences in the cost-effectiveness of different modalities of intensive treatment?

14.2 Economic benefits of alcohol treatment

14.2.1 Context

In many countries, including England, it has proved difficult to find either private or public funding for alcohol treatment. Would increases in the level of alcohol treatment above the current level in England lead to a decrease in the social costs associated with alcohol problems?

In the USA, this type of question has led to a number of studies analysing the healthcare costs of people with an alcohol dependence diagnosis. This research suggested that the cost of specialist treatment was frequently totally or partially offset by future reductions in healthcare costs (Holder, 1987). Such studies have been used in negotiations with health insurance schemes to recommend that specialist alcohol treatments should be included in benefits packages.

Cost-offset studies are limited to the cost of the treatments and the potential changes in future healthcare costs resulting from the treatment episode; they are not full economic evaluations. No account is taken of any benefit to the individual from treatment or of the wider potential benefits of successful treatments. McCollister and French (2003) suggest the benefits of other social outcome domains, such as crime and productivity, will exceed the reduced healthcare costs.

Economic evaluation guidelines suggest all relevant consequences, whoever bears the cost, should be considered. Few other healthcare areas would be expected to save resources; rather they would be judged in relation to the individual benefits to quality and quantity of life. Evidence on savings from alcohol treatment would, as has been the case for other drug treatments, provide strong support for investing in alcohol treatment. However, in assessing different treatment strategies, it is important that the same criteria, including the impact on individual drinkers, should be employed as for other health and social care interventions.

14.2.2 Evidence

The evidence from cost-offset studies suggests that future healthcare costs are lower post-treatment compared to pre-treatment for the majority of people with alcohol dependence diagnoses in a US setting. These savings may not be consistent across all drinkers – there is evidence suggesting that savings are lower for people from poorer and less stable social backgrounds than for more affluent drinkers (Luckey, 1987). A more recent study (Parthasarathy *et al.*, 2001) also suggests that a mixed group of alcohol and drug misusers have lower medical costs after an episode of treatment compared to matched substance abuse controls; the drop in healthcare expenditure came mainly from fewer inpatient medical episodes and fewer emergency room visits.

There are only limited studies specific to the UK, but the results are generally in line with the international evidence. Potamianos *et al.* (1986), comparing outpatient and inpatient services in the London area, provided some evidence of the potential healthcare cost savings from intensive treatment. In their study, the costs of community-based treatment were more than offset by the fall in other healthcare costs after treatment.

McKenna *et al.* (1996) showed that alcohol dependent service users were more costly in terms of health costs than those with alcohol abuse – £1,222 compared to £632 over a six-month period at 1994 prices – and had poorer health. The differential healthcare costs of various types of drinkers in the UK are shown in Table 14a. These figures have been calculated for a similar six-month period and represent 2000/01 price levels.

The findings in Table 14a are drawn from the following studies

- The Birmingham Heavy Drinkers Study (Dalton and Orford, 2002) is a sample of 500 heavy drinkers recruited in Birmingham who had not been in specialist treatment in the last ten years
- The STEPWICE study is a randomised trial of male heavy drinkers screened by the AUDIT from primary care in Wales (UKCBTMM Project Group, 2004)
- The OSCA was a survey of two open-access detoxification programmes for severe problem drinkers (Parrott *et al.* 2005).

As expected, the drinkers presenting to specialist alcohol services have higher healthcare costs than those drinkers who were not motivated to seek treatment. However, the more severe drinkers in the OSCA study had similar healthcare costs at baseline to people in the UKATT study (UKATT Research Team, 2005b).

It is also interesting to note the healthcare costs of both treatment samples are similar to drug-using populations prior to treatment (Godfrey, Stewart and Gossop, 2004). In the UKATT study, healthcare costs fell after treatment, confirming the potential for cost-offset in the UK (UKATT Research Team, 2005b). However, in the OSCA study, for those drinkers self-referring to the open-access services, general healthcare costs rose in the six months after entering treatment (Parrott *et al.*, 2005). One explanation for this is that problem drinkers, especially if they have other social problems, may be reluctant to make use of, or have difficulties in accessing, general healthcare services. Laugharne *et al.* (2002) found that increased alcohol consumption was associated with lower overall costs of care in a group with severe psychotic illness over a two-year period. The authors also suggest that the group with alcohol problems may have unmet needs.

Healthcare costs are only one of the potential individual and social outcomes of treatment. McCollister and French (2003) found that the value of social benefits exceeded the costs of treatment, as was the case in other reviews of US studies (Cartwright, 2000) of alcohol and drug treatments. Savings attributed to reductions in crime is one of the most important categories, followed by healthcare costs savings. Employment gains were frequently made but in general were lower in value.

For the UK, recent studies suggest that alcohol treatment has both short-term and longer-term savings. From the UKATT study, initial analysis has focused on the public sector resource savings of healthcare costs, other alcohol

Study	Healthcare costs per person over six months (2000/01)
BUHD (Dalton and Orford, 2002)	£428
Stepwice (UKCBTMM Project Group, 2004)	£493
UKATT (UKATT Research team, 2005b)	£1,151
OSCA (Parrott *et al.*, 2005)	£1,050

Table 14a: Healthcare costs of drinkers prior to treatment

treatments, social care savings and criminal justice savings in the short term (UKATT Research Team 2005b). Comparing the use of resources six months before the start of the UKATT treatment to the six months prior to the one year follow-up interview, the suggestion is that, for every £1 spent in treatment, the public sector saves £5 (UKATT Research Team, 2005b). UKATT treatments were delivered to the population of dependent drinkers. Extending such evidence-based treatments to ten per cent of this population would be expected to reduce annual public sector resource costs by between £109 million and £156 million (net of additional treatment costs) even without taking account of any longer-term savings.

Slattery *et al.* (2003) focused on modelling longer-term healthcare cost savings in a Scottish setting over a 20-year period. The predicted healthcare cost savings were estimated from the effectiveness evidence on abstinence rates, estimated relapses and the likelihood in any cohort of patients that those continuing drinking would have a number of alcohol-related conditions. Coping and social skills, behavioural self-control training, motivational enhancement therapy, and marital and family therapy were found to produce net savings of about £1,600 per abstinent patient (at 2002/03 prices). Acamprosate was also predicted to produce cost savings of about £820 per patient. As in the earlier cost-offset literature, this study did not include the potential benefits from reductions in crime or work-related problems.

14.2.3 Conclusions

- Evidence-based alcohol treatment in the UK could result in net savings of £5 for every £1 spent for the public sector (IB)
- Providing effective treatment is likely to reduce significantly the social costs relating to alcohol as well as increase individual social welfare (IB)
- Healthcare costs may increase in the short term for drinkers who have not accessed healthcare services prior to alcohol treatment (II).

14.3 Cost-effectiveness of brief interventions

14.3.1 Context

Brief interventions aimed at hazardous drinkers who are not directly seeking specific treatment also have the potential to save future costs, as well as bringing individual benefits in terms of reducing risk of premature death and alcohol-related morbidity. However, most of the earlier published economic evaluations of such interventions have used modelling techniques to estimate both the costs of the interventions and the potential benefits. Few studies have had access to primary data collection as part of a well-conducted evaluation.

14.3.2 Evidence

Fleming *et al.* (2000) used data from Project TrEAT in the US managed care system. Participants were recruited from those attending their general physician for routine appointments. The economic analysis was conducted concurrently with the randomised controlled trial and was conducted from a societal perspective. The participants' use of emergency room and inpatient health services was monitored along with any criminal or motoring offences. Values were given to victim work and quality of life losses, as well as more tangible resource costs from these legal events. The costs of the intervention included patient costs in terms of travel and lost work time, training costs, screening, assessment and the primary intervention cost.

Overall, the costs of the intervention were outweighed by the benefits with US$56,263 in benefits generated for every US$10,000 in intervention costs at 1994 price levels. However, the study did not include any benefits in terms of increased quality or quantity of life for the individual drinkers enrolled in the study.

Wurtze *et al.* (2001) did not have direct access to trial data but used more rigorous modelling than earlier studies, with data from an Australian brief interventions programme to estimate the potential cost per life saved. In this study, no attempt was made to model future savings in healthcare costs, although, unlike Fleming *et al.* (2000), the impact of reducing mortality was modelled. The cost per life year saved from this study was in line with previous, rather cruder exercises in suggesting the cost per life year saved was very modest, at under A$1,000 for most of the sensitivity analyses.

After reviewing these and earlier studies, Ludbrook *et al.* (2002) did attempt to conduct some outline modelling work for the UK. Using simulated costs of a programme in 1999/2000 prices, it was suggested that the cost per life year gained would be in the region of £2,600 but, if reduced health and legal costs were factored in, then

brief interventions would yield savings of around £2,000 per life year.

More recent studies have considered the potential cost savings of screening and brief or stepped care in other primary care settings. Some economic analysis of having an alcohol liaison nurse in a general hospital study in Liverpool have been conducted, suggesting that the post saved ten times more in reducing repeat admissions than its cost (Royal College of Physicians, 2001). A fuller economic evaluation has been conducted on the introduction of alcohol intervention in A&E at St Mary's Hospital in Paddington and the preliminary results also suggest this intervention is cost saving (Crawford *et al.*, 2004). Both of these studies provide further evidence to support wider implementation of brief opportunistic interventions.

14.3.3 Conclusions

- Brief interventions delivered opportunistically are cost-effective compared to no interventions (IIA)
- Brief interventions in a hospital setting may be cost neutral but achieve health gains for the population (IIB).

14.4 Intensive treatments in different settings

14.4.1 Context

In most countries, standard treatment for the majority of problem drinkers has moved from an inpatient to an outpatient or day care setting. A number of studies have examined the cost-effectiveness of the same therapeutic approach delivered in these different settings. There is generally a large cost difference in providing inpatient and outpatient care for the same length of time.

14.4.2 Evidence

In a review conducted in 1992, four such economic studies were identified (Godfrey, 1994). In these studies, effectiveness was the same or slightly better in the day patient or outpatient group and costs were nine to 20 times more expensive for inpatient care. Three of the studies were conducted in the US and the costs could be very different in the UK. One study was conducted in the UK (Potamianos *et al.*, 1986) and, while the study lacked detail in the published version, it would seem the community treatment was as effective as inpatient care but cost less.

Long *et al.* (1998) studied the impact of shortening an inpatient, private sector residential programme in the UK. While a formal economic analysis was not undertaken, the results suggested that shortening the programme did not impact on effectiveness or retention. Similarly, Pettinati *et al.* (1999) compared an intensive inpatient to a similar outpatient-based treatment. As with the earlier US studies, no differences in effectiveness were found and the outpatient programme was significantly cheaper.

Residential services may not always be more costly than outpatient services. In the OSCA study, two services of similar length, one delivered in a residential setting and one as a day care service, were found to be similar in overall costs per patient recruited (Parrott *et al.*, 2005).

Most of the earliest studies were limited in the perspective taken and the wider individual, family and social impacts were not fully considered. These evaluations generally involved a broad range of treatment seekers and were not confined to severe sub-populations. It cannot be concluded from available evidence that all inpatient services for all types of drinkers are less cost-effective than outpatient services.

14.4.3 Conclusions

- Outpatient care is more cost-effective than residential or inpatient care, although inpatient or residential facilities are still required for some service users (IB)
- Time-limiting residential programmes can result in a more cost-effective intervention (II).

14.5 Psychosocial treatments

14.5.1 Context

Two major treatment trials have included some economic evaluation, Project MATCH and UKATT. In addition, two small studies of behavioural marital therapy have conducted primary economic analyses alongside the evaluative study. These results are in addition to the literature-based modelling studies previously reviewed in Godfrey (1994). This literature is not currently large and varied enough to give clear evidence about the relative cost-effectiveness of different psychosocial interventions.

14.5.2 Evidence

In Project MATCH (see chapters three and nine), the economic evaluation was undertaken retrospectively and data was collected from a number of sources (Holder *et al.* 2000). A full economic evaluation was not undertaken, but rather two aspects were considered: firstly, whether different MATCH therapies overall had different cost-offsets; and secondly, whether there were any matching impacts on these cost-offsets. However, some caution must be exercised in interpreting these results as there was no data on effectiveness for the subset for which medical utilisation data was available (279 participants). The medical utilisation data was drawn from a three-year period before and after treatment initiation, from insurance and medical records.

The authors note that emergency room use by their clinical population was low. This is an interesting finding and needs further comparison with UK treatment populations. It is important for further evidence to be generated about the cost-effectiveness of different treatment interventions with groups of drinkers with different ranges of problems. For example, results may differ between those within and those outside the criminal justice system.

Treatment costs were based on the individual take-up of sessions within the MATCH trial, although no data on other variations in individual treatment costs was available. In a complex regression analysis of the pre-treatment and post-treatment costs, no significant differences in effects were found between the therapies. The authors suggest this gives support to suggesting MET is cost-effective relative to other therapies, but this may be too strong a conclusion given that specific effectiveness data is not presented. Nor do the regression results fully support this conclusion.

The matching impacts found suggest that patient cost savings may be related to different patient characteristics. For example, those with high alcohol dependence in the aftercare arm of the trial had, on average, higher cost savings in the TSF group whereas those with low dependence had more savings with CBT. For those with high psychiatric severity, patients having CBT had lower medical costs than those with MET, while those low in psychiatric severity had more cost savings with MET compared to CBT. A similar relationship between CBT and MET was found for those with network support for drinking – those with network support for drinking had lower costs for CBT. These matching impacts occurred mainly through reductions in inpatient hospital use.

In contrast to Project MATCH, the economic evaluation of UKATT was built into the main trial design and economic data was collected concurrently with the effectiveness data. The consequence is a dataset that is not only more than double the size of that for the Holder *et al.* (2000) analysis of Project MATCH data, but also has much more individually specific data on the costs and benefits of treatment. The study also included measures of generic health status (EQ-5D) which allow the calculation of cost-effectiveness ratios in terms of the net cost per quality adjusted life year.

The EQ-5D measures responses to five dimensions of health (mobility, self-care, usual activity, pain and discomfort, and anxiety and depression) at three levels: mild, moderate and severe. Different descriptions of health states can be derived from this measure and changes in health states have been valued in a UK population sample. The changes in values combined with changes in health states are used to generate the estimated quality adjusted life years (QALYs) related to the intervention. The use of this measure and the population values are important, as they fit with recommendations from NICE for the economic evaluation of NHS-funded interventions.

The EQ-5D measure does seem sensitive to baseline scores in different alcohol populations. In the STEPWICE trial (UKCBTMM Project Group, 2004), male hazardous drinkers recruited in primary care had a baseline value of 0.74, which is much lower than the average for this population group (0.9). The UKATT population group had a low score of 0.57, demonstrating considerably lower health than would be expected (UKATT Research Team, 2005b). However, those severe problem drinkers in the OSCA trial had even lower levels of 0.45 in one service and 0.31 in the other (Parrott *et al.*, 2005).

The EQ-5D measure did not prove very sensitive to changes in the immediate follow-up to alcohol treatment in any of these studies. Given the significant falls in alcohol consumption and changes in other measures, this suggests further research is required to investigate whether this is a real phenomena and drinkers do not immediately have increases in self-reported health status, or just reflects an insensitive measure.

The design and principal effectiveness results of UKATT have been described in earlier chapters (see chapters

three and nine). The economic design involved asking participants to report their use of a range of public sector services in the six months prior to treatment and the six months prior to the twelve month follow-up interview. The current analysis has focused on the use of a range of health services, some social care and other welfare services, contacts with the criminal justice system and the take-up of all other types of alcohol treatment. The costs of the treatments were also examined in considerable detail. All data is for 2000/01 prices and a summary of the findings is given in table 14b.

The results indicate that the shorter MET treatment costs less (£92 per person on average) than SBNT but, as with Project MATCH, the differences in costs were much smaller in a treatment sample than would be predicted from the planned protocols. This also suggests that earlier studies using expert opinion to estimate the costs of different therapies have to be treated with extreme caution. The estimated public sector resource savings are, however, five times the cost of the treatment.

While SBNT had, on average, rather more savings (net of treatment costs) than MET (£298 per person), this difference was not statistically significant. Also, neither net savings nor cost-effectiveness differed by statistically significant amounts. Crime fell significantly following the treatment phase, although only a minority of the sample had contact with criminal justice agencies. Further analyses of this data is ongoing to explore the potential for any matching impacts.

Mean cost per patient (Figures in brackets are standard deviations)	MET (n=347)	SBNT (n=261)
Costs of trial treatment	£129 (£58)	£221 (£178)
Public sector resource costs six months before trial	£2,192 (£3,409)	£2,585 (£3,224)
Public sector resource costs between six and twelve months after treatment	£1,469 (£3,466)	£1,564 (£3,171)
Estimated resource saving due to treatment	£722 (£4,116)	£1,020 (£3,802)
Resource saving net of treatment costs	£593 (£4,114)	£798 (£3,817)
Ratio of resource saving to treatment costs	5.6:1	4.6:1

Table 14b: UKATT treatment costs and resource savings at 2000/01 prices. Source: UKATT Research Team (2005b)

Two small studies on the cost-effectiveness of behavioural marital therapy (BMT) have come to different conclusions. O'Farrell *et al.* (1996a) found BMT with relapse prevention produced more net monetary benefits but had a higher treatment cost per days abstinent. In a second study, however, counselling was found to be more cost-effective than counselling and BMT (O'Farrell *et al.*, 1996b). No conclusions can be drawn from the current available literature for the UK (Ludbrook *et al.*, 2002).

14.5.3 Conclusions

- Psychosocial interventions can be delivered at a reasonable cost, will have wider social cost savings and achieve reductions in drinking and alcohol problems (IB)
- Savings for the public sector are comparable to treatment for problem drug users (III)
- Problem drinkers have low health-related quality of life compared to others of the same age (I).

14.6 Pharmocotherapies

14.6.1 Context

Increasingly, new pharmocotherapies for any condition require data on cost-effectiveness to be compiled. This is now an explicit requirement in the UK and evidence must be submitted by manufacturers to NICE according to their explicit guidelines (NICE, 2004b). Ideally, such submissions would include resource and effectiveness data collected alongside well-designed clinical trials and the evidence would be subject to considerable critical scrutiny. Presenting data in terms of net cost per QALY now requires some modelling of longer-term outcomes. The models are often in the form of complex pathways across a period of time. For example, in a group of problem drinkers, only a proportion would suffer from liver disease (or some other alcohol-related disease) and the course of the disease would depend on their drinking patterns over this period

14.6.2 Evidence

Three studies have used modelling techniques combined with some observational or evaluation data to estimate

the cost-effectiveness of adding acamprosate to other alcohol treatments. These studies have covered populations in Germany (Schadlich and Brecht, 1998; Palmer *et al.*, 2000) and Belgium (Annemans *et al.*, 2000). A further study in Germany used data from a large treatment population to compare acamprosate with standard therapeutic approaches (Rychlik *et al.*, 2003).

The models varied in design. The two German studies used a model of disease states from relapse and abstinence for the treatment groups being compared. The Schadlich and Brecht model had limited disease states and mortality between the different groups was not included. Palmer *et al.* extended the disease states and modelled changes in mortality. It was estimated that acamprosate resulted in a gain of 0.52 life years over the ten-year period of the simulation.

The Belgian study (Annemans *et al.,* 2000) study, rather than modelling long-term health states, investigated the flow of patients through the Belgian treatment system. The authors found that, in their model, acamprosate was predicted to be more cost-effective through a lower rate of both acute and longer-term hospital episodes.

Rychlik *et al.* compared the total healthcare costs, time off work and travel expenses in two cohorts. Both cohorts received an initial detoxification and were also provided with a psychosocial rehabilitation programme, although this is not detailed. One cohort also received adjuvant acamprosate. The standard cohort had significantly higher costs and lower abstinence rates than the acamprosate cohort, but this model was not based on a randomised controlled trial.

Treatment type	Net health cost per death averted
Coping and social skills	-£3,073
Behavioural self-control	-£1,278
MET	-£2,089
Marital and family therapy	-£2,388
Acamprosate	-£1,122
Naltrexone	£2,076
Unsupervised disulfuram	£5,536

Table 14c: Cost-effectiveness results from a model of Scottish treatment. Source: Slattery et al., 2003

14.6.3 Conclusion

- Phamacotherapies can reduce longer-term health costs of problem drinkers (IIA).

14.7 Comparisons of psychosocial and pharmacotherapies

14.7.1 Context

In most studies, the comparisons made between different modalities have been limited. A more useful approach for commissioners would be to present evidence that compared the cost-effectiveness of a range of evidence-based treatment programmes to the current usual care. Some earlier attempts to use evidence from effectiveness reviews with expert opinion on costs, such as Holder *et al.*, 1991, were subject to a number of criticisms, mainly focusing on the effectiveness review. However, sounder economic evidence requires more careful modelling of the costs of interventions and other economic consequences relevant to the local decision maker.

14.7.2 Evidence

Slattery *et al.* (2003) attempted to apply the basic Schadlich and Brecht (1998) model to a range of psychosocial and pharmacotherapy approaches, compared with an estimate of standard counselling approaches in place in Scotland. Only the cost of the therapies, deaths averted and future healthcare expenditures were modelled – other impacts were ignored. However, considerable care was taken to use the best effectiveness evidence with locally relevant cost and healthcare consequences data.

Table 14c shows the main results of these simulations. The main effectiveness results in terms of numbers abstinent at one year were taken from a review of the effectiveness evidence. Various relapse rates were modelled. The costs of each therapy were based on expert opinion and Scottish costs. It was assumed that the phamacotherapies were delivered as adjuncts to the standard counselling care.

The healthcare costs averted as a result of alcohol treatment were also based on Scottish data. Future costs were discounted at six per cent and future health benefits at 1.5 per cent – the rates taken by the Scottish evaluative bodies at that time. A number of analyses were

performed with different assumptions, including varying these discount rates. Acamprosate at £607 per person was more expensive than the psychosocial treatments, estimated at £385 per person. These costs were estimated to be in addition to the general assessment and counselling costs.

While the results were robust to the sensitivity analysis performed, the authors expressed concern at the lack of data on relapse rates beyond the 12-month follow-up of clinical trials and in generalising some of the international results to a Scottish setting. The sole focus of these evaluations was achieving abstinence and any benefits from reduced drinking or wider social outcomes were not modelled. Using a conservative assumption, the authors suggested that each death averted was at least equivalent to one life year or one QALY saved. Using this rule, all the therapies were below the current £20,000 per QALY adopted in NICE evaluations (NICE, 2004b). As can be seen from table 13c, acamprosate and the four psychosocial therapies were estimated to be cost saving. Naltrexone was estimated to have a net cost per death averted, but the figure of £2,076 per death averted (QALY) is well below the NICE threshold. However, rather than drawing conclusions about the comparative worth of different therapies, it was suggested that acamprosate, naltrexone and the four psychosocial therapies were cost-effective in comparison to current non-evidence-based Scottish treatment.

14.7.3 Conclusions

- Evidence from the literature can be combined with local cost data to model cost-effectiveness and demonstrate the value of evidence-based approaches (II)
- Alcohol treatments are highly cost-effective in comparison with other healthcare interventions (IB).

Implications for…

Service users and carers

- Services for alcohol misusers should be provided under the same evaluation rules as other healthcare interventions
- Advocacy groups need to ensure that commissioners are meeting all the needs of users and carers, rather than solely depending on the least expensive treatments

Service providers

- Service providers need to ensure that the limited resources at their disposal are used to deliver cost-effective and evidence-based interventions
- Consider using a generic health outcome measure for comparison against the benefits of treatment from other areas.

Commissioners

- There is a good economic case for investing in both brief interventions for hazardous and harmful drinkers and more intensive interventions for those with alcohol dependence
- Treatment for alcohol misuse will bring overall resource savings across the public sector
- The current economic evidence base is insufficient to reach definite conclusions about the relative cost-effectiveness of different effective treatment approaches for problem drinkers.

Researchers

- It is important to build up the UK evidence base on cost-effectiveness, so that economic issues can be considered alongside effectiveness studies
- Further research is required to determine the relationship between generic health status outcome measures such as the EQ-5D and alcohol-related outcomes
- Studies should consider all potential benefits across health and social domains using the same methodology that is adopted for other health and social care interventions
- More research is required to investigate the most cost-effective methods of screening and identification of hazardous drinkers
- The full costs of schemes, including follow-up or stepped care intervention for more serious problems identified in these schemes, needs further economic modelling.

Chapter 15

The treatment journey

This final chapter is about the context of treatment and discusses the influence of the communities where treatment takes place. The purpose of the review has been to assess the evidence on treatment – however, many problem drinkers recover without professional help or mutual aid groups.

15.1 Cultural and societal contexts

The purpose of this review has been to evaluate the available evidence on the effectiveness of treatment for alcohol dependence and related problems. Treatment has, therefore, been the focus. It is important to finish by placing the role of treatment in a proper perspective. The Healthcare Commission (2005) has raised the profile of public health along with the expectation that all agencies will define their particular contributions. Substance misuse services have a major input to make in this area. The Health Development Agency (Mulvihill *et al.*, 2005) has produced an evidence-based briefing specific to prevention and reduction of alcohol misuse, which has substantial areas in common with the treatment field. The integration of treatment, prevention and the public health agendas needs to be delivered at a local level and, therefore, built into service models adopted by agencies.

An integrated treatment system, as described in Models of Care for Alcohol Misusers, sits within a cultural and social environment, which itself has a strong influence on drinking behaviour. Substance misuse and related problems are the actual result, or output, from complex, dynamic systems that we recognise as communities. Holder (1998, pp8–9) describes a community systems model (see figure 15a) made up of a number of sub-

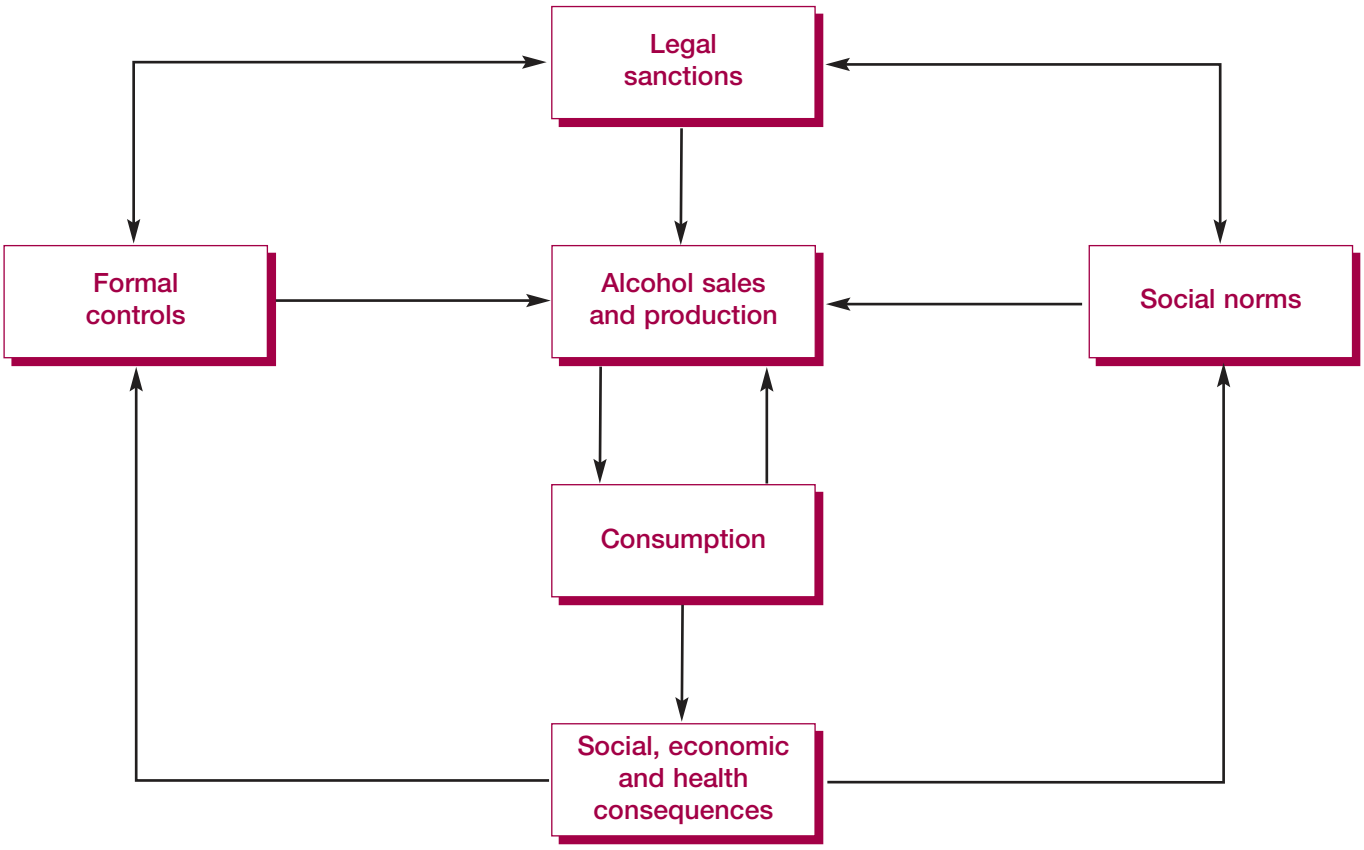


Figure 15a: The community systems model

Source: Adapted from Holder (1998, p22)

systems. The consumption sub-system is the anchor point of the model and refers to patterns of consumption among different groups of the population, notably age and gender. The sales and production sub-system refers to the number of outlets – such as public houses, off-licences, supermarkets and corner shops – and includes home production and illegal supply of alcohol. The formal controls sub-system reflects national legislation, by-laws and the degree to which these are enforced within a community; this sub-system is also about the availability of alcohol. The social norms sub-system is a way of capturing what is best described as the "culture", which may be supportive of drinking or antagonistic towards drinking. The legal sanctions sub-system refers to laws that proscribe the use of alcohol in specific situations, for example in public places, when driving and when looking after children. The social, economic and health consequences sub-system measures the impact of alcohol on health, the economy and the wellbeing of society more generally.

The model is as helpful for understanding aggregate drinking patterns at a national level as it is for putting in context an individual's drinking or other drug use choices. Substance use in general and drinking in particular exist along a continuum from problem-free use to very harmful and dependent use (see chapter two). The culture and social context of an individual are powerful influences on drinking and may help people move out of problem drinking unaided by professional treatment services. Unsurprisingly, for most people, there are psychological barriers to help-seeking which are reflected in the stages of change model (Prochaska and DiClemente, 1984). There exists, therefore, a complicated interaction between stage of change and the use of naturally occurring help in the form of family and friends, participation in mutual aid groups and seeking professional help.

What is important to maintaining long-term improvement after treatment is the social norms sub-system. This will determine the extent to which people can access support from, for example, religious groups or work and family in the longer term. This central point is illustrated by a follow-up study of 628 alcohol misusers, approximately half of whom were problem-free at eight years (Humphreys *et al.* 1997); the key predictors of good outcome were quality of friendships and family relations, and attendance at Alcoholics Anonymous meetings.

15.2 Drinking careers

The majority of the population move in and out of different drinking patterns, sometimes problem drinking, without going anywhere near treatment services. For those who do reach services, the treatment journey is a small part of the change process that typically takes place.

There have been several long-term follow-up studies of problem drinkers. The 60 year follow-up by Vaillant (2003) is noteworthy. He tracked two socially distinct cohorts in the USA: 268 Harvard undergraduates and 456 disadvantaged Boston adolescents. At each decade there was movement between three drinking categories: abstinent, controlled drinking and problem drinking. Paradoxically, the disadvantaged Boston cohort were more likely to achieve stable abstinence – they had a greater severity of dependence and were unable to sustain periods of controlled drinking, whereas the Harvard cohort managed to cope with longer periods of hazardous drinking that were then associated with a higher mortality rate.

Mann *et al.* (2005) followed 96 problem drinkers for 16 years after an episode of inpatient treatment. Forty per cent had achieved stable abstinence with 22 per cent continuously abstinent; 11.5 per cent were unimproved, ten per cent were improved and 27 per cent were dead. Abstinence was associated with fewest deaths while the category "improved" was the most unstable. Polich, Armor and Braiker (1980) followed up 85 per cent of 922 male drinkers drawn from treatment services. At four years the mortality rate was 14.5 per cent, 2.5 times that expected; seven per cent had been abstinent for the entire follow-up, 21 per cent abstinent for 12 months, 18 per cent drinking without problems and 54 per cent were drinking with variable degrees of problems.

The general picture from European studies is similar. Gual *et al.* (2004) followed 850 "alcoholics" aged 16-50 years who had entered specialist treatment. At ten years, 15.4 per cent had died, 37 per cent were abstinent (which was associated with a better quality of life), seven per cent were controlled drinkers and 26 per cent were heavy drinkers. The Birmingham Untreated Heavy Drinkers Project (Dalton *et al.* 2004) has followed 307 people, from a cohort of 500, for seven years. Of these, 166 reported a major life change in the previous two years, typically to do with health, employment, or a shift in attitude to making changes. For males and females respectively, nine per

cent and three per cent were abstinent, 11 per cent and 14 per cent were drinking within "sensible" limits, 28 per cent and 29 per cent at potentially harmful levels, and 52 per cent and 54 per cent at harmful levels.

Longitudinal studies could be more informative if they were designed to test the effects of drinking at different critical points in an individual's lifetime (Andersen, 2004). This sentiment has long been applied to young people. Substance-using careers typically start with an experimental phase and children with the greatest alcohol or drugs awareness start youngest (Casswell *et al.*, 1988). The first substance used is likely to be low tariff and approved by peers; progression to illicit and "hard" drugs is driven by subcultural norms or by personality problems if going outside the norm (Dembo and Shern, 1982). It remains difficult to know which young drinkers will become problem or dependent drinkers, but there is evidence that early drinking and problem behaviour are important predictors (Andersen, 2004).

The idea of a drinking career (Edwards, 1984) is that it describes one of life's roles – a drinker – and, as the career progresses, so the importance of the role and the future trajectory of the career become clearer. Understanding a drinking career is about understanding that drinking occurs in a social context within which different individuals make different choices. It is distinct from natural history, which is rooted in the study of disease processes and implies a predictable course for an illness if untreated. For those individuals who choose professional treatment, there seems to be a relationship between receiving sufficient treatment initially to deal with the severity of drinking problem presented and longer-term outcomes. The benefits of staying in professional treatment then diminish and the success of treatment at six months is a good predictor of outcomes later (Moos and Moos, 2004; Weisner *et al.*, 2003). In short, people move in and out of different drinking behaviours and change is best conceptualised as a process which may or may not be treatment assisted. Certainly, there are many social influences that have greater potency than treatment.

15.3 Help-seeking

Self-healing or spontaneous recovery from problem drinking is extremely common – up to three-quarters of those who have had a drinking problem take this route and, of these, up to two-thirds achieve moderation (Klingemann, 2001). In a small study comparing self- and practitioner-assisted recovery from problem drinking. Blomqvist (2002) found little difference between these recovery routes. Both groups experienced an accumulation of negative life events in the three years prior to resolution of the drink problem, but the self-change group started to alter their lifestyles long before changing their drinking, whereas the practitioner-assisted group made most of their change on entering treatment.

In a two month follow-up of 100 individuals who had made unassisted changes to their drinking, Cunningham *et al.* (2002) found that the motivation to change was health-related for 57 per cent; financial, 29 per cent; relationship-related, 24 per cent; an intellectual decision, 24 per cent; and the result of work or legal concerns for 13 per cent. However, actual successful change was more likely when the perceived costs of doing so were small.

In a review of 38 natural recovery studies, Sobell, Ellingstad and Sobell (2000) report health to be the driver for change in 42.5 per cent, negative personal effects of drinking in 30 per cent and finance 30 per cent. Recovery maintenance factors were social support, 32.5 per cent; significant other, 27.5 per cent; and interests incompatible with drinking, 20 per cent. Barriers to help seeking were stigma and embarrassment, 20 per cent; and negative beliefs or experience of treatment, 15 per cent. These studies are further evidence in support of the stages of change model (see chapter one).

The visible part of help-seeking is described by care pathways between health and social care services, but many problem drinkers choose not to use these networks. Weisner, Matzger and Kaskautes (2003) compared treated and untreated problem drinkers; at one year follow-up, 57 per cent of the treatment group and 12 per cent of the untreated group were abstinent and the odds of being abstinent at follow-up were 14 times higher for those in the treatment group. Individuals with more social consequences or greater psychological or substance misuse problems were less likely to be abstinent, but these same characteristics were more likely to bring people into treatment; having a heavy drinking or drug using social network was less likely to bring people into treatment.

Moos and Moos (2004) found that severity of problems predicted both entry into treatment and attendance at Alcoholics Anonymous, but the continued engagement

with self-help, which was associated with continued improvement, was most likely for individuals able to socialise. Individuals with psychological or severe social problems were more likely to become long-term service users.

Broadening the base of treatment (see chapter two) is mainly about engaging people in treatment before problems and dependence become entrenched. One difficulty is that drinking is central to many social activities. Drinkers themselves will adapt to their increasing consumption by moving to socialise with a heavier drinking group, so that the heavier drinking appears normal. At some point before non-coerced treatment entry, most people move into contemplation and even start to make some changes to their drinking (Rosengren, Downey and Donovan, 2000). Social networks can both encourage and hinder progress through the stages of change. Humphreys *et al.* (1997) found that good friends were often tolerant of heavy drinking, indeed may have encouraged it, whereas families were more likely to make their support contingent on reasonable drinking levels or abstinence.

Depending on the response of family and friends, treatment may at this point be averted. Miller, Meyers and Tonigan (1999) set out to use family and friends to engage resistant drinkers in treatment. They randomised 130 significant others to three manual-guided interventions: i) Al-Anon, ii) a confrontational family meeting, and iii) family training in behaviour change skills. All three approaches were associated with improvements for the significant others and engaged 13 per cent, 30 per cent and 64 per cent respectively of problem drinkers into initial treatment.

Help-seeking itself may be substantially related to stage of change but there are other service elements that may be crucial to engaging an individual in treatment. These include:

- Accessibility of the agency
- Local reputation of the agency
- Waiting times
- Therapist attitudes (see chapter four)
- Treatments available
- Links with the mutual aid sector.

In short, effective treatment requires an effective delivery system that itself has three components:

i Organisational support to clinical services

ii Well-trained therapists

iii A repertoire of specific interventions that meet service users' needs.

There may be a need for agencies to work collaboratively to achieve a high-quality service. There is evidence that problem drinkers benefit from integrated medical and addiction care (Weisner *et al.*, 2001; Samet, Friedman and Saitz, 2001) and from access to wraparound services delivered by a care management system (McLellan *et al.*, 1999).

15.4 Summary

Many individuals move out of problem drinking without the assistance of formal treatment, but rather by responding to support and direction from family and friends or responding to self appraisal of the problem drinking. People with the more severe problems are more likely to act to achieve stable abstinence, which confers long-term benefits, compared to those moving in and out of problem drinking episodes. Public health and preventive measures act as modulators of alcohol consumption which, taken with local cultures, determine the overall prevalence of problem drinking.

To summarise, there are many influences on an individual's drinking and treatment is one of them. Directly or indirectly, treatment probably accounts for around one-third of all improvements made.

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National Treatment Agency for Substance Misuse
8th floor, Hercules House, Hercules Road, London SE1 7DU
Tel 020 7261 8573
Fax 020 7261 8883
Email: nta.enquiries@nta-nhs.org.uk
Website: www.nta.nhs.uk

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