

A systematic review of the clinical and  
cost-effectiveness of psychological  
therapy involving family and friends in  
alcohol misuse or dependence

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**A systematic review of the clinical and cost-effectiveness of  
psychological therapy involving family and friends in alcohol misuse  
or dependence**

**A WEST MIDLANDS HEALTH TECHNOLOGY ASSESSMENT  
COLLABORATION REPORT**

**Report commissioned by:** Regional Evaluation Panel

**Produced by:** West Midlands Health Technology Assessment  
Collaboration  
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**Date completed:** October 2007

**Expiry Date:** October 2010

**Report Number:** 65

**ISBN No:** 0704426455  
9780704426450

## **WEST MIDLANDS HEALTH TECHNOLOGY ASSESSMENT COLLABORATION (WMHTAC)**

The West Midlands Health Technology Assessment Collaboration (WMHTAC) produce rapid systematic reviews about the effectiveness of healthcare interventions and technologies, in response to requests from West Midlands Health Authorities or the HTA programme. Reviews usually take 3-6 months and aim to give a timely and accurate analysis of the quality, strength and direction of the available evidence, generating an economic analysis (where possible a cost-utility analysis) of the intervention.

## **CONTRIBUTIONS OF AUTHORS**

Catherine Meads checked study eligibility, edited the background sections, wrote the results and economic sections and discussion and edited the remainder of the report.

Sharlene Ting designed the protocol, data extracted some of the studies and was the main reviewer of a previous, unfinished report on this subject.

Janine Dretzke advised on various aspects of the report, checked some study eligibility and data extraction.

Sue Bayliss designed the search strategy and performed the searches in electronic databases.

**CONFLICTS OF INTEREST:** None

## **ACKNOWLEDGEMENTS**

The authors thank Ann Massey and Natalie Rowles for providing administrative assistance, Dechao Wang, Yen Fu Chen and Gabriella Legrenzi for assisting in translating various articles, Jayne Wilson for some data checking, and the various organisations and experts for their advice and time, particularly Professor Jim Orford, Richard McVey, Alexandre Copello and Glen Plant. Also grateful thanks to Lorna Templeton, Richard McVey and Clare Davenport for peer-reviewing the report.

**West Midlands Regional Evaluation Panel**

**Recommendation**

Supported – but not widely available in the West Midlands

**Anticipated expiry date:**

October 2010

## ABBREVIATIONS

ADS	Alcohol Dependence Scale
ASSIA	Applied Social Sciences Index and Abstracts
BCT	Behavioural Couples Therapy
BDI	Beck Depression Inventory
BMT	Behavioural Marital Therapy
CBT	Cognitive-behavioural therapy
CINAHL	Database of Nursing and Allied Literature
CDSR	Cochrane Database of Systematic Reviews
CENTRAL	Cochrane Database of Controlled Trials
CI	Confidence Interval
CJS	Criminal Justice System
CRAFT	Community Reinforcement and Family Training
CSO	Concerned significant other
DARE	Database of Abstracts of Reviews of Effects
DSM	Diagnostic and Statistical Manual of Mental Disorders
EQ-5D	European Quality of Life 5 Dimensions
FST	Family Systems Therapy
GHQ-28	General Health Questionnaire - 28
GP	General Practice
HEED	Health Economic Evaluation Database
HTA	Health Technology Assessment
HTBS	Health Technology Board for Scotland
IBSS	International Bibliography of Social Science
ICD	International Classification of Diseases
ICER	Incremental Cost Effectiveness Ratio
MAST	Michigan Alcohol Screening Test
MFT	Marriage and Family Therapy
NHS	National Health Service
NHSEED	NHS Economic Evaluation Database
NRR	National Research Register
OR	Odds ratio
PsychINFO	Database of Psychological Literature
QALY	Quality Adjusted Life Year
RCT	Randomised Controlled Trial
RR	Relative Risk
SADQ	Severity of Alcohol Dependence Questionnaire
SCI	Science Citation Index
SCL	Symptom Check List
SD	Standard Deviation
SF-36	Short Form – 36
SMD	Standardised Mean Difference
SSCI	Social Science Citation Index
UKATT	United Kingdom Alcohol Treatment Trial
USA	United States of America
WHO	World Health Organisation

## **EXECUTIVE SUMMARY**

### **Background**

Alcoholism is associated with considerable morbidity, excess mortality and is associated with considerable health service expenditure. Involvement of family members or friends in treatment is one strategy used to encourage problem drinkers to initiate and benefit from treatment. This systematic review evaluated the clinical and cost-effectiveness of psychological therapies such as psychotherapy and counselling where one or more family members or concerned significant others are involved in the therapy compared to any other therapy or treatment in alcohol misuse or dependence to reduce alcohol-related outcomes.

### **Methods**

Cochrane Library (CDSR, DARE, HTA, CENTRAL, NHSEED), MEDLINE, MEDLINE-in-Process, EMBASE, CINAHL, PsycINFO, Campbell Collaboration (C2-SPECTR), ASSIA, IBSS, SCI-Expanded, SSCI, OHE HEED and NRR databases were searched from inception to July 2006 with no language restrictions. Study identification, data-extraction and quality-assessment were done in duplicate, discrepancies were resolved through discussion.

### **Results**

There were 34 randomised controlled clinical-effectiveness trials of variable quality included, with sample sizes ranging from 12 to 742 and follow up durations of four weeks to four years. Compared to individual or group counselling or psychotherapy, therapy involving family or friends generally demonstrated better outcomes. Compared to other care they demonstrated an increase in abstinence, better relationship functioning and an increase in drinker treatment entry rates. The meta-analysis results for abstinence rates were OR 2.01, 95%CI 0.89 to 4.55, for mean abstinent or mean percentage days abstinent were SMD 0.40, 95%CI 0.24 to 0.55 and for drinker treatment entry rates were OR 5.65, 95%CI 2.79 to 11.44 in favour of therapy involving family or friends.

Of the two UK cost effectiveness studies, one based on an RCT suggested little difference in clinical effectiveness and costs between social behaviour and network therapy and individual motivational enhancement therapy. The other, based on a decision analytic model, found that family therapy was cost saving to the NHS over 20 years when compared to undefined standard care, i.e. the discounted incremental saving per additional abstinent patient was £2,696. In sensitivity analysis, the range varied between a saving of £3,886 and a cost of £2,091.

## **Conclusions**

The evidence suggests that therapy involving family and friends can reduce alcohol-related outcomes and may be cost-saving to the NHS. It would be useful to know whether different forms of therapy involving family and friends are equally effective, particularly those from the different theoretical models of the family and using different psychotherapeutic approaches. More research is needed on the long-term effectiveness of different treatment strategies and their cost implications. There may need to be more specialist alcohol treatment service provision and more targeted health promotion to encourage problem drinkers to seek help.

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## 1. AIMS OF THE REVIEW

The aims of this review are:

- To systematically map the available evidence on the clinical and cost effectiveness of psychological therapies such as psychotherapy and counselling where one or more family members or concerned significant others are involved in the therapy (referred to here as therapy involving family and friends or family therapy) in alcohol misuse or dependence to reduce alcohol-related outcomes.
- To investigate the cost effectiveness of any type of therapy involving family and friends compared to standard care, particularly from the UK National Health Service perspective.

## **2. BACKGROUND**

### **2.1 Description of underlying health problem**

#### **2.1.1 Definition of alcohol use, misuse and dependence**

Low-risk alcohol use applies to drinking within established safe limits, with no apparent consequences to physical or mental health or social relationships. The current recommended safe limits in the UK for adults are that men should not drink more than 21 units of alcohol per week and not more than 4 units per day and that women should not drink more than 14 units per week and not more than 3 units per day. One unit of alcohol is approximately 8g alcohol and is equivalent to a half pint of beer, a very small glass of wine, a glass of sherry or other fortified wine or a single measure of spirits.<sup>1</sup>

Various terms have been used to describe alcohol use and misuse and its effects on the drinker. The World Health Organisation has three categorises of alcohol use disorders:<sup>2</sup>

- Hazardous drinking where people consume above recognised 'sensible' levels but are not yet experiencing harm.
- Harmful drinking where people consume more than specified in 'sensible' levels and are experiencing harm.
- Alcohol dependence where people drink above 'sensible' levels and experience harm and symptoms of dependence.

Binge drinking is the consumption of large amounts of alcohol in a short time with the sole intention of getting drunk and is usually defined as drinking twice the current recommended safe limits.<sup>1</sup>

The various definitions relating to alcohol consumption according to the American Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)<sup>3</sup> and the World Health Organisation International Classification of Disease (ICD-10)<sup>4</sup> are given in Table 1.

**Table 1. ICD-10 and DSM-IV definitions relating to alcohol consumption**

<b>Term</b>	<b>Meaning</b>
Low risk alcohol use	Drinking that is within legal and medical guidelines and is not likely to result in alcohol-related problems (ICD-10)
Hazardous use e.g. binge or chronic heavy drinking	Pattern of alcohol consumption carrying with it a risk of harmful consequences to the drinker which may be damage to health, physical or mental, or they may include social consequences to the drinker or others (ICD-10)
Alcohol misuse	A general term for any level of risk, ranging from hazardous drinking to alcohol dependence (ICD-10)
Alcohol abuse i.e. harmful use	<p>A maladaptive pattern of use leading to clinically significant impairment or distress, as manifested by one or more of the following, within a 12-month period:</p> <ul style="list-style-type: none"> <li>○ recurrent alcohol use resulting in a failure to fulfil major role obligations at work, school, or home;</li> <li>○ recurrent alcohol use in situations in which it is physically hazardous;</li> <li>○ recurrent alcohol-related legal problems;</li> <li>○ continued alcohol use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of the alcohol;</li> <li>○ the symptoms have never met the criteria for alcohol dependence (ICD-10)</li> </ul> <p>Involves serious disturbances of health, work, or other areas of functioning related to alcohol use, without satisfying the criteria for alcohol dependence a pattern of drinking that is already causing damage to health which may be either physical (e.g., liver damage from chronic drinking) or mental (e.g., depressive episodes secondary to drinking) (DSM-IV)</p>
Alcohol dependence i.e. "alcoholism" or "alcohol addiction"	<p>A maladaptive pattern of use leading to clinically significant impairment or distress, as manifested by three or more of the following within the same 12-month period:</p> <ul style="list-style-type: none"> <li>○ a strong desire or sense of compulsion to drink;</li> <li>○ difficulties in controlling drinking in terms of onset, termination, or levels of use;</li> <li>○ a physiological withdrawal state when alcohol use has ceased or been reduced, or use of alcohol to relieve or avoid withdrawal symptoms;</li> <li>○ evidence of tolerance, such that increased doses of alcohol are required to achieve effects originally produced by lower doses;</li> <li>○ progressive neglect of alternative pleasures or interests because of alcohol use;</li> <li>○ continued use despite clear evidence of harmful consequences (ICD-10)</li> </ul> <p>Involves impaired control over drinking, manifested by physiological addiction to alcohol and/or serious disturbances of health, work, social or recreational activities, or other areas of functioning related to alcohol use (DSM-IV)</p>

Problem drinking is where the drinking results in alcohol-related consequences but does not meet the criteria for alcohol dependence.<sup>1</sup> Alcohol dependence (or alcoholism) is a chronic condition characterized by several factors including a strong need, preoccupation or compulsion to drink (craving), the inability to stop drinking once started (loss of control), the occurrence of withdrawal symptoms (e.g. nausea, sweating, shakiness, anxiety), the relief of these symptoms by drinking alcohol or taking another sedative drug and the need for increasing amounts of alcohol in order

to become intoxicated (tolerance). There is often an awareness of the need to reduce or stop drinking but an inability to implement this. Alternatively there can be denial of the problems caused by alcohol.<sup>1</sup> Alcohol dependence can be measured using a questionnaire such as Severity of Alcohol Dependence Questionnaire (SADQ). This scores alcohol dependence and can categorise as none, mild, moderate and severe depending on the level of dependence found.<sup>5</sup>

The harms from alcohol misuse are many and have been categorised in a variety of ways, for example:<sup>6</sup>

- harms to the health of the individual
- crime, anti-social behaviour, domestic violence, drink-driving and its impact on victims
- loss of productivity and profitability in employment
- social harms, including problems within families

Examples of potential medical and social consequences of alcohol misuse can be seen in Table 2.<sup>7</sup>

**Table 2. Examples of medical, psychological and social consequences of alcohol misuse or dependence**

*Accidents	*Insomnia
*Acute alcohol poisoning	*Liver damage – fatty liver, hepatitis, cirrhosis
*Amnesia	*Malignancies – bowel, mouth, larynx, oesophagus, colon, breast, liver
*Anxiety	*Myopathy
*Alcoholic hallucinations	*Neuropathy
*Brain damage	*Nutritional deficiencies
*Cardiac arrhythmias	*Obesity
*Cardiomyopathy	*Pancreatitis
*Dementia	*Peripheral neuritis
*Depression	*Physical dependence on alcohol
*Diabetes Mellitus	*Raised blood pressure
*Epilepsy	*Sexual problems
*Foetal harm, foetal alcohol syndrome	*Sexually transmitted diseases
*Gastritis	*Stroke
*Gout	*Trauma
*Haemopoietic toxicity	*Work problems
*Infertility	

## 2.2 The effect of alcohol misuse on family and friends

Many people drink alcohol occasionally and rarely, if ever, suffer harm. Therefore alcohol misuse is not caused solely by alcohol drinking and total abstinence is not

required to prevent alcohol misuse. If a biomedical view of causation is taken, then alcohol misuse and dependence would be caused by a disease manifest in susceptible individuals, possibly caused by gene-environment interactions. If a social model view of causation is taken, alcohol misuse is due to a failure of socialisation, particularly within the family.<sup>8</sup> Interest in role of the family in the cause of alcoholism started in the 1930s and was based on psychodynamic theories.<sup>9</sup>

Alcohol misuse affects the family and close social network as well as the individual problem drinker. Although drinking alcohol may lead to partner conflict, problematic partner interactions can appear to stimulate drinking or precipitate renewed drinking.<sup>8</sup> Alcohol misuse is associated with long-term distress within families, paternal drinking has been linked with raised levels of violence and incest and alcohol is cited as a contributing factor in many divorce cases.<sup>10</sup> In a large cohort study of adult health appraisal clinic attenders reporting on their childhood, the risk of having a wide variety of adverse childhood experiences including physical abuse, parental separation or divorce, mental illness, suicide and criminal behaviour was found to be significantly greater in children with parents who misused alcohol compared to those who did not.<sup>11</sup> Children of alcohol misusers are more likely to exhibit behavioural disorders, psychological disturbance (particularly affective disorders) and to misuse psychoactive substances.<sup>12</sup>

### **2.2.1 Prevalence, hospital admission and mortality rates**

In 2005, 73% of men and 58% of women reported drinking alcohol in the week prior to interview and 24% of men and 13% of women had drunk more than the recommended weekly safe limits.<sup>13</sup> It is estimated that 38% of men and 16% of women (aged 16-64) have an alcohol use disorder, which is equivalent to approximately 8.2 million people in England, and that 3.6% of adults are alcohol dependent (6% of men and 2% of women) which equates to approximately 1.1 million people in England.<sup>2</sup>

In the West Midlands in 2005, 16 % of men drank more than 8 units and 6% of women drank more than 6 units on at least one day in the week prior to interview.<sup>13</sup> In 2000, a survey of 738 adults living in private households in the West Midlands,

estimated the prevalence of mild alcohol dependence to be 69 per 1000 and for moderate dependence 2 per 1000.<sup>5</sup>

In England in 2005/6 there were 187,643 hospital admissions for adults aged 16 or over (130,543 men and 57,071 women) with a primary or secondary diagnosis of an alcohol-related disease.<sup>13</sup>

In England and Wales in 2005 there were 6,567 deaths directly linked to alcohol (4,340 men and 2,227 women). However, it is estimated that up to 22,000 premature deaths per year are associated in some way with alcohol misuse.<sup>13</sup>

### **2.2.1.1 Household demography**

In the UK, in 2006, there were approximately 24.2 million households. Approximately 28% of the adult population live in single person households (14% under state pension age and 14% over state pension age), 67% live in one family households and 4% live in households with two or more unrelated adults or multi-family households. Of the 67% one family households, 28% of couples have no children, 22% have one or more dependent children (defined as all children aged under 16, or aged 16 to 18 inclusive, single and in full-time education) and 7% have non-dependent children. For single parent families, 7% have dependent children and 3% have non-dependent children only.<sup>14</sup>

The 2005 General Household Survey questioned approximately 30,000 adults over age 16 living in private households. Of the total adults sampled, 13% had drunk more than 8 units (men) or 6 units (women) on at least one day in the previous week before interview. Compared to the total sample, 22% of single people were high volume drinkers, 11% married or cohabiting high volume drinkers, 11% divorced or separated and 2% were widowed high volume drinkers.<sup>13</sup> A large UK trial of treatments for adults with an alcohol problem (74% men and 26% women) reported that 39% were married and living with a partner, 5% were married but not living with partner, 15% were single but in a current relationship and 41% were single and not in a current relationship.<sup>15</sup> A research report from an alcohol treatment centre in Northampton, England reported on a sample of 212 people (64% men and 36%

women) with alcohol misuse representing 96% of consecutive admissions.<sup>16</sup> In this sample, 63.5% were married and living with their partners, 20% were separated or divorced, 2% were widowed and 14% were single and never had been married. Friendship networks were not reported.

### 2.2.2 Costs of alcoholism

In 2003 it was estimated that alcohol misuse in England cost between £18-20,000 million annually (see Table 3 for a detailed breakdown of these figures).<sup>17</sup> This study used a societal perspective, prevalence-based estimates and followed international guidelines for estimating the costs of substance misuse. In Scotland in 2001-2, it was estimated that alcohol misuse cost approximately £1071 million annually.<sup>18</sup> Again this used a societal perspective, prevalence based estimates and a burden-of-illness framework. The population of England is approximately ten times the size of the population of Scotland so the estimated costs of alcohol misuse in England were approximately double those of Scotland per head of population.

**Table 3. The costs associated with alcohol misuse annually**

<b>Cost</b>	<b>England estimate (£million)<sup>17</sup></b>	<b>Scotland estimate (£million)<sup>18</sup></b>
<b>Health Care Costs</b>		
Hospital inpatient and day visits:		57.4
Directly attributable to alcohol misuse	126.2	
Partly attributable to alcohol misuse	399.8	
Hospital outpatient visits	445.6	8.1
Accident and emergency visits	305.2	9.6
Ambulance services	205	9.1
GP consultations	48.7	3.6
Practice nurse consultations	19.3	
Dependency prescribed drugs	1.6	0.2
Other health care costs	35.3	3.0
Specialist treatment services	96.2	4.6
<b>Workplace and wider economy</b>		
Lost output due to absenteeism	1,785.9	119.0
Lost output due to reduced employment	2,153.7	84.0
Lost output due to premature death	2,481.8	201.5
Premature mortality in the non-working population		216.7
<b>Social work services</b>		
Children and families		71.8
Community care		2.2
Criminal justice social work		11.1
Children's hearing system		0.8

<b>Alcohol-related and alcohol specific crime</b>		
<b>Criminal justice system</b>		
Alcohol specific offences	29.9	
Alcohol-related offences	1,720.4	
Property/health and victim services	2,521.2	
Costs in anticipation of crime (alarms etc)	1,494.6	
Lost of productive output (victim)	969.8	
Emotional impact costs for victim	4,678.6	
Custodial sentences		46.1
Court time and legal costs for prosecutions		19.8
Police time		201.8
<b>Drink driving</b>		
Criminal justice system costs	77.3	
Drink-driving campaign		0.2
<b>Cost of drink-driving casualties</b>		
<b>Lost output</b>		
Serious casualties	33.8	
Slight casualties	25.9	
<b>Medical and ambulance</b>		
Serious casualties	20.5	
Slight casualties	11.0	
<b>Human costs</b>		
Serious casualties	232.8	
Slight casualties	123.8	
<b>Total Costs</b>	<b>20,044.0</b>	<b>1,071.0</b>

### 2.3 Current service provision - Alcohol interventions

There are a very wide variety of treatments that have been used in alcohol misuse or dependence. Treatments that have been tried include:<sup>19</sup>

- cognitive-behavioural treatments including assertion training, aversion therapies (electric shock, nausea, covert sensitisation), behaviour contracting, cognitive therapy, community reinforcement therapy, behavioural marital therapy, relapse prevention training, relaxation training, re-socialisation programmes, self-control training, social skills training, stress management training.
- counselling including confrontation interventions, family therapy, group meetings without a leader, group therapy, marital therapy (non-behavioural), supportive counselling, transactional analysis.

- pharmacological treatments including calcium carbimide, disulfiram, anxiolytics, lithium, bromocryptine, naltrexone.
- other interventions including acupuncture, Alcoholics Anonymous, biofeedback, education, hypnosis, legal sanctions, outpatient or residential detoxification, physical exercise, videotape self-confrontation.

Drug treatments currently licensed in the UK for alcohol withdrawal include disulfiram (Antabuse), long acting benzodiazepines (eg chlordazepoxide), clomethiazole and acamprosate. Disulfiram causes a very unpleasant systemic reaction if alcohol is ingested. Long acting diazepam can be used to attenuate withdrawal symptoms but there is a risk of dependence if used for too long. Clomethiazole should be used for the management of withdrawal in an in-patient setting only. Acamprosate can be used in combination with counselling in maintaining abstinence in a patient who has already stopped drinking.<sup>20</sup>

### 2.3.1.1 Service organisation in the West Midlands

Services for alcohol harm reduction can be provided by a wide range of health professionals and can be categorised in five tiers (see Table 4).<sup>1</sup>

**Table 4. Tiers of alcohol harm reduction services**

Tier	Description
0	Preventive services, health promotion
1	General services, particularly general practitioners who work with clients with a wide variety of health problems, including alcohol misuse
2	Open access alcohol treatment services, can be used alone or to access higher tier services
3	Structured community-based alcohol services offering structured programmes of care, including psychotherapeutic interventions
4	Residential alcohol-specific services such as inpatient detoxification and residential rehabilitation, often found in general psychiatric wards rather than specialist units

A survey of West Midlands GPs was carried out to determine the level of service provided on alcohol issues. The questionnaire was sent to 693 GPs in 260 practices and 110 replies were received. Of the responders, 90% said they provided

information and advice, 57% provided counselling, 54% offered brief interventions, 61% provided community detoxification and 52% were willing to refer to more specialist services providing community detoxification. Only 80% knew about and were prepared to refer to more specialist services.<sup>1</sup> Given the relatively low number of responders, it is likely that these percentages are an overestimate of the services offered by GPs in the West Midlands.

There are approximately 38 specialist alcohol services in the West Midlands providing 2, 3 and 4 Tier services (see Table 5).<sup>1</sup> Some are provided by the voluntary sector and some by statutory services which can be either the NHS or local authorities. A few establishments are privately run. Most of the focus of counselling services is on individual counselling for the problem drinker. (Personal communication, R. McVey, North Birmingham Aquarius, 30<sup>th</sup> July 2007). Nationally, it is estimated that of the referrals to alcohol agencies, 36% are self referrals, 24% are from GP/primary care and 8% are from other alcohol agencies.<sup>2</sup> The average waiting time for assessment is estimated to be approximately 5 weeks.<sup>2</sup>

**Table 5. West Midlands specialist alcohol services**

Service	Sector	Tiers
Alcohol and Drug Services in Staffordshire (Burton on Trent, Cannock, Stafford, Stoke-on-Trent, Tamworth)	Voluntary	2&3
Aquarius (Dudley, North Birmingham, Saihita Birmingham Asian Alcohol Service, Sandwell, Solihull, South Birmingham, Wolverhampton)	Voluntary	2,3&4
Charles Jones Institute (Stone)	Private	4
Community Alcohol Service (Hereford, Newcastle-under-Lyme, Staffordshire Moorlands)	Statutory	2&3
Drug and Alcohol Support Project (Coventry)	Statutory	2
Edward Myers Centre (Stoke-on-Trent)	Statutory	3&4
Gordana House (Shrewsbury)	Private	3&4
Hereford and Worcester Advisory Service on Alcohol (Bromsgrove, Kidderminster, Redditch, Worcester)	Voluntary	2&3
Hopwood House (Stoke-on-Trent)	Voluntary	4

Impact Alcohol Advisory Service (Shrewsbury, Telford)	Voluntary	2&3
New House Drug and Alcohol Unit ((Shrewsbury)	Statutory	2&3
O'Connor Centre (Newcastle-under-Lyme)	Private	3
Swanswell Trust (Coventry, Leamington Spa, Nuneaton, Rugby)	Voluntary	2&3
Supporting Independence from Alcohol (Birmingham)	Voluntary	3&4
Walsall Addaction (Walsall)	Voluntary	2&3
Community Drug and Alcohol Team (Walsall)	Statutory	3
Wolverhampton Community Alcohol Team (Wolverhampton)	Statutory	2&3
Woodleigh Beeches (South Warwickshire)	Statutory	4

A national survey of alcohol treatment service provision was conducted in 2003-4 mapping service providers by using a snowball sampling techniques then conducting a cross-sectional survey by postal questionnaire to establish the level of service provided.<sup>2</sup> There were 696 agencies identified, of which 32 were in the West Midlands. London had the largest number of agencies with 196 and East Midlands had the fewest with 30. A gap analysis was then undertaken to determine the gap between the number of people in need of interventions and the number accessing specialist interventions. For England overall, it was estimated that only 5.6% of individuals in need of services accessed them, giving a ratio of 18. There was considerable regional variation in this ratio, with the North East having the lowest service provision ratio of 102 and the North West having the highest at 12. The West Midlands ratio was approximately 16 which meant that approximately 6% of people in need of interventions in the West Midlands actually received them. However, the gap analysis also found that more than twice as many people were referred for treatment than those who actually accessed treatment.<sup>2</sup>

### **2.3.2 A longitudinal study of problem drinkers**

The Birmingham Untreated Heavy Drinkers Project enrolled approximately 500 heavy drinkers in 1997 and have been re-interviewing a proportion on a regular basis over the last 10 years.<sup>21</sup> Heavy drinkers were defined as men drinking more than 50 units and women drinking more than 35 units per week. None had been

treated for alcohol problems in the previous 10 years and were enrolled via a variety of non-treatment sources. The fifth wave of interviews included over 50% of the sample (N=260) and was completed in 2005. The main findings were that approximately 10% of interviewed patients became abstinent without treatment, the majority continued to drink at harmful levels and that only 13% of the sample had had contact with alcohol treatment centres within the previous eight years. Seventy percent of those visiting their GP reported that they had not received advice to reduce their drinking. The sample used hospital inpatient and outpatient services at twice the rate of the general population and less than a fifth of those using hospital services had discussed their drinking with hospital staff.

## **2.4 Description of therapy involving family and friends**

### **2.4.1 Family involvement in alcohol programmes**

Because there is a considerable reciprocity between the presence of alcohol misuse and marital and family problems, there has been some therapeutic work involving family members and the wider social network.<sup>22</sup> The Second Special Report to the US Congress on Alcohol and Health stated that family therapy was the “most notable current advance in psychotherapy for the treatment of alcoholism.”<sup>23</sup>

Therapeutic work can focus on the alcohol misuse or on the social context and support systems of the problem drinker or both. The counselling can engage the problem drinker alone or other people associated with the problem drinker alone or both. It can involve an individual concerned significant other person (CSO) such as a partner, child or friend alone or more than one person in the wider family or social network in addition to the problem drinker. Family or couple therapy can comprise all or most of the therapeutic work or it can be given alongside group or individual psychotherapy or in addition to other treatments such as biofeedback or drug treatments. The family can be the instrument that persuades the problem drinker to seek help or can be involved once the problem drinker has started treatment.

There are three major theoretical models that have formed the basis of much family therapy:<sup>9</sup>

- Disease model perspectives where alcohol misuse is seen as a 'disease' and that the family is seen as 'co-dependent' i.e. exhibiting a recognisable pattern of personality traits that help to perpetuate the problem. Family therapy using a disease model perspective often treats family members separately from the alcohol misuser.
- Behavioural perspectives assume interdependence between drinking and family interactions and that the interaction changes when alcohol is drunk, thereby reinforcing the behaviour. Family therapy using a behavioural perspective often focuses on communication skills and positive interactions and also using the partner to encourage the alcohol misuser to take their medication.
- Family systems perspectives assume that the family behaves as a typical system where alcohol misuse is an organising principle and the system is unstable where the problem drinker varies between abstinent, not drinking, drinking and being intoxicated. Family therapy from this perspective focuses on interactions and collaborations to redefine roles and change communication patterns.

## 2.5 Types of therapy involving family and friends

There are a variety of different types of therapy involving family and friends that have been used.<sup>24</sup> Some of these have generic names such as coping skills therapy, couples therapy and helping the family but some have more specific titles and some of these are listed below<sup>15,24</sup>:

- Alcoholics Anonymous and the 12-step family disease approach. This is a very widely used programme that encourages family members to detach from the alcoholic behaviour and seek support elsewhere, particularly Alcoholics Anonymous.
- Community Reinforcement and Family Training (CRAFT). This encourages family members to reduce risky situations, encourage sobriety and professional treatment in the drinker and engage in outside activities to reduce dependency on the relationship with the problem drinker.
- Johnson Institute Intervention. This involves 3-4 educational and rehearsal sessions with the family members before a confrontational interview with the

problem drinker to overcome denial that there is a problem and to engage in treatment.

- Unilateral family therapy strengthens the coping skills of the partner of the problem drinker.
- Pressure to Change approach involves 5-6 counselling sessions with the partner of the problem drinker to train them to use increasing levels of psychological pressure on the problem drinker to encourage them to seek help.
- Behavioural Couples Therapy (BCT) includes both alcohol focused and relationship focused interventions. It assumes that partners can reward abstinence and that happier relationships reduce the risk of relapse. It can also include behavioural contracts, for example to take drug treatments.
- Counselling for Alcoholic's Marriages (Project CALM) includes disulfiram or sobriety contracts and relationship-focused interventions to increase positive feelings, shared activities and constructive communication.
- Family Systems Therapy (FST) incorporates many of the systems theories into family therapy and focuses on interactions rather than individuals. It can include the partner of the problem drinker or the wider family or social network. An example of this is therapy based on the Milan School.
- Social Behaviour and Network therapy uses cognitive and behavioural strategies to help clients build social networks that can support their change in drinking behaviour and to minimise the influence of people within their social network that have supported alcohol misuse.

Therapy involving family and friends is not currently used widely in the UK. A recent review of services in Scotland found that only four of 16 regions offered any type of family therapy and six offered couples therapy specifically.<sup>25</sup> In the West Midlands, only 2-3 service providers currently provide therapy involving family and friends (personal communication, R.McVey, Aquarius, July 2007).

## **2.6 Previous systematic reviews**

There have been a number of systematic reviews of behavioural interventions in alcohol misuse, with some looking at both alcohol and drug misuse. A very early

systematic review of families in the treatment of alcoholism from 1977 listed and described all 24 studies found, including some controlled studies, and concluded that family therapy can be beneficial for both the alcohol misuser and their family.<sup>26</sup> Since then, most of the systematic reviews published have looked at therapy involving family and friends alongside a wide variety of other psychotherapeutic approaches for the treatment of people with alcohol problems or combined alcohol and substance misuse. Since 2000, there have been four systematic reviews of the clinical effectiveness literature,<sup>27-30</sup> three systematic reviews of clinical and cost-effectiveness literature<sup>24,31,32</sup> and three health technology assessments (HTA) of clinical and cost effectiveness literature, one from Sweden<sup>33</sup> and two from Scotland<sup>34</sup> one of which also conducted a meta-analysis of family therapy studies and an economic model and will be discussed in Section 4.2.1.5.<sup>25</sup>

- Of the four systematic reviews of effectiveness literature, one looked at brief interventions for alcohol misuse only<sup>30</sup>, one looked at engaging general practitioners in screening patients about alcohol misuse,<sup>28</sup> and two looked at a wide range of psychotherapeutic approaches for alcohol misuse and mention family therapy only briefly.<sup>27,29</sup>
- One systematic review of clinical and cost effectiveness literature focused on family therapy for alcohol misuse and separated studies where family members were treated alone compared to those treated with the problem drinker.<sup>31</sup> However, it included non-randomised studies with randomised trials and cost-benefit studies. Three studies were included in the family members treated alone section and 12 studies in the combined family and problem drinker section. There was a narrative discussion of the results only. Another systematic review of clinical and cost-effectiveness literature included 38 controlled studies, was well conducted and discussed in detail the results of included studies in a logically and clinically coherent manner.<sup>24</sup> There was no tabulation or meta-analysis of outcomes. The third systematic review of clinical and cost effectiveness studies was a German study that was investigating the effects of a wide range of treatments for alcohol misuse and mentions family therapy only briefly.<sup>32</sup>
- The two HTAs discussed here both looked at a range of measures in the treatment of alcohol misuse<sup>34</sup> or alcohol and drug abuse.<sup>33</sup> For family therapy

research, the Scottish HTA<sup>34</sup> referred to the results of the meta-analysis in the other Scottish HTA which is discussed in Section 4.2.1.5.<sup>25</sup> The Swedish HTA<sup>33</sup> has only the summary and conclusions available in English. In this, family therapy is only mentioned briefly and no results specific to family therapy are presented.

## **2.7 Rationale for the review**

Therapy involving family and friends may be an effective intervention to assist problem drinkers and the community, including enhancing the process of achieving and sustaining abstinence. However, it is acknowledged that abstinence may not be the only relevant outcome measure as reduction in overall consumption for the problem drinker may also be very beneficial as may improvement in aspects of life for family members, friends and CSOs. The aim of this review is to identify and systematically map the evidence base of the clinical and cost-effectiveness of therapy programmes involving family and friends in the treatment of alcohol misuse.

### **3. CLINICAL EFFECTIVENESS REVIEW**

#### **3.1 Methods for reviewing clinical effectiveness**

A protocol was written prior to the start of this review and a scoping search was undertaken.

##### **3.1.1 Search strategy**

The search strategy was developed by an experienced information specialist. No language or date restrictions were applied. Full details of the search strategies are provided in Appendix 1. The electronic databases searched are listed below.

###### *Electronic databases:*

- Cochrane Library (Wiley) 2006 Issue 3 (CDSR, DARE, HTA, CENTRAL)
- MEDLINE (Ovid) 1966 to July Week 1 2006
- MEDLINE(R) In-Process (Ovid) as at 13 July 2006
- EMBASE (Ovid) 1980 to 2006 Week 28
- CINAHL (Ovid) 1982 to July Week 1 2006
- PsycINFO (Ovid) 1967 to July Week 2 2006
- Campbell Collaboration 2006 Issue 3 (C2-SPECTR) searched 17<sup>th</sup> July 2006
- ASSIA (Applied Social Sciences Index and Abstracts) 1987 – 17<sup>th</sup> July 2006 (Cambridge Scientific Abstracts)
- IBSS (International Bibliography of Social Science) (OVID) 1951 to July Week 02 2006
- SCI-Expanded (Science Citation Index Expanded) 1900 – 17<sup>th</sup> July 2006
- SSCI (Social Science Citation Index) 1956 – 17<sup>th</sup> July 2006
- National Research Register 2006 Issue 2
- metaRegister
- ClinicalTrials.gov

Other sources used included:

- Internet searches
- Citation lists of included studies and relevant reviews
- Contacting experts and organisations
- Registers of trials that were searched for unpublished and ongoing trials

### 3.1.2 Inclusion criteria

The inclusion criteria used for this mapping review are described in Table 6 below.

**Table 6. Inclusion criteria for clinical effectiveness review**

Domain	Criteria
<b>Study design</b>	Randomised controlled trials
<b>Population</b>	Problem drinker (various definitions including alcoholic) >50% sample
<b>Intervention</b>	Any psychotherapeutic intervention targeted at the problem drinker as well as a concerned significant other, particularly family member OR Any psychotherapeutic intervention targeted at the concerned significant other of the problem drinker, particularly a family member and then engaging the problem drinker
<b>Comparator</b>	Any
<b>Outcome measures</b>	
<i>Alcohol-related</i>	Any alcohol-related outcomes in the problem drinker, particularly abstinence rates, mean abstinent days and drinker treatment entry rates
<i>Other</i>	e.g. generic or specific quality of life, relationship or family functioning, mental health, hospitalisation

### 3.1.3 Study identification strategy

All identified citations (titles ± abstracts) were initially screened by one reviewer for duplicates and inclusion. Citations were grouped into “include”, “exclude” or “obtain full text”. A second reviewer checked a random sample of the citations and any disagreements were resolved through discussion.

One reviewer processed all full texts retrieved according to the inclusion criteria using a form designed for the purpose. These were checked by a second reviewer

and disagreements resolved through discussion. Where there were insufficient details to make a decision, the authors of the study were contacted.

#### **3.1.4 Quality assessment and data extraction strategies**

Quality assessment of the included studies was implemented by one reviewer. A modified Jadad scale was used to assess included RCTs which included whether the study was randomised, method of randomisation given, presence or absence of allocation concealment, whether outcome assessment was blinded and whether there were less than 20% of participants lost to follow up. Data extraction was conducted by one reviewer and checked by a second. Data extraction was conducted from journal articles into report tables rather than using a data extraction form except for the first eight of the included studies (including a study in Chinese) where a data extraction form was used first. Disagreements were resolved by discussion.

#### **3.1.5 Data analysis strategy**

Study characteristics and results were tabulated and collated in summary tables. Results were interpreted in the light of methodological strengths and weaknesses identified in quality assessment. Comparators were categorised into other forms of family therapy, other forms of counselling or psychotherapy and other forms of care. Where RCTs reported similar family therapy outcomes, results were meta-analysed using RevMan software package (Version 4.2, Cochrane Collaboration, Oxford). Clinical heterogeneity was assessed qualitatively and statistical heterogeneity between results was examined using standard measures of heterogeneity. Random effects models were used where there was significant heterogeneity. Where continuous measures were meta-analysed, standardised mean differences were used, due to the difficulty with establishing whether precisely the same outcome was measured.

## 3.2 Results

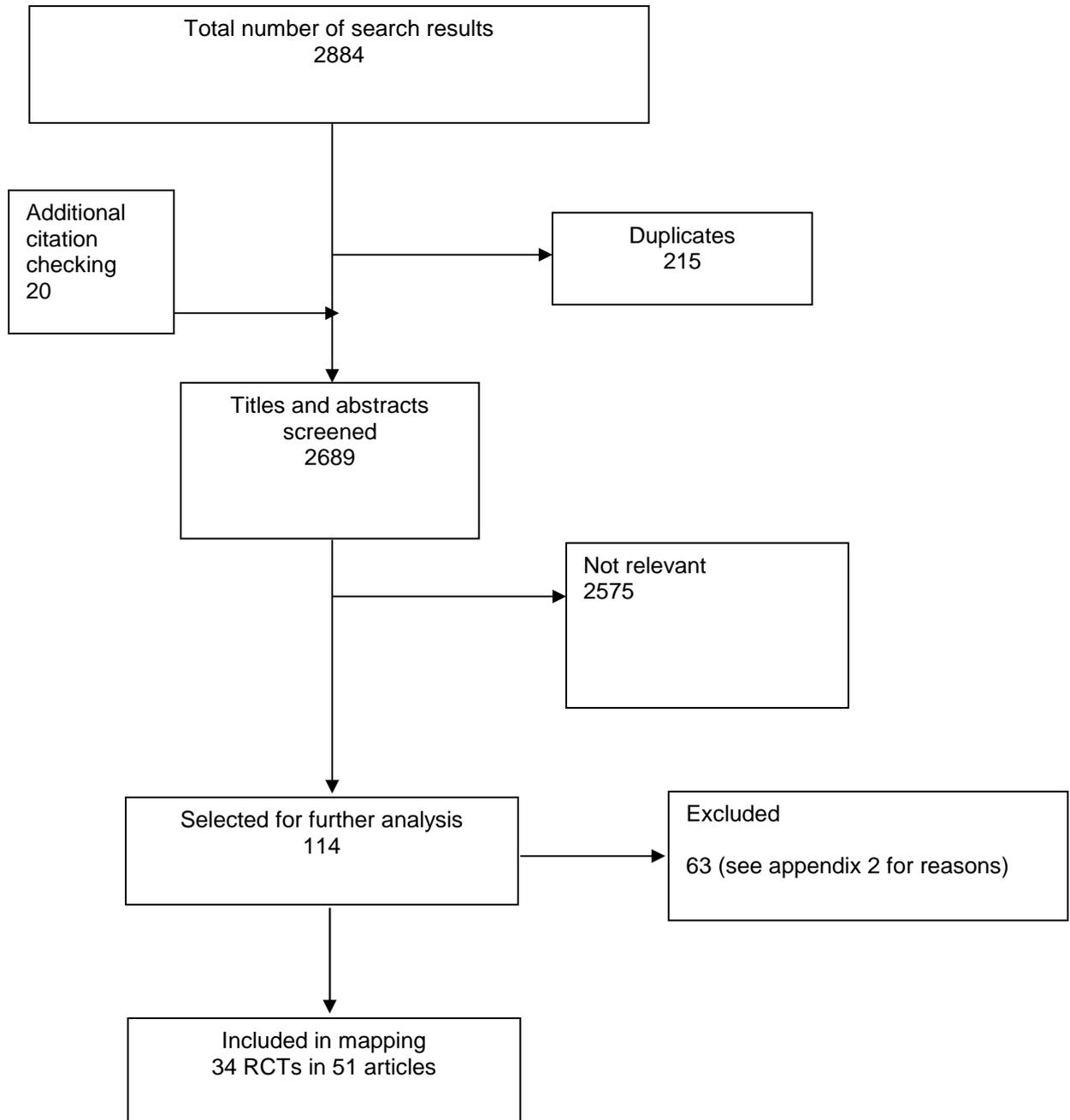
### 3.2.1 Quantity and quality of research available

The initial searches identified 2884 citations of which 215 were duplicates giving 2669 citations of which 114 were selected for further analysis (see Figure 1). Citation checking of narrative and systematic reviews revealed 20 further references. Of 2904 references, 114 were selected for further analysis. There were 63 excluded studies (see Appendix 2). The list of excluded studies has nine citations that were not available so were potentially includable RCTs. Most of these were PhD theses or conference posters or presentations. There were 34 included RCTs reported in 51 papers. One RCT was published in Chinese and was data extracted and checked by two reviewers fluent in Mandarin.<sup>35</sup>

The included studies all have at least one arm of the RCT where one or more than one of spouse, partner, another family member such as parent, sibling or child, or wider social network, including a family member or members (or friends or CSOs) are involved in the therapeutic process. For the purposes of this mapping review, a very wide definition of the family has been taken, i.e. which can involve close friends or concerned significant others. For some of the RCTs, the family involvement is relatively small compared to the remaining therapy, for others it is the principal part of the therapy (see Table 7, Table 8 and Table 9 for more details). For some of the RCTs, the focus of the therapy is on the alcohol misuse, for others, the focus is on social networks. For a proportion of the RCTs the therapeutic relationship is with the family member only, in order to encourage them to help the problem drinker engage with treatment. For most of the RCTs the therapy is with the problem drinker plus the family member or members.

A wide variety of comparators were used in the RCTs, including other forms of family or marital or couple therapy, other forms of group or individual counselling or psychotherapy, Alcoholics Anonymous, drug therapy, biofeedback, desensitisation, electric shock, waiting list control, undefined 'usual care', waiting list or no treatment.

Figure 1. Flow diagram of study selection process



For the purposes of presentation, the 34 RCTs have been split into three groups:

- RCTs where the focus of therapy is on the problem drinker but more than one family member or CSO is involved with the treatment (see Table 7).
- RCTs where the focus of therapy is on the problem drinker but only one family member or CSO is involved with the treatment (see Table 8).
- RCTs where the focus of therapy is on the partner/CSO rather than the problem drinker (see Table 9).

From these tables it can be seen that the included RCTs are heterogeneous in terms of patients, interventions, comparators and outcomes. The RCTs were conducted from 1974 to 2006, most were from USA but three were UK-based including the largest RCT.<sup>15</sup> The size of the RCTs varied between 12<sup>36,37</sup> and 742 patients.<sup>38</sup>

The quality of the studies varied. There were two RCTs that scored 5 on the Jadad scale, including the largest RCT.<sup>38</sup> The median quality score was 2. There were two cluster RCTs but no cross-over RCTs. Method of randomisation was rarely described and very few were explicit about allocation concealment or blinding of outcome assessment. The lengths of follow up varied between 4 weeks and 4 years but most were between 6 months and 1 year. Losses to follow up were greater than 20% in 9 RCTs.

**Table 7. RCTs where the focus of therapy is on the problem drinker but more than one family member or CSO is involved with the treatment**

RCT, date (country)	Patients	Intervention	Comparator	Outcomes reported (* used in meta-analysis)	Number of patients
Azrin, 1976 (USA)	Men with alcohol abuse	Marital, group and job counselling, re- socialisation, buddying, disulfiram	Standard hospital treatment, disulfiram	Percentage time drinking alcohol, percentage time institutionalised	36
Bennun, 1988 (UK)	Parent with alcohol abuse	Milan, systems- focused counselling	Problem-solving, symptoms-focused counselling	Alcohol dependence (SADQ), marital satisfaction*, family satisfaction	12
Dembo, 2002 (USA)	Juvenile offenders	Family empowerment – home visit family systems counselling	Extended services – monthly phone calls, access to youth service staff	Relapse rate statistical test results	278
Fichter, 1993 (Germany)	Men and women with alcohol addiction	Group problem solving/ education communication therapy with key relative/s	Self-help initiatives group counselling	Abstinence rates*, family functioning (subgroup results only), positive or negative attitude by CSO about drinker	100 (cluster randomised, n=16)
Hedberg, 1974 (USA)	Male and female alcoholics	Behavioural family counselling	1. systematic desensitisation 2. covert desensitisation 3. electric shock	Abstinence rates*, controlled drinking rates	49
Latimer, 2003 (USA)	Adolescent substance abusers (86% alcohol abuse/dependence )	16 sessions individual problem-focused family therapy + 32 peer-group CBT sessions	16 sessions drug harm psycho-education	Mean number of days used alcohol per month	43

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Li, 2003 (China)	Male, alcohol dependent	Psychological treatment, telephone follow up, helpline for patients and family members	General education and advice	Relapse rates*, Quality of Life (SCL)	286
Longabaugh, 1995 (USA)	Male and female alcohol abusers	1. 16 sessions including partner therapy, (communication, problem-solving) 2. 16 sessions including less partner therapy plus occupational therapy, group CBT	Group CBT	Mean percentage of abstinent days during follow up*	188
Sleznick, 2006 (USA)	Runaway adolescents with alcohol or drug abuse (58% alcohol misuse)	Ecologically based family therapy	Usual treatment (crisis counselling and case management)	Alcohol use (mean percentage days using alcohol), homeless days, depression (BDI)	202
UKATT, 2005 (UK)	Adult, m+f, with alcohol problems	8 sessions social behaviour and network therapy	3 sessions motivational enhancement therapy	Abstinence rates*, Mean percentage days abstinent*, alcohol dependence quality of life (EQ-5D, SF-36), GHQ -28,	742

**Table 8. RCTs where the focus of therapy is on the problem drink but only one family member or CSO is involved with the treatment**

RCT, date (country)	Patients	Intervention	Comparator	Outcomes reported	Number of patients
Azrin 1982 (USA)	Men and women with alcohol abuse	1. 5 sessions communications training, disulfiram 2. 5 sessions behaviour therapy	5 sessions individual educational counselling, disulfiram	Mean number of days drinking, mean ounces of alcohol consumed per episode, mean number of days intoxicated, disulfiram taken, percentage time institutionalised, unemployed, absent from home	43
Barrowclough, 2001 (UK)	Schizophrenic men and women with substance abuse (83% alcohol)	Family support worker, 5 sessions family motivational therapy, plus 24 sessions CBT plus routine NHS care	Routine NHS care	Relapse rates*, median percentage days abstinent, Leeds dependence score, Addiction Severity score	36
Bowers, 1990 (USA)	Men and women with alcohol use problems	9 sessions couples communication therapy	8 sessions Individual counselling	Relapse rates, abstinence rates*, mean drinks per week, marital functioning*	16
Fals-Stewart, 2005 (USA)	Men with alcohol abuse and female partner	1. 6 sessions brief behavioural couples therapy + 12 sessions group counselling 2. 12 sessions behavioural couples therapy + 12 sessions group counselling 3. 6 sessions couple education + 12 sessions group counselling	1. 6 sessions individual counselling +12 sessions group counselling	Mean percentage days heavy drinking, relationship satisfaction*, (cost effectiveness)	100

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Fals-Stewart, 2006 (USA)	Women with alcohol abuse and male partner	12 sessions behavioural couples therapy + 20 sessions individual alcohol-focused counselling 12 sessions couple alcohol-focused education + 20 sessions individual alcohol-focused counselling	Individual 12-step facilitation treatment	Mean percentage days abstinent*, relationship satisfaction*, spousal violence	138
Howden Chapman, 1988 (NZ)	Men and women, after inpatient detox for 2 months	1. 6 week outpatient programme 2x weekly attended with spouse or friend 2. single confrontational interview in presence of spouse or friend	6 week inpatient including individual and group counselling and some family therapy	Abstinence rates*, drinking alcohol rates, mean grams alcohol on drinking days, problem-free drinking rates	113
Karno, 2002 (USA)	Men and women with alcohol abuse	1. 20 sessions manualised family systems therapy 2. 20 sessions manualised couple CBT	-	Mean drinking score	47
Kelly, 2002 (USA)	Men with alcohol dependence, married or cohabiting with female partner and 1 or more children	1. 32 sessions behavioural couples therapy 2. 12 sessions couples-based psycho-education with 20 sessions individual CBT	Individual CBT	Mean percentage of days abstinent*, family functioning*, children's symptoms	72
McCrary, 1982 (USA)	Men and women with alcohol abuse and a spouse	1. couples group and individual therapy (inpatient) 2. couples group and individual therapy (outpatient)	Group therapy	Abstinence rates*, improved drinking rates, months of abstinence, medical consequences of drinking rates, rehospitalisation rates*	33

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McCrary, 1991 (USA)	Married men and women with alcohol abuse	1. behavioural marital therapy 2. couples alcohol-focused therapy	Alcohol focused therapy with minimal spouse involvement	Abstinence rates*, percentage abstinent days*, light drinking days, moderate drinking days, heavy drinking days, hospitalisation rates*, mean length of hospitalisation, percentage with any work missed due to drinking, percentage with any job loss due to drinking, percentage with any alcohol-related arrests, marital satisfaction*, percentage marital separation	45
McCrary, 1999 (USA)	Men with alcohol abuse and spouse or partner	1. behavioural couples therapy 2. behavioural couples therapy with relapse prevention 3. behavioural couples therapy with Alcoholic's Anonymous	-	Abstinence rates, Mean percentage days abstinent, marital happiness	90
Monti, 1990 (USA)	Men with alcohol dependence, inpatients	Group communication skills training with CSO/family member	1. group communication skills training 2. cognitive behavioural mood management training	Mean percentage of days abstinent*, mean percentage of days with heavy drinking, mean number of drinks per actual drinking day, mean number of days to first drink	69

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O'Farrell, 1985 (USA)	Married men with alcohol abuse	1. 10 session behavioural couples therapy 2. 10 session interactional couples therapy	5 sessions supportive individual counselling	Abstinence rates*, mean percentage of days abstinent*, light drinking days, heavy drinking days, marital functioning*, any marital separation, alcohol related hospitalisation or residential treatment*, alcohol related arrests, job loss due to drinking, any blackouts or shakes, any hallucinations, seizures or DTs	36
O'Farrell, 1993 (USA)	Married men with alcohol abuse who attended 16-18 BMT sessions	15 additional sessions couples relapse prevention therapy	No additional sessions	Abstinence rates*, mean percentage of days abstinent*, light, heavy and total drinking days, marital functioning*, any marital separation, alcohol related hospitalisation or residential treatment*, alcohol related arrests, job loss due to drinking, any blackouts or shakes, any hallucinations, seizures or DTs	59
Shoham, 1998 (USA)	Men with alcohol abuse or dependence and female partner	1. 20 session family systems therapy 2. 20 couples manualised cognitive behavioural therapy	-	95% abstinence rates, mean percentage abstinence scores	63
Walitzer, 2004 (USA)	Men with alcohol abuse and female partner	1. 10 sessions behavioural couples therapy 2. 10 sessions behavioural alcohol-focused therapy with spouse	10 sessions behavioural alcohol-focused therapy	Mean abstinent or light drinking days per month*, heavy drinking days per month, marital satisfaction*	64

Therapy involving family and friends in alcohol abuse or dependence

Zweben, 1988 (USA)	Men and women with alcohol abuse and spouse	1. 8 sessions interactional couple counselling 2. single advice session with spouse	-	Mean percentage of days abstinent during follow up, percentage heavy drinking days, marital adjustment	116
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**Table 9. RCTs where the focus of therapy is on the partner/CSO rather than the problem drinker**

RCT, date (country)	Patients -Partner/CSO	Intervention	Comparator	Outcomes reported	Number of patients
Barber, 1995 (Aus)	Heavy drinker -female and male partner	1. Individual counselling 2. group counselling	Waiting list	Drinker treatment entry rates, change of drinking, partner depression, well- being, self-esteem	23
Barber, 1996 (Aus)	Alcohol dependent -female and male partner	1. Individual counselling 2. group counselling 3. Alcoholics Anonymous	Waiting list	Drinker treatment entry rates, change of drinking, partner well-being	48
Barber, 1998 (Aus)	Heavy drinker -female partner	1. self-help manual 2. counselling	Waiting list	Drinker treatment entry rates, partner depression	38
Copello, unpublished (UK)	Alcohol or drug problem (60% alcohol) -family member	5 sessions stress and coping counselling with manual	1 session stress and coping counselling with manual	CSO stress symptoms, coping questionnaire	143
Halford, 2001 (Aus)	Male problem drinker -Female partner	Alcohol-focused couples therapy	1. supportive (Rogerian) counselling 2. stress management	Drinker mean percentage days intoxicated, GHQ- 28, relationship satisfaction	61

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Miller, 1999 (USA)	Man or woman with alcohol abuse or dependence -Living with a problem drinker who was related	1. six sessions family confrontation (Johnson)	1. 12 sessions CSO attending Alcoholics Anonymous 2. community reinforcement and family training (CRAFT)	Drinker treatment entry rates, CSO depression (BDI), relationship happiness	130
Sisson, 1986 (USA)	Man with severe alcohol problem -woman family member	Community reinforcement training leading to joint counselling	Supportive counselling and Alcoholics anonymous referral	Drinker treatment entry rates, mean days drinking per month, mean days taking disulfiram	12

### 3.2.2 Abstinence results

Abstinence outcomes were chosen as the main outcome measure to reflect drinking alcohol because abstinence was one of the goals of treatment in a number of the studies and was one of the most commonly reported outcomes. Other outcomes that could have been presented included problem-free drinking days, controlled drinking rates, harm reduction or reduction in overall consumption. However, the measurement and presentation of these outcomes varied considerably between RCTs and these outcomes were reported in fewer RCTs. The two abstinence outcomes used are outlined and explained in Table 10.

**Table 10. Abstinence rates meta-analysis comparisons**

	Comparison 1	Comparison 2
Patients	Problem drinker	Problem drinker
Intervention	Any therapy focused on the problem drinker and one or more family members or CSOs	Any therapy focused on the problem drinker and one or more family members or CSOs
Comparator (2 subgroups)	<ul style="list-style-type: none"> <li>Any other psychotherapy or counselling not involving the family or CSO</li> <li>Any other treatment not involving the family or CSO</li> </ul>	<ul style="list-style-type: none"> <li>Any other psychotherapy or counselling not involving the family or CSO</li> <li>Any other treatment not involving the family or CSO</li> </ul>
Outcomes	Abstinence rates	Mean abstinent days or mean percentage abstinent days
Notes	Where there were multiple family therapy or comparator groups, results were combined where possible Abstinent rates were taken as the reciprocal of relapse rates where reported	Where there were multiple family therapy or comparator groups, results for the most similar group to the other RCTs was used, rather than an intermediate group between family therapy and comparator

The results of the meta-analyses of the two comparisons are shown in Figure 2 and Figure 3.

RCTs comparing one form of family therapy to another form of family therapy only were not included in either of these comparisons because the question was whether family therapy is more effective than comparator in achieving abstinence, rather than which type of therapy involving family and friends is more effective.

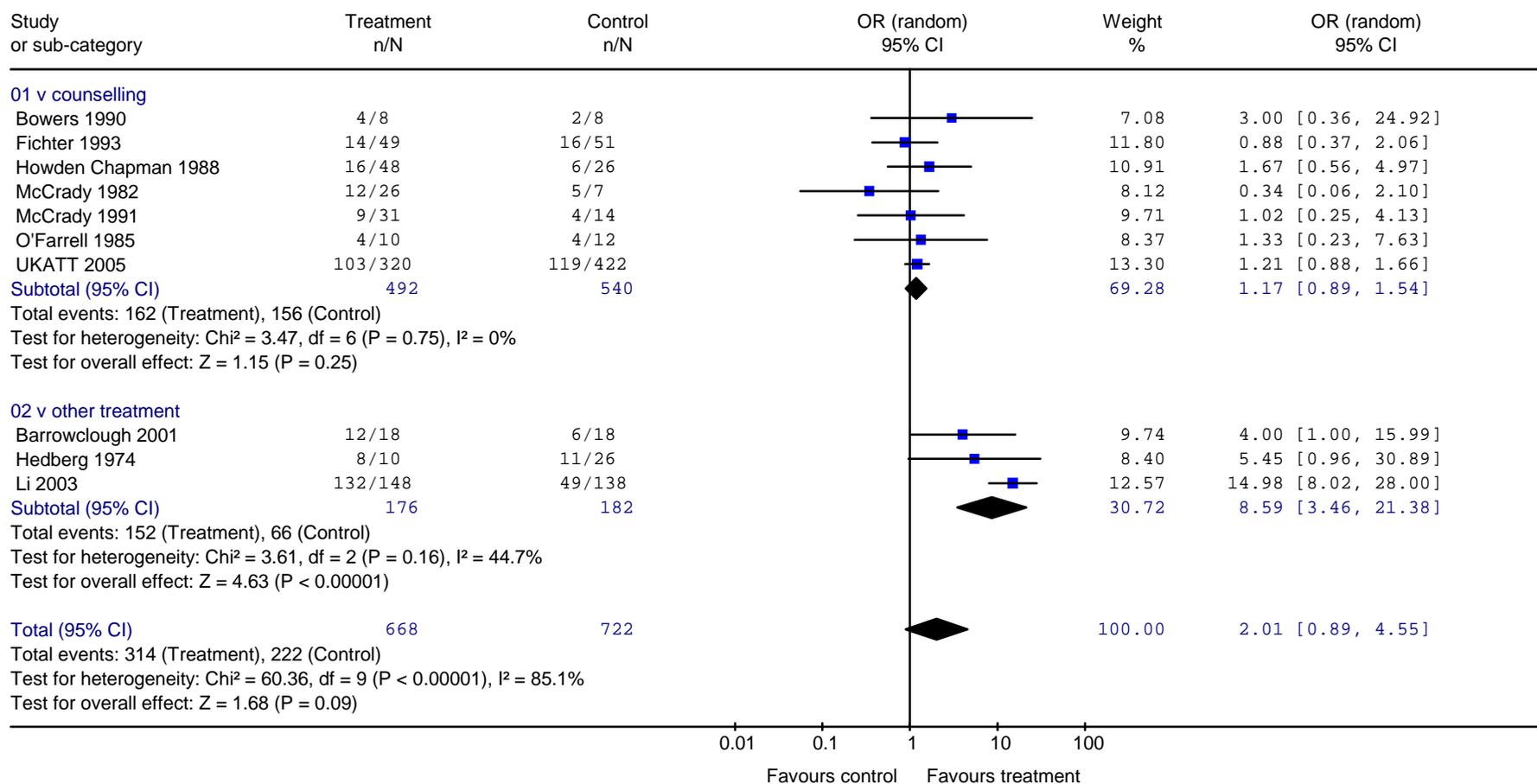
For the comparison of abstinence rates, there were seven RCTs that compared a form of family therapy to other types of psychotherapy or counselling (which included various forms of group or individual therapy including motivational enhancement therapy in the largest RCT<sup>15</sup>) and three that compared family therapy to other treatment, including routine NHS care,<sup>39</sup> a combination of desensitisation and electric shock<sup>40</sup> and general education and advice.<sup>35</sup> Because of the clinical heterogeneity, a random effects model was used. The results suggested that family therapy was not more effective than other forms of psychotherapy or counselling (OR 1.17, 95%CI 0.89 to 1.54) but that it was more effective than other forms of care (OR 8.59, 95%CI 3.46 to 21.38). Overall, family therapy was found to be more effective than comparator but this effect could have been due to chance alone (OR 2.01, 95%CI 0.89 to 4.55).

For the comparison of mean abstinent or mean percentage abstinent days, there were eight RCTs that compared a form of family therapy (mostly behavioural couples therapy) to other types of psychotherapy or counselling (which included various forms of group or individual therapy) and one RCT that compared relapse prevention therapy to no relapse prevention therapy in participants who had all already received behavioural couples therapy.<sup>41</sup> Because of the clinical heterogeneity a random effects model was used and because it was not completely clear whether exactly the same metric was reported in each of the RCTs, standardised mean difference was used. Family therapy was found to be more effective than other forms of psychotherapy or counselling, (SMD 0.38, 95%CI 0.21 to 0.56), more effective than other care (SMD 0.58, 95%CI 0.06 to 1.10) and overall (SMD 0.40, 95%CI 0.24 to 0.55).

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Figure 2. Therapy involving family and friends v comparator (non-family based therapy) for abstinence rates

Review: Therapy involving family and friends  
 Comparison: 01 abstinence rates  
 Outcome: 01 family therapy

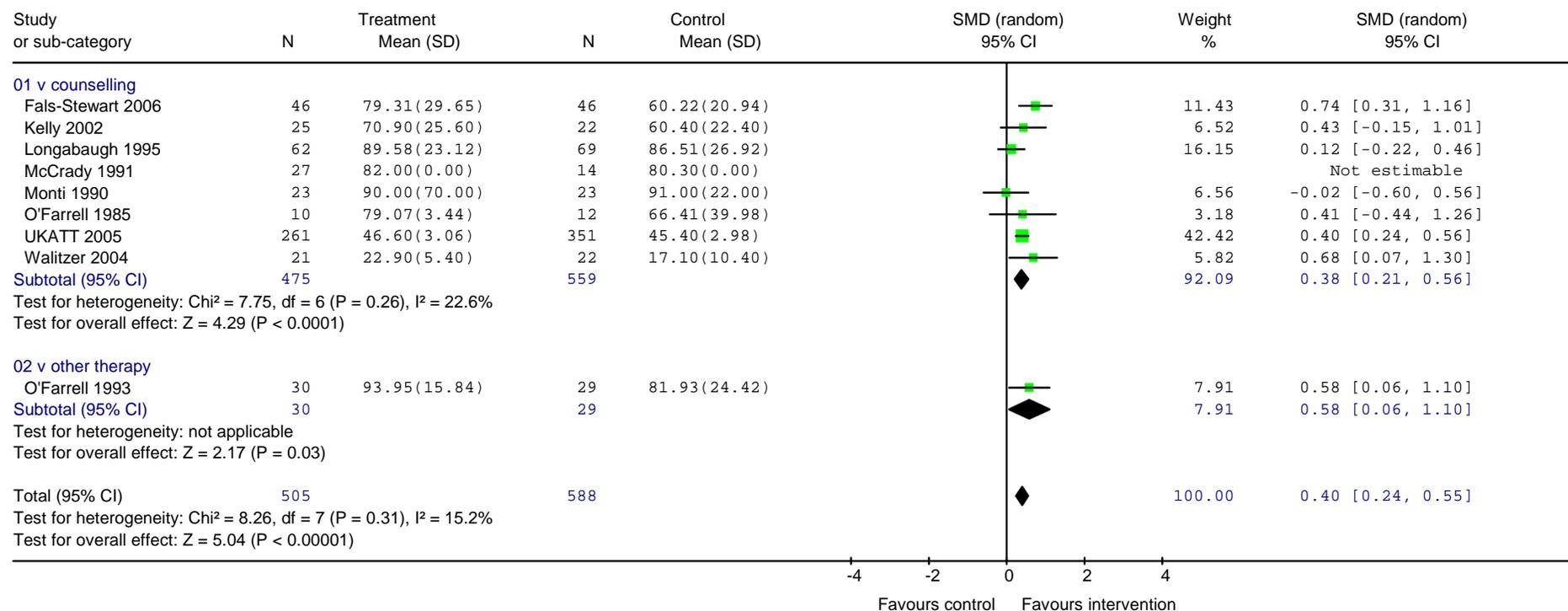


NB counselling refers to any form of psychotherapy or counselling

Therapy involving family and friends in alcohol abuse or dependence

**Figure 3. Therapy involving family and friends v comparator (non-family based therapy) for mean abstinent or percentage abstinent days**

Review: Therapy involving family and friends  
 Comparison: 02 mean abstinent days  
 Outcome: 01 family therapy

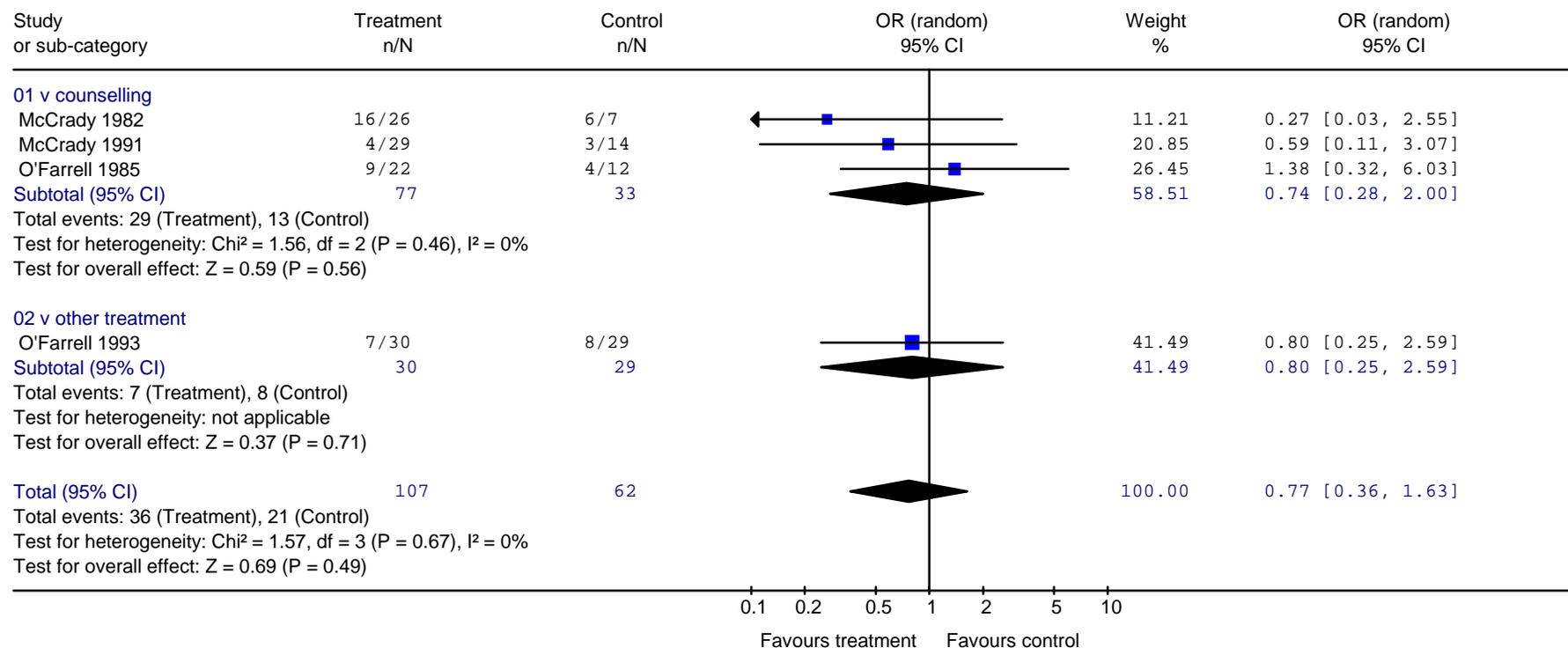


NB counselling refers to any form of psychotherapy or counselling

Therapy involving family and friends in alcohol abuse or dependence

**Figure 4. Therapy involving family and friends v comparator (non-family based therapy) for hospitalisation rates**

Review: Therapy involving family and friends  
 Comparison: 05 hospitalisation  
 Outcome: 01 family therapy

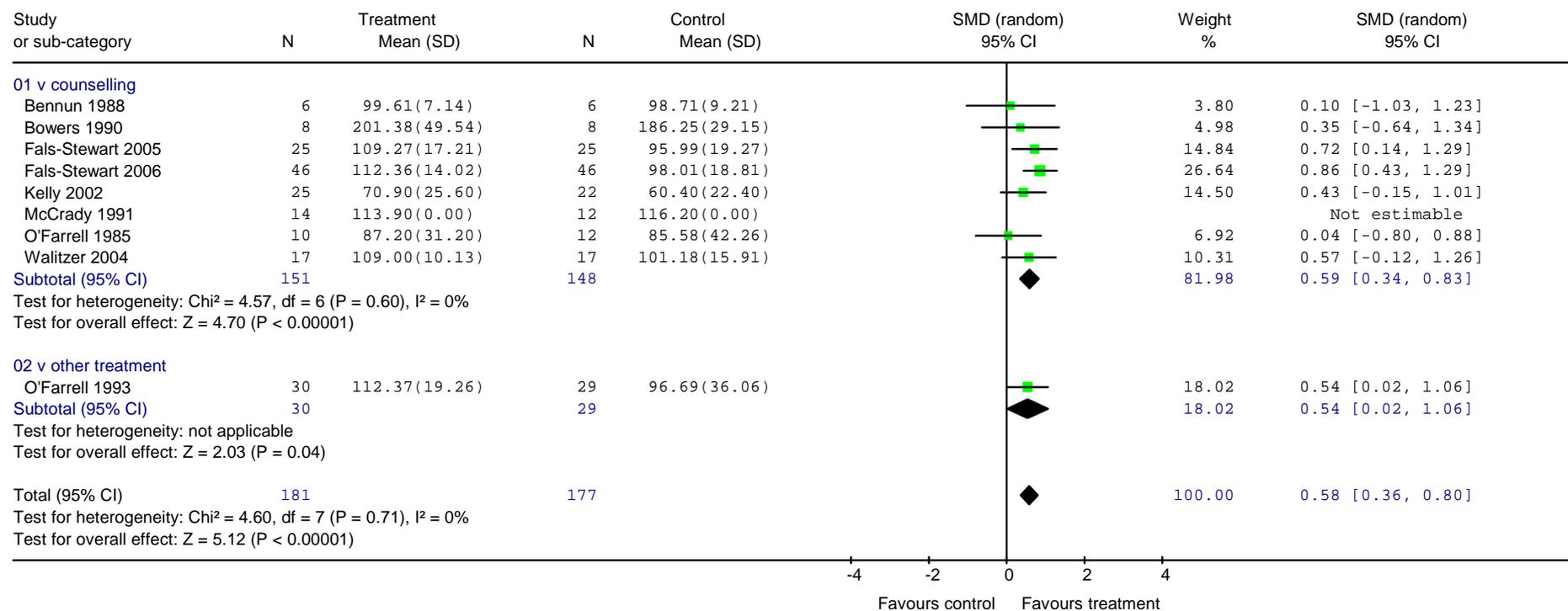


NB counselling refers to any form of psychotherapy or counselling

Therapy involving family and friends in alcohol abuse or dependence

**Figure 5. Therapy involving family and friends v comparator (non-family based therapy) for positive relationship functioning of drinker**

Review: Therapy involving family and friends  
 Comparison: 04 positive relationship functioning  
 Outcome: 01 family therapy

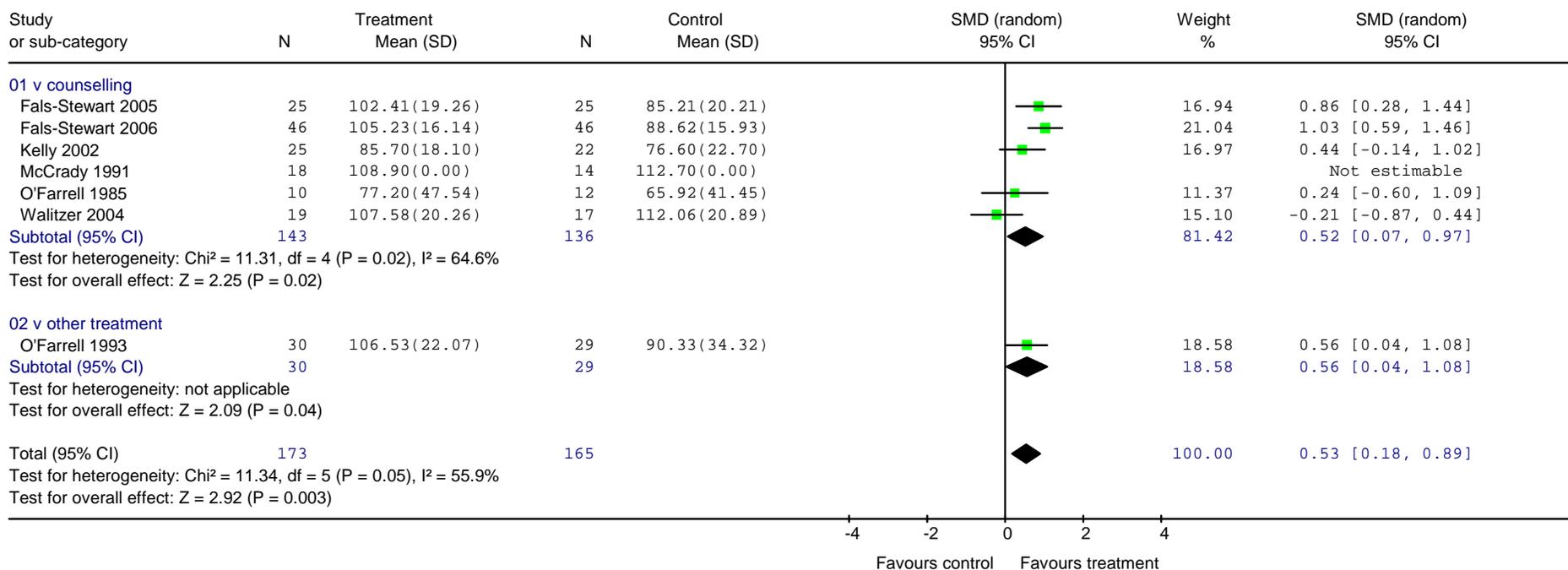


NB counselling refers to any form of psychotherapy or counselling

Therapy involving family and friends in alcohol abuse or dependence

**Figure 6. Therapy involving family and friends v comparator (non-family based therapy) for positive relationship functioning of partner**

Review: Therapy involving family and friends  
 Comparison: 06 positive relationship functioning of partner  
 Outcome: 01 family therapy



NB counselling refers to any form of psychotherapy or counselling

### 3.2.3 Hospitalisation rate results

Hospitalisation is a very expensive treatment option so any reduction in hospitalisation following treatment would be important. Only the categorical measure of whether drinkers were admitted to hospital or residential care during the follow up period is presented here. Percentage time spent institutionalised or mean number of days institutionalised has not been presented because none of the papers giving these continuous outcomes gave standard deviations so meta-analysis could not be performed.

Unfortunately, only four RCTs presented categorical hospitalisation rates, three compared to other types of psychotherapy or counselling and one compared to other treatment (relapse prevention therapy to no relapse prevention therapy in participants who had all already received behavioural couples therapy). Because of the clinical heterogeneity a random effects model was used (see Figure 4). Overall, family therapy was found to be more effective than comparator but this effect could have been due to chance alone (OR 0.77 95% CI 0.36 to 1.63).

### 3.2.4 Relationship functioning

If family therapy is beneficial to personal relationships, it would be useful if this could be measured in some way. Two relationship questionnaire scores were reported in the RCTs:

- Dyadic Adjustment Scale – this measures global marital satisfaction and scores can range between 0 and 150. A higher score is associated with better functioning.
- Marital Adjustment Test – this measures overall relationship functioning and the scores can range between 2 and 158. A higher score is associated with better functioning.

Given the similarity of these questionnaire measures and the fact that they are both widely used, their results were meta-analysed. Separate scores were available for the drinker and the partner for all RCT except two (Bennun 1988, Bowers 1990). These small RCTs each averaged the scores between drinker and partner and gave average results only, which have been presented here in the meta-analysis for follow scores for the problem drinker rather than for the partner. They represent 4% and

5% of the weight in the meta-analysis and made very little difference to either meta-analysis. The meta-analyses are shown in Figure 5 and Figure 6.

For the comparison of positive relationship functioning of the man or woman with alcohol misuse or dependence, there were eight RCTs that compared a form of family therapy to other types of psychotherapy or counselling and one RCT that compared relapse prevention therapy to no relapse prevention therapy in participants who had all already received behavioural couples therapy. Because of the clinical heterogeneity a random effects model was used and because the same metric was not reported in each of the RCTs, standardised mean difference was used. Family therapy was found to be more effective than other forms of psychotherapy or counselling, (SMD 0.59, 95%CI 0.34 to 0.83), more effective than other care (SMD 0.54, 95%CI 0.02 to 1.06) and overall (SMD 0.58, 95%CI 0.36 to 0.80).

For the comparison of positive relationship functioning of the male or female partner of the person with alcohol misuse or dependence, there were six RCTs that compared a form of family therapy to other types of psychotherapy or counselling and one RCT that compared relapse prevention therapy to no relapse prevention therapy in participants who had all already received behavioural couples therapy. Because of the clinical heterogeneity a random effects model was used and because the same metric was not reported in each of the RCTs, standardised mean difference was used. Again, family therapy was found to be more effective than other forms of psychotherapy or counselling, (SMD 0.52, 95%CI 0.07 to 0.97), more effective than other care (SMD 0.56, 95%CI 0.04 to 1.08) and overall (SMD 0.53, 95%CI 0.18 to 0.89).

### 3.2.5 Drinker treatment entry rates results

The main comparison looking at the effects of therapy directed at the partner or CSO of the problem drinker investigated drinker treatment entry rates and is outlined in Table 11. The meta-analysis result is shown in Figure 7.

**Table 11. Problem drinker treatment entry rates**

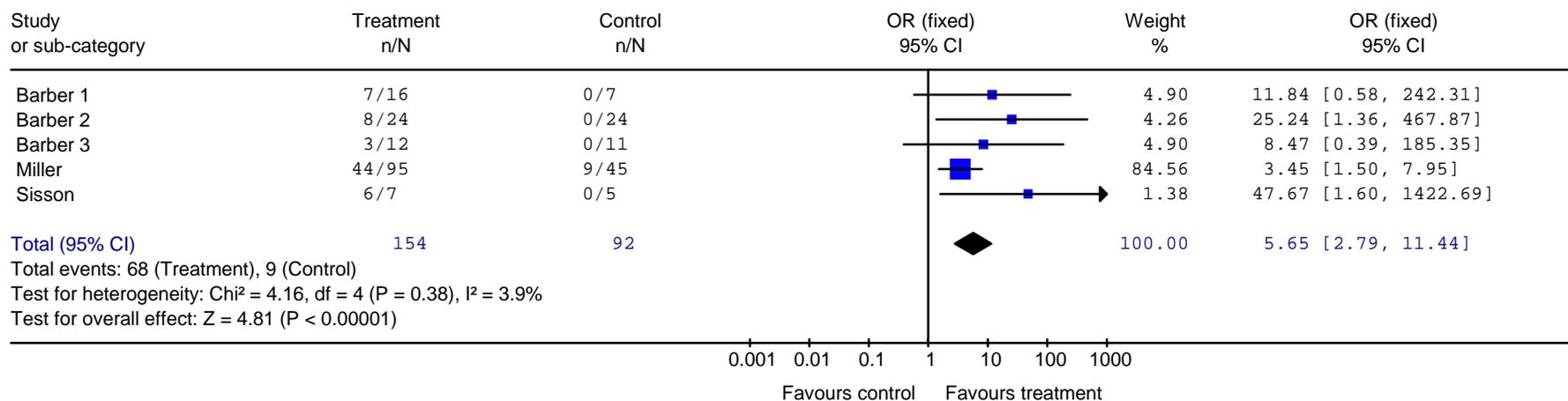
	Comparison 3
Patients	Family member or CSO of problem drinker
Intervention	Any therapy focused on one or more family members or CSOs of the problem drinker
Comparator	Either waiting list, no intervention or non-counselling intervention such as Alcoholics Anonymous
Outcomes	Problem drinker treatment entry rates
Notes	Where there were multiple family therapy or comparator groups, results were combined where possible

For the comparison of problem drinker treatment entry rates there were five RCTs that compared counselling with family members or CSOs to no counselling, waiting list or non-counselling interventions such as Alcoholics Anonymous. There was little clinical heterogeneity between these studies, indeed three of the studies were conducted by the same team in Australia, so a fixed effects model was used. Family therapy directed at the partner or CSO of the problem drinker was found to be more effective than comparator and this effect is unlikely to have been due to chance alone (OR 5.65, 95%CI 2.79 to 11.44).

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**Figure 7. Therapy of family member or CSO vs comparator for problem drinker treatment entry rates**

Review: family therapy  
 Comparison: 03 Drinker treatment entry rates  
 Outcome: 01 family therapy



## 4. COST EFFECTIVENESS REVIEW

### 4.1 Methods

The methods used for the cost-effectiveness review were those employed for the clinical effectiveness review with the following additions and changes.

#### 4.1.1 Search strategy

The following bibliographic databases were searched using search terms relating to “alcohol”, “family therapy”, “costs”, “economic evaluations” and “quality of life”:

- Cochrane Library (Wiley) 2006 Issue 3 (NHS EED)
- MEDLINE (Ovid) 1966 to August Week 1 2006
- EMBASE (Ovid) 1980 to 2006 Week 32
- Office of Health Economics Health Economic Evaluations Database (OHE HEED) August 2006 issue

Search details specific for these are found in Appendix 1.

#### 4.1.2 Inclusion criteria

Inclusion criteria were expanded to encompass the requirement for resource use and/or cost implications.

**Table 12. Inclusion criteria for cost-effectiveness review**

<b>Domain</b>	<b>Criteria</b>
Population	Problem drinker (various definitions including alcoholic) >50% sample
Intervention	Any psychotherapeutic intervention targeted at the problem drinker and concerned significant other, particularly family member
Comparator	any
Outcome measures	Any cost effectiveness, cost utility, cost benefit, cost consequences Cost from a UK perspective only
Study design	any

#### 4.1.3 Quality assessment and data extraction strategy

The checklist of Drummond and colleagues was used to assess quality of included cost-effectiveness studies.<sup>42</sup> The checklist of Phillips et al was used to assess

decision analytic models.<sup>43</sup> Data extraction was conducted by one reviewer and checked by a second. A standardised data extraction form was used.

Disagreements were resolved by discussion.

## **4.2 Cost Effectiveness Results**

### **4.2.1 Included studies**

There were seven relevant economic studies that were included— five from the USA<sup>44-48</sup> which will be discussed briefly here and two from the UK<sup>15,25</sup> that will be discussed in more detail, including one with an economic model of family therapy in alcohol misuse.<sup>25</sup>

#### **4.2.1.1 Cost effectiveness studies from USA**

Three US cost-effectiveness studies were based on RCTs of clinical effectiveness of therapy involving family and friends that have been included in the clinical effectiveness section of this report.

- Fals-Stewart and colleagues investigated the cost-effectiveness of brief relationship therapy compared to standard behavioural couples therapy, couples psycho-educational counselling and individual/group counselling.<sup>44</sup> Resource use and costs were collected during the RCT (dates not specified) using a societal perspective. The mean (SD) treatment costs for the four groups respectively were \$897 (\$312), \$1,294 (\$321), \$884 (\$297) and \$840 (\$200). Effectiveness was measured as the change in percentage days of heavy drinking during 12 months after treatment compared to baseline. Cost effectiveness was calculated by dividing this by the cost of treatment delivery (in \$100 units) to give a ratio. The mean ratios (SD) for each group respectively were 4.61 (1.54), 3.30 (1.61), 3.48 (1.70) and 3.68 (1.59) indicating that brief relationship therapy was the most cost-effective.
- O'Farrell and colleagues investigated the cost-benefit and cost-effectiveness of behavioural couples therapy compared to interactional couples therapy and supportive individual counselling<sup>47</sup> that was reported in a previous RCT publication.<sup>49</sup> Costs of alcohol-related health care and legal system were measured at baseline and for two years follow up of the RCT and converted to 1992 US\$. Costs of counselling sessions were estimated from the treatment

providers. Monetary benefits were from reduced healthcare and legal costs. Clinical effectiveness was measured as abstinence rates, percentage days abstinent and marital adjustment. The mean costs (SD) of treatments with behavioural couples therapy, interactional couples therapy and individual counselling respectively were \$857 (\$245), \$895 (\$167) and \$450 (\$173). The mean benefit to cost ratios (SD) for the three groups respectively were 8.64 (12.33), -2.82 (12.32) and 20.77 (15.26) indicating that individual counselling had the highest benefit to cost ratio. The total treatment cost per continuously abstinent patient to the 2 year follow up for the three groups respectively were \$2,143, \$3,580 and \$1,350 indicating that individual counselling was the most cost-effective.

- O'Farrell and colleagues investigated the cost-benefit and cost-effectiveness of relapse prevention counselling versus none where all had received behavioural couples therapy<sup>46</sup> that was reported in a previous RCT publication.<sup>50</sup> Costs of alcohol-related health care and legal system costs were measured at baseline and for one year follow up of the RCT and converted to 1992 US\$. Costs of counselling sessions were estimated from the treatment providers. Monetary benefits were from reduced healthcare and legal costs. Clinical effectiveness was measured as percentage day's abstinent and marital adjustment. The mean cost (SD) of delivering relapse prevention counselling compared to no relapse prevention counselling was \$1,640 (\$203) and \$864 (\$156). The mean benefit to cost ratios (SD) for the two groups respectively were 1.89 (5.41) and 5.97 (8.26) indicating that no relapse prevention counselling had the higher benefit to cost ratio. For cost-effectiveness the mean (SD) percentage of days abstinent per \$100 of treatment cost were 3.7 (1.7) and 6.7 (3.8) indicating that no relapse prevention counselling was more cost-effective.

#### **4.2.1.2 Relevant economic studies from USA**

The remaining two economic studies were sponsored by Kaiser Permanente and looked at health care cost and usage in people with drug or alcohol problems. The earlier study (2005)<sup>45</sup> looked at 5-year outcomes of a cohort of patients treated at a chemical dependency recovery programme. These were matched to health plan members in the same catchment area by age, gender and length of enrolment. The

costs were from data routinely collected by the company. Resource use included hospital use, emergency use and inpatient days. They found that the average medical costs of the patients with drug and alcohol misuse were four times those of the matched cohort in the 6 months prior to treatment but by the 5<sup>th</sup> year post treatment these costs had reduced to twice the matched cohort. The later study (2007)<sup>48</sup> looked at resource use and hence costs of the family members of people with drug or alcohol problems. Methods used were very similar to the first study. Family members were found using the company's databases. They found that the family members of people with drug and alcohol problems cost consistently more than comparison family members, for example \$1837 v \$1470 in the year before the date that the patients with drug or alcohol problems first sought treatment.

#### **4.2.1.3 Cost effectiveness studies from UK**

##### **4.2.1.4 UKATT**

The first UK study<sup>38</sup> was based around a very large RCT of social behaviour and network therapy compared to motivational enhancement therapy that is reported in the clinical effectiveness section.<sup>15</sup> The intention of the RCT was to discover whether a more intensive socially focused therapy was as cost-effective as a less intensive motivationally based therapy.<sup>51</sup> The aim of the RCT was pragmatic – to test treatments that could be applied in practice in the UK NHS and that would have a realistic chance of success. The clinical effectiveness estimates were from the results of the UKATT RCT where 742 patients with alcohol dependency or abuse according to DSM-IV criteria of sufficient severity to be offered treatment<sup>51</sup> were enrolled between 1999 and 2001 and 83.2% were followed up to one year. Although the extent of family involvement in the social behaviour and network therapy is not clear from the main RCT report,<sup>15</sup> a companion paper explains the family and CSO involvement in the therapy.<sup>52</sup> Several clinical outcomes were measured including days abstinent, number of drinks per drinking day, dependency, general mental health, liver function and quality of life (EQ-5D and SF-36), The clinical effectiveness estimate used in the cost effectiveness study was from the EQ-5D questionnaire which was completed at baseline, 3 months and 1 year by 547 participants (73.7%). This was adjusted for differences in baseline measurements using analysis of covariance. As the results were skewed, bootstrapping was used to generate 95%

confidence intervals. The costs were collected during the RCT and included the direct costs of the two treatments, any other services consumed as a direct result of the treatments and costs incurred by the clients. A societal perspective was taken.<sup>51</sup> but the costs did not include loss of productivity or the full social cost of alcohol-related violence or the effects of alcohol problems on family members or friends.<sup>38</sup> Bootstrapping was also used for the costs such as savings in public sector resources. The mean (SD) utility estimates for the social behaviour and network therapy at baseline and 12 month follow up were 0.589 (0.298) and 0.626 (0.324) and for motivational enhancement therapy were 0.616 (0.299) and 0.671 (0.311). When adjusting for baseline results, the social behaviour and network therapy had 0.0113 fewer QALYs. The mean (SD) net reduction in public sector resource costs minus cost of trial treatments was £798 (£3817) for social behaviour and network therapy and £593 (£4114) for motivational enhancement therapy (difference of £206 per individual). The incremental cost per QALY was calculated to be £18,230 for motivational enhancement therapy relative to social behaviour and network therapy. Thus although social behaviour and network therapy had very slightly less effectiveness, it resulted in a larger reduction in costs.

#### **4.2.1.5 Health Technology Board for Scotland HTA**

The second UK study was an HTA from 2002 written for the Health Technology Board from Scotland which investigated prevention of relapse in alcohol dependence.<sup>25</sup> This report was only available as a draft that appeared not to have undergone peer review, rather than the final report, and has a number of unfinished features such as some references missing and some appendices not completed. However, it is a near-final version with complete text and has 288 pages. The aim of the report was to assess a number of pharmacological and psychological treatment strategies to prevent relapse in people with alcohol dependence that have undergone detoxification. The treatment strategies were acamprosate, naltrexone, disulfiram, coping skills, relapse prevention, behavioural self-control training, motivational interviewing and marital/family therapy. The report reviewed the services available in Scotland, assessed clinical effectiveness, reviewed qualitatively evidence on patient issues and assessed cost-effectiveness. This involved critically

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appraising economic models submitted by drug companies and the construction of their own decision analytic model.

## **Model structure**

There were two decision tree models presented in the report, one main model and one done using a previously constructed model that was adapted for the purposes of the HTA. Both models compared the costs and consequences of each therapy. The results for marital/family therapy compared to a standard care package (undefined) are presented here. The main model had a very simple structure that can be seen in Figure 8. The second model was based on that by Schadlich and Brecht and the adapted model can be seen in Figure 9. Although the model diagrams here are diagrammed in Treeage Pro for convenience, the original models were carried out in Excel. The time horizon for both models was 20 years and the perspective was for the Scottish NHS only. The base case was a 45 yr old with alcohol dependence, with a ratio of four men to one woman, and compared these to the general male and female Scottish population. The models both calculated an incremental cost or saving per additional abstinent patient. It did not attempt a cost utility analysis because of insufficient information on quality of life in this patient group.

## **Clinical effectiveness inputs**

The clinical effectiveness inputs were derived from a systematic review of RCTs. It mentioned in the methods section that the systematic review only included RCTs from 1990 onwards but in reality RCTs from 1973 onwards were included. Although the search strategies were given, the inclusion criteria were not explicitly stated. There were 12 included studies and these are listed in Appendix 5 and compared to the findings of this systematic review. Of the 12 included studies, only two match the RCT outcome measures for abstinence rates found in this clinical effectiveness review. Of the others, three were not RCTs but controlled studies and one did not have marital therapy in either intervention or comparator groups so are in the list of excluded studies. One had a comparator of brief marital therapy rather than standard care so is in the list of included studies but is not in the meta-analysis. Two of the studies had continuous outcomes for abstinence rates rather than categorical outcomes and three had difference categorical outcomes to the ones extracted here. Also, the current systematic review found eight additional RCTs that were published before 2000 that could have been included in the HTBS clinical effectiveness review. The meta-analysis in the HTBS clinical effectiveness review was carried out using

Der Simonian and Laird methods and used a fixed effects model “because of concerns about the quality of some of the smaller studies”. However, no formal quality assessment methods or results were presented. The clinical effectiveness estimate from the HTBS meta-analysis was OR 1.81, 95%CI 1.26 to 2.61. For the model the estimate changed from a one-step approximation to the odds ratio to a maximum likelihood estimate. This slightly changed the odds ratio to 1.87 (95%CI 1.33 to 2.64). (In comparison, the current systematic review meta-analysis found an odds ratio of OR 2.09, 95%CI 0.87 to 4.99) The effectiveness of standard care was taken to be 250 successes and 750 failures per 1000 patients treated. The effectiveness of marital/family therapy was calculated by determining the number of successes over and above that of standard care package by applying the meta-analysis result to a cohort of 1000 patients to calculate the number of patients likely to be in various disease end points (see Appendix 6).

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Figure 8. HTBS model 1

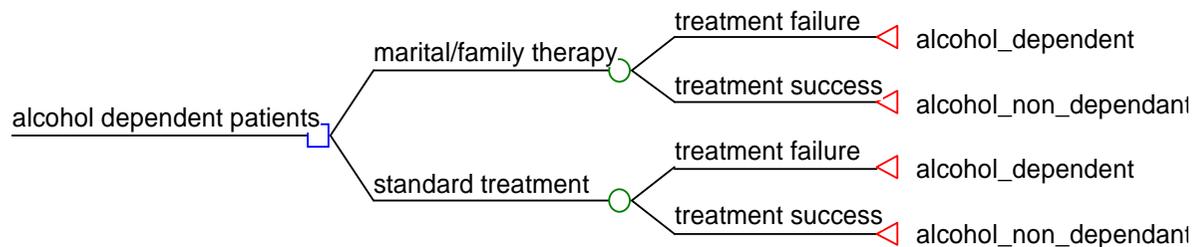
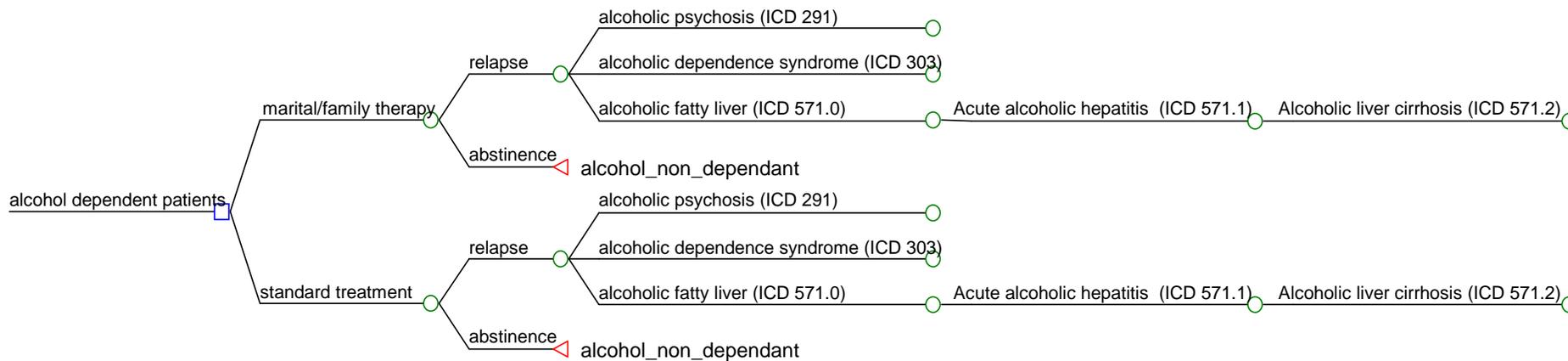


Figure 9. HTBS model 2



### **Cost inputs**

Costs were estimated for the years 2001/2 and there were two main cost inputs – cost of treatment and cost of disease. The cost estimates of treatment were developed from discussions with Scottish psychosocial treatment providers and for family/marital therapy were estimated to be £250 per person, with a sensitivity analysis range of £150-£350. For costs of disease, epidemiological estimates for men and women were made, using a variety of studies including from Australia and Denmark and routinely available statistics from Scotland. The estimated disease cases for men and women are shown in Appendix 6. The costs associated with each disease and the in-patient days are also shown in Appendix 6. Costs were discounted at 6% per year.

### **Model results**

The total therapy costs for 1000 patients were estimated to be £250,000. The discounted (undiscounted) net health care costs over and above standard treatment were estimated to be -£361,292 (-£611,327). The additional patients abstinent over and above standard care were estimated to be 134 and the reduction in deaths to be 80. The net discounted (undiscounted) healthcare savings per death averted were estimated to be £4,516 (£7,642) and the discounted (undiscounted) savings per abstinent patient were estimated to be £2,696 (£4,562). In the sensitivity analysis, the discounted incremental cost per additional abstinent patient, using the highest treatment costs, lowest effectiveness and lowest disease costs was estimated to be £2,091. For the lowest treatment cost, highest effectiveness and high disease costs the savings were £3,886. When the second model was used, marital/family therapy resulted in a discounted incremental saving per additional abstinent patient of £960.

### **Comments on the model**

There are a number of limitations of the modelling approach taken, for example, relapse rates after 12 months were not incorporated and the therapy costs may have been underestimated because the estimate did not include those from private hospitals and rehabilitation services that might have been higher than NHS service provision. Also the clinical effectiveness meta-analysis inputs results may have been

too low. Nevertheless, it is likely that if these factors are taken into account, marital/family therapy would be more cost saving rather than less.

## 5. DISCUSSION

### 5.1 Summary of findings

There were 34 included clinical effectiveness studies, 10 were RCTs of counselling where more than one family member or CSO was included in addition to the problem drinker, 17 where a single family member or CSO was included in the counselling in addition to the problem drinker and seven where the family member or CSO was counselled in order to encourage the problem drinker to start treatment. The dates of the RCTs varied between 1974 and 2006. The quality of the RCTs was variable with two having excellent quality, including the largest RCT (N=742), but others having very low quality, particularly with regard to lack of allocation concealment and large losses to follow up. Six outcomes were meta-analysed:

- Therapy including the problem drinker and family and/or friends versus other psychotherapy or counselling and versus other care for the problem drinker for the outcome of abstinence rates. Ten RCTs reported these outcomes and the results suggested that family therapy was not statistically significantly more effective than other forms of counselling (OR 1.17, 95%CI 0.89 to 1.54) but was more effective than other care (OR 8.59, 95%CI 3.46 to 21.38). Overall, family therapy was found to be more effective than comparator but this effect could have been due to chance alone (OR 2.01, 95%CI 0.89 to 4.55).
- Therapy including the problem drinker and family and/or friends versus other psychotherapy or counselling and versus other care for the problem drinker for the outcome of mean abstinence or mean percentage abstinence. Nine RCTs reported these outcomes and the results suggested that family therapy was more effective than other forms of counselling, (SMD 0.38, 95%CI 0.21 to 0.56), more effective than other care (SMD 0.58, 95%CI 0.06 to 1.10) and overall (SMD 0.40, 95%CI 0.24 to 0.55).
- Therapy including the problem drinker and family and/or friends versus other psychotherapy or counselling and versus other care for the problem drinker for the outcome of hospitalisation rates. Four RCTs reported this outcome only and the results suggested that family therapy was more effective than comparator

but this effect could have been due to chance alone (OR 0.77 95% CI 0.36 to 1.63).

- Therapy including the problem drinker and family and/or friends versus other psychotherapy or counselling and versus other care for the problem drinker for the outcome of questionnaire measures of positive relationship functioning of the man or woman with alcohol misuse. Nine RCTs reported this outcome and the results suggested that family therapy was more effective than other forms of psychotherapy or counselling, (SMD 0.59, 95%CI 0.34 to 0.83), more effective than other care (SMD 0.54, 95%CI 0.02 to 1.06) and overall (SMD 0.58, 95%CI 0.36 to 0.80).
- Therapy including the problem drinker and family and/or friends versus other psychotherapy or counselling and versus other care for the problem drinker for the outcome of questionnaire measures of positive relationship functioning of the male or female partner of the person with alcohol misuse. Seven RCTs reported this outcome and the results suggested that family therapy was more effective than other forms of psychotherapy or counselling, (SMD 0.52, 95%CI 0.07 to 0.97), more effective than other care (SMD 0.56, 95%CI 0.04 to 1.08) and overall (SMD 0.53, 95%CI 0.18 to 0.89).
- Therapy of the family member or CSO without the problem drinker for the outcome of problem drinker treatment entry rates. Five RCTs reported this outcome and the results suggested that family therapy was more effective than comparator and this effect is unlikely to have been due to chance alone (OR 5.65, 95%CI 2.79 to 11.44).

There were seven included cost-effectiveness studies – five from the USA and two from the UK. The USA studies suggested that brief relationship therapy was more cost-effective than family therapy,<sup>44</sup> individual counselling was more cost effective than family therapy<sup>47</sup> and that no relapse prevention counselling was more cost-effective than relapse prevention counselling where all had previously received family therapy.<sup>46</sup> The remaining two studies found that the costs and resource use were higher in people with alcohol problems than matched health plan members<sup>45</sup> and this also applied to family members of alcoholics.<sup>48</sup>

The first UK study was based on the largest RCT which was also of very good quality. It found that there was little difference in clinical effectiveness and costs between eight sessions of social behaviour and network therapy and three sessions of individual motivational enhancement therapy.

The second UK study was an HTA from Scotland which compared family/marital therapy to standard care (undefined) and included a systematic review of clinical effectiveness and decision-analytic models. The model structures were appropriate, using a time horizon of 20 years, and the costs appeared to be well considered. However, the clinical effectiveness estimate did not seem to be of good quality as the meta-analysis missed a number of relevant RCTs, included non-RCTs and included an RCT that was not of family therapy. The meta-analysis result was OR 1.81 (95%CI 1.26 to 2.61) and the HTA found that family therapy was cost saving to the NHS, i.e. the discounted incremental saving per additional abstinent patient was £2,696. In sensitivity analysis, the range varied between a saving of £3,886 to a cost of £2,091.

In the Scottish HTA the point estimate of clinical effectiveness was less than the point estimate OR calculated in this systematic review but with narrower 95% CI (this systematic review meta-analysis result for abstinence rates was OR 2.09, 95%CI 0.87 to 4.99), which suggests that had this systematic review meta-analysis results been used in the economic model, family therapy would have appeared more cost saving but with wider range from the sensitivity analyses.

## **5.2 Strengths and limitations of the assessment**

A broad definition of family therapy, to include friends and CSOs, has been taken in this report rather than a narrow definition of immediate family or married spouses because approximately 20-25% of adults are classified as single (and this may include people in homosexual partnerships or families) and a relatively large proportion of adults live with a partner without being married. This broad definition of therapy involving the family and social network could be seen as a strength and has been taken in order to increase the generalisability of results, but could also be seen as a limitation in that it is not clear whether the immediate family or wider social

networks are more important. No sensitivity analysis looking at this has been conducted.

The interventions included as family therapy in this report included interventions where more than one family member was involved across the generations and those where just the spouse was involved. In a number of the RCTs other therapies such as group therapy or individual counselling have been given alongside family therapy so it could be argued that where this was the case, it would be impossible to distinguish the effects of the other therapies and the effects of family therapy on the outcomes measured. However, if family therapy alone was used, the RCTs with the least reporting of the actual components of the therapy used would have been included whereas those with more explicit descriptions (often the better quality RCTs) would have been excluded. Also, if a broader definition of family therapy is used, it mirrors the types of therapies that are more likely to be available in the UK NHS. It has been assumed here that the different forms of family therapy such as those focusing on disease models, behavioural perspectives or family systems perspectives would have similar clinical effectiveness and so have been combined in meta-analysis. This is a weakness in the report but it was often difficult to determine from the RCT descriptions of treatment exactly which theoretical model was used and also more than one model could have been used in some of the RCTs. In addition, the qualifications and job description of the person delivering the intervention (such as consultant psychotherapist, counsellor or community psychiatric nurse) has not been investigated. It may be that different types of professionals may have differing amounts of success.

The comparators in the included RCTs were of a wide range including various other counselling treatments and psychotherapies, waiting lists and 'usual care' the components of which were sometimes not described. An attempt has been made to categorise comparators into:

1. Other forms of family therapy (not used in the meta-analysis).
2. Other forms of counselling or psychotherapy including individual or group CBT (used in meta-analysis of abstinence, hospitalisation and positive relationship functioning).

3. Other forms of care including undefined routine NHS treatment, desensitisation, electric shock, general education and advice and no additional treatment (used in meta-analysis of abstinence, hospitalisation and positive relationship functioning).
4. Waiting list control or no intervention (used in meta-analysis of drinker treatment entry rates).

The reason for this grouping was to distinguish between RCTs that could show whether family therapy is more effective than comparator and RCTs that could show which type of family therapy is more effective. It is acknowledged that the different forms of counselling and psychotherapy in category 2, for example, are not necessarily similar. No sensitivity analysis has been used to compare the clinical effectiveness of family therapy versus different types of counselling or psychotherapy.

Single outcomes were used in the meta-analyses (abstinence rates, mean abstinent or mean percentage abstinent days, hospitalisation, positive relationship functioning or drinker treatment entry rates) rather than a wider measure of effectiveness that would have combined different single outcomes together. This has meant that some of the included RCTs described in Table 7, Table 8 and Table 9 were not included in the meta-analyses. It is acknowledged that the subset of included RCTs that contributed results to the meta-analyses may not be representative of the entire evidence base. However, it would be very difficult to calculate effect sizes accurately for each of the included RCTs and this technique is rarely used in medical systematic reviews. Similarly, there has been no analysis of whether intention to treat was used when reporting results in each of the RCTs and whether this would have contributed to the results seen in the meta-analyses.

For the comparison of mean abstinent or percentage abstinent days and positive relationship functioning in particular, because of the clinical heterogeneity of the outcome measure a random effects model was used. Standardised mean difference was used because it was not completely clear whether exactly the same metric was reported in each of the trials for mean abstinent or percentage abstinent days and because two different measures (Dyadic Adjustment Scale and Marital Adjustment

Test) were combined for the positive relationship functioning. Standardised mean difference expresses the size of RCT treatment effects relative to the variability observed and assumes that the differences in standard deviations between RCTs reflect differences in measurement scales and not real differences in variability between the included RCT populations.<sup>53</sup> It is very difficult to know in this situation whether this assumption holds true.

This review has concentrated on outcomes related to the alcoholic individual rather than those reported by family members or CSOs. It would have been useful here to see if family therapy resulted in fewer relationship breakdowns, for example, or decreased depression in the family member or CSO. It is acknowledged that this is a significant limitation because even if the family therapy did not affect problem drinking, there is evidence to suggest that it could reduce physical and psychological harm to family members<sup>9,54</sup> and CSOs which in turn could be important factors in preventing relationships breakdown. The meta-analysis of the Dyadic Adjustment Scale and Marital Adjustment Test outcomes goes some way towards providing information on this but it is currently unclear how a difference in five points on these scales, for example, would translate into the probability of relationship breakdown.

Many of the included RCTs were conducted in the USA and it is unclear as to the generalisability of their results to the UK. It is acknowledged that the quality of the included RCTs was not high in a number of cases. It is also unclear whether there was an increased estimate of clinical effectiveness in the poorer quality RCTs compared to the higher quality RCTs and no sensitivity analysis has been carried out to compare this. The follow-up times in studies varied between four weeks and four years but were generally around 12 months, which provides a reasonable estimate of response to treatment. In the clinical effectiveness review, results for the longest follow up available were used which means that some of the RCTs contributed effectiveness results at different follow up times to others. However, it was not possible to use a standard follow up time because of lack of information. No sensitivity analysis was conducted around follow up lengths.

### **5.3 Uncertainties and other relevant factors**

The RCT populations were not well described and often demographic information such as socioeconomic status and race/ethnicity was missing leading to limited information about generalisability of the study populations. Many of the studies appeared to have focused on predominantly white, male subjects (some were in specialized groups such as US military veterans) in which other affective disorders had been screened out.<sup>41</sup> There is a need to address different population groups, such as adolescents, in these programmes. The success of family therapy may depend to some extent on the stage alcohol misuse or dependence that the patient has reached when entering the programme. RCTs generally reported on the number of years of drinking before trial entry, but not factors such as previous treatments or family history of problems with alcohol.

Studies needed to give more detail and information on the treatment intervention being evaluated. Adequate descriptions of content, duration and intensity were sometimes not included, hindering interpretation of findings and comparison across studies. There was some variability in treatment programs e.g. inpatient vs. outpatient settings. Alcohol treatment studies in general are limited in their design options as heavy drinkers' reluctance to change and the immediate dangers involved in excessive drinking rule out assigning no-treatment or waiting list groups. There is also the possibility that the alcohol outcomes recorded may not be very accurate. In a few of the RCTs attempts were made to record the drinkers' assessment of their alcohol intake and the spouse or CSO's assessment of the drinkers' alcohol intake. These often did not match.

Treatment outcome may also be related to length of treatment and optional duration of treatment programme could be further investigated. By introducing such mechanisms as role induction and contracting during the critical period when motivation and commitment to therapy are being developed, it was hoped that higher proportions of patients and family members would have continued in the treatment programme. Patient commitment to programmes and attrition from studies was documented in many of the RCTs and specific mechanisms were developed to deal with attrition in some studies such as systematic involvement of the spouse in all

aspects of intake, assessment and treatment and the use of role induction in a pre-therapy interview and formal contracting during the beginning phase of therapy.<sup>55</sup>

Whether the treatment plan should require a reduction in use or total abstinence is an important question that cuts across all decisions about care. Even when binge drinkers reduce the number of days on which they drink heavily, negative consequences such as job loss, arrest, hospitalisations and marital violence can be condensed into these fewer days.<sup>56</sup> In adults, some have thought that the best outcomes are based on total abstinence.<sup>57</sup> Lapses (occasion use with long periods of abstinence) and relapses do occur but do not necessarily imply treatment failure.<sup>57</sup> There is growing consensus that symptom reduction such as percent days abstinent cannot suffice as the sole or even most important outcome.<sup>47</sup> For alcoholics who drink heavily but episodically, the criterion of percent days abstinent can be misleading.<sup>58</sup> There is a view of family therapy as changing the focus from helping the problem drinker change to helping families to survive and flourish regardless of whether the problem drinker changes.

This review did not conduct an economic evaluation because it was considered that there was sufficient evidence available from existing cost-effectiveness studies and HTAs. However it has meant that there is no precise estimate as to the cost effectiveness of family therapy compared to other counselling or psychotherapy commonly used in the UK and whether therapy involving family and friends is cost saving compared to standard care. The existing evidence does suggest that family therapy is cost-saving compared to standard care (undefined). It is important to note that marital or family therapy is not always feasible as the consent, availability and co-operation of the spouse, family or CSO is required.

## **6. CONCLUSIONS**

The systematic review of clinical effectiveness studies included 34 RCTs investigating a wide range of family therapies targeted at the problem drinker and at family members and CSOs. The findings are that family therapy may not be more effective than other forms of counselling or psychotherapy but may be more effective

than usual care with regard to abstinence rates. When looking at the other alcohol-related outcome of mean abstinent or percentage abstinent days, therapy involving family and friends may be more effective than other forms of counselling or psychotherapy and more effective than usual care. Therapy involving family and friends does appear to improve positive family functioning for the problem drinker and their partner. Therapy targeted at the family member or CSO is likely to be more effective than no counselling with regard to encouraging the problem drinker to seek treatment. The UK-based cost effectiveness information suggests that social behaviour and network therapy may be similar in cost-effectiveness to individual motivational therapy but family therapy may be cost-saving compared to (undefined) standard care.

### **6.1 Implications for service provision**

It appears from the UK national survey of treatment provision that only approximately 6% of individuals in need of specialist alcohol interventions actually receive them and that there is a considerable burden of unmet need.<sup>2</sup> From the recent cohort study of untreated heavy drinkers in Birmingham it appears that only 13% accessed alcohol treatment services in the previous eight years. It was not clear if there were additional heavy drinkers who wished to access services but who could not because of insufficient services being available. If therapy involving family and friends is cost saving, this would suggest that there would be net savings as a result of implementing a family/marital/CSO therapy service in the West Midlands. The results of implementing this type of service more widely seems likely to result in a reduction in the incidence of alcohol-related disease and in-patient hospital stays and a decrease in other disease-related costs. It is uncertain as to whether this would be the case in practice and a number of years would need to elapse before this could be demonstrated.

### **6.2 Suggested research priorities**

It would be useful to investigate whether certain patient or family characteristics may be indicators of likely success or failure of therapy involving family and friends. It would also be useful to know whether different forms of family therapy are equally effective, particularly those from the different theoretical models of the family.

Standard care has been used as a comparator in several of the RCTs and in the Scottish economic model. However, it is uncertain at the moment exactly what this involves. Also it is likely to be very variable so that different societal groups, such as adolescents, retired military personnel and mature women in social class 1, are likely to receive very different versions of standard care. The economic model used a 20-year time horizon whereas most RCT have much shorter follow up lengths. More research is needed on the long-term effectiveness of different treatment strategies and their cost implications. The cohort study of untreated heavy drinkers indicated that there may need to be more targeted health promotion to encourage them to seek help.

## 7. APPENDICES

### Appendix 1. Search strategies

#### Effectiveness searches

**Database: Ovid MEDLINE In-Process , Other Non-Indexed Citations July 13, 2006**

#### Search Strategy:

- 1 alcohol\$.mp.
- 2 family therapy.mp. or exp Family Therapy/
- 3 (community adj1 training).mp.
- 4 marital therapy.mp. or exp Marital Therapy/
- 5 conjoint therapy.mp.
- 6 couples therapy.mp. or exp Couples Therapy/
- 7 (mutual\$ adj2 help\$).mp.
- 8 joint advice.mp.
- 9 network therapy.mp.
- 10 benevolent confrontation.mp.
- 11 cooperative counsel\$.mp.
- 12 (pressure\$ adj2 change\$).mp.
- 13 pressure to change.mp.
- 14 family casework\$.mp.
- 15 families anonymous.mp.
- 16 relational intervention\$.mp.
- 17 group treatment\$.mp.
- 18 ((parent\$ or mother\$ or maternal or father\$ or paternal or sibling\$ or family) adj2 (relation\$ or intervention\$ or skill\$ or training\$)).mp.
- 19 or/2-18
- 20 1 and 19

**Database: Ovid MEDLINE 1966 to July Week 1 2006**

#### Search Strategy RCTs:

- 1 exp Alcohol-Related Disorders/
- 2 (alcohol\$ adj (disorder\$ or addiction\$ or use\$ or misuse or abuse\$)).mp.
- 3 exp Drinking Behavior/
- 4 or/1-3
- 5 family therapy.mp. or exp Family Therapy/
- 6 (community adj1 training).mp.
- 7 marital therapy.mp. or exp Marital Therapy/
- 8 conjoint therapy.mp.
- 9 couples therapy.mp. or exp Couples Therapy/
- 10 (mutual\$ adj2 help\$).mp.
- 11 joint advice.mp.
- 12 network therapy.mp.
- 13 benevolent confrontation.mp.

- 14 cooperative counsel\$.mp.
- 15 (pressure\$ adj2 change\$).mp.
- 16 pressure to change.mp.
- 17 family casework\$.mp.
- 18 families anonymous.mp.
- 19 relational intervention\$.mp.
- 20 group treatment\$.mp.
- 21 exp Family Relations/  
22 ((parent\$ or mother\$ or maternal or father\$ or paternal or sibling\$ or family)  
adj2 (relation\$ or intervention\$ or skill\$ or training\$)).mp.
- 23 or/5-22
- 24 randomized controlled trial.pt.
- 25 controlled clinical trial.pt.
- 26 randomized controlled trials.sh.
- 27 random allocation.sh.
- 28 double blind method.sh.
- 29 single-blind method.sh.
- 30 or/24-29
- 31 (animals not human).sh.
- 32 30 not 31
- 33 clinical trial.pt.
- 34 exp clinical trials/  
35 (clin\$ adj25 trial\$).ti,ab.
- 36 ((singl\$ or doubl\$ or treb1\$ or tripl\$) adj25 (blind\$ or mask\$)).ti,ab.
- 37 placebos.sh.
- 38 placebo\$.ti,ab.
- 39 random\$.ti,ab.
- 40 research design.sh.
- 41 or/33-40
- 42 41 not 31
- 43 42 not 32
- 44 comparative study.sh.
- 45 exp evaluation studies/  
46 follow up studies.sh.
- 47 prospective studies.sh.
- 48 (control\$ or □rospective\$ or volunteer\$).ti,ab.
- 49 or/44-48
- 50 49 not 31
- 51 50 not (32 or 43)
- 52 32 or 43 or 51
- 53 4 and 23 and 52

**Database: EMBASE 1980 to 2006 Week 28**

**Search Strategy RCTs:**

- 1 alcohol\$.mp. or exp ALCOHOL INTOXICATION/  
2 exp Alcoholism/  
3 or/1-2
- 4 family therapy.mp. or exp Family Therapy/  
5 ((marital or conjoint or couples or network) adj2 therapy).mp.

- 6 mutual help.mp.
- 7 joint advice.mp.
- 8 benevolent confrontation.tw.
- 9 cooperative counselling.mp.
- 10 (pressure\$ adj2 change).mp.
- 11 families anonymous.mp.
- 12 family casework.mp.
- 13 relational intervention\$.mp.
- 14 group treatment\$.mp.
- 15 family relations.mp.
- 16 ((parent\$ or sibling\$ or maternal or father\$ or paternal or family) adj2 (relation\$ or intervention\$ or skill\$ or training)).mp.
- 17 or/4-16
- 18 3 and 17
- 19 randomized controlled trial/
- 20 exp clinical trial/
- 21 exp controlled study/
- 22 double blind procedure/
- 23 randomization/
- 24 placebo/
- 25 single blind procedure/
- 26 (control\$ adj (trial\$ or stud\$ or evaluation\$ or experiment\$)).mp.
- 27 ((singl\$ or doubl\$ or treb\$ or tripl\$) adj5 (blind\$ or mask\$)).mp.
- 28 (placebo\$ or matched communities or matched schools or matched populations).mp.
- 29 (comparison group\$ or control group\$).mp.
- 30 (clinical trial\$ or random\$).mp.
- 31 (quasiexperimental or quasi experimental or pseudo experimental).mp.
- 32 matched pairs.mp.
- 33 or/19-32
- 34 18 and 33

**Database: CINAHL – Cumulative Index to Nursing , Allied Health Literature  
1982 to July Week 1 2006**

**Search Strategy No study design:**

- 1 alcohol\$.mp.
- 2 exp DRINKING BEHAVIOR/ or exp ALCOHOL DRINKING/
- 3 exp ALCOHOLISM/
- 4 or/1-3
- 5 family therapy.mp. or exp Family Therapy/
- 6 marital therapy.mp. or exp Couples Counseling/
- 7 conjoint therapy.mp.
- 8 couples therapy.mp.
- 9 network therapy.mp.
- 10 mutual help.mp.
- 11 joint advice.mp.
- 12 benevolent confrontation.tw.
- 13 cooperative counselling.mp.
- 14 (pressure\$ adj2 change).mp.

- 15 families anonymous.mp.
- 16 family casework.mp.
- 17 exp Family Relations/
- 18 ((parent\$ or sibling\$ or maternal or father\$ or paternal or family) adj2 (relation\$ or intervention\$ or skill\$ or training\$)).mp.
- 19 or/5-18
- 20 4 and 19

**Database: Cochrane Library (Wiley version) 2006 Issue 3 (CENTRAL, CDSR, DARE, HTA)**

**Search strategy:**

- #1 MeSH descriptor Alcohol-Related Disorders explode all trees
- #2 alcohol\*
- #3 (#1 OR #2)
- #4 family next therapy
- #5 couples next therapy
- #6 conjoint next therapy
- #7 conjoint next therapy
- #8 marital next therapy
- #9 network next therapy
- #10 mutual next help
- #11 joint next advice
- #12 benevolent next confrontation
- #13 cooperative next counselling
- #14 pressure\* near/2 change
- #15 families next anonymous
- #16 family next casework
- #17 MeSH descriptor Family Relations explode all trees
- #18 (parent\* or sibling\* or maternal or father\* or paternal or family) next (relation\* or intervention\* or skill\* or training)
- #19 (#4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18)
- #20 (#19 AND #3)

**Database: PsycINFO 1967 to July Week 2 2006**

**Search Strategy RCTs:**

- 1 exp Alcoholism/
- 2 (alcohol adj (abuse\$ or use\$ or misuse or addiction\$ or disorder\$)).mp.  
[mp=title, abstract, heading word, table of contents, key concepts]
- 3 or/1-2
- 4 family therapy.mp. or exp Family Therapy/
- 5 marital therapy.mp.
- 6 exp Couples Therapy/ or couples counselling.mp.
- 7 conjoint therapy.mp. or exp Conjoint Therapy/
- 8 network therapy.mp.
- 9 mutual help.mp.
- 10 joint advice.mp.
- 11 benevolent confrontation.mp.

- 12 cooperative counselling.mp.
- 13 (pressure\$ adj2 change).mp.
- 14 exp Family Relations/ or families anonymous.mp.
- 15 family casework.mp.
- 16 ((parent\$ or sibling\$ or maternal or father\$ or paternal or family) adj2 (relation\$ or intervention\$ or skill\$ or training)).mp.
- 17 or/4-16
- 18 3 and 17
- 19 limit 18 to "treatment (min difference)"

**Database: International Bibliography of the Social Sciences (Ovid) 1951 to July Week 02 2006**

**Search Strategy:**

- 1 family therapy.mp.
- 2 couples therapy.mp.
- 3 conjoint therapy.mp.
- 4 or/1-3
- 5 drink\$.mp.
- 6 alcohol\$.mp.
- 7 or/5-6
- 8 4 and 7

**Database : ASSIA Applied Social Sciences Index and Abstracts (CSA) 1987-Current, searched Jul 17 2006**

**Search terms:**

(alcohol\*) and (family therapy or couples therapy or conjoint therapy)

**Database : Campbell Collaboration C2-SPECTR 2006 Issue 3 searched Jul 17 2006**

**Search terms:**

(alcoholism or alcoholic\* or drinker\*) and (therapy)

**Database : SSCI Social Science Citation Index 1956-present searched Jul 17 2006**

**Search terms:**

(alcohol\*) and (family therapy or couples therapy or conjoint therapy)

**Database : SCI Science Citation Index Expanded (SCI-EXPANDED)-1900-present searched Jul 17 2006**

**Search terms:**

(alcohol\*) and (family therapy or couples therapy or conjoint therapy)

## Cost searches

**Database: Ovid MEDLINE 1966 to August Week 1 2006**

**Search Strategy Cost:**

- 1 exp Alcohol-Related Disorders/
- 2 (alcohol\$ adj (disorder\$ or addiction\$ or use\$ or misuse or abuse\$)).mp.  
[mp=title, original title, abstract, name of substance word, subject heading word]
- 3 exp Drinking Behavior/
- 4 or/1-3
- 5 family therapy.mp. or exp Family Therapy/
- 6 (community adj1 training).mp.
- 7 marital therapy.mp. or exp Marital Therapy/
- 8 conjoint therapy.mp.
- 9 couples therapy.mp. or exp Couples Therapy/
- 10 (mutual\$ adj2 help\$).mp.
- 11 joint advice.mp.
- 12 network therapy.mp.
- 13 benevolent confrontation.mp.
- 14 cooperative counsel\$.mp.
- 15 (pressure\$ adj2 change\$).mp.
- 16 pressure to change.mp.
- 17 family casework\$.mp.
- 18 families anonymous.mp.
- 19 relational intervention\$.mp.
- 20 group treatment\$.mp.
- 21 exp Family Relations/
- 22 ((parent\$ or mother\$ or maternal or father\$ or paternal or sibling\$ or family)  
adj2 (relation\$ or intervention\$ or skill\$ or training\$)).mp.
- 23 or/5-22
- 24 4 and 23
- 25 economics/
- 26 exp "costs and cost analysis"/
- 27 cost of illness/
- 28 exp health care costs/
- 29 economic value of life/
- 30 exp economics medical/
- 31 exp economics hospital/
- 32 economics pharmaceutical/
- 33 exp "fees and charges"/
- 34 (econom\$ or cost or costs or costly or costing or price or pricing or  
pharmacoeconomic\$).tw.
- 35 (expenditure\$ not energy).tw.
- 36 (value adj1 money).tw.
- 37 budget\$.tw.
- 38 or/25-37
- 39 24 and 38

**Database: EMBASE 1980 to 2006 Week 32**

**Search Strategy Cost :**

- 1 alcohol\$.mp. or exp ALCOHOL INTOXICATION/
- 2 exp Alcoholism/
- 3 or/1-2
- 4 family therapy.mp. or exp Family Therapy/
- 5 ((marital or conjoint or couples or network) adj2 therapy).mp.
- 6 mutual help.mp.
- 7 joint advice.mp.
- 8 benevolent confrontation.tw.
- 9 cooperative counselling.mp.
- 10 (pressure\$ adj2 change).mp.
- 11 families anonymous.mp.
- 12 family casework.mp.
- 13 relational intervention\$.mp.
- 14 group treatment\$.mp.
- 15 family relations.mp.
- 16 ((parent\$ or sibling\$ or maternal or father\$ or paternal or family) adj2 (relation\$ or intervention\$ or skill\$ or training)).mp.
- 17 or/4-16
- 18 3 and 17
- 19 cost benefit analysis/
- 20 cost effectiveness analysis/
- 21 cost minimization analysis/
- 22 cost utility analysis/
- 23 economic evaluation/
- 24 (cost or costs or costed or costly or costing).tw.
- 25 (economic\$ or pharmaco-economic\$ or price\$ or pricing).tw.
- 26 (technology adj assessment\$).tw.
- 27 or/19-26
- 28 18 and 27

**Database: Ovid MEDLINE 1966 to August Week 1 2006**

**Search Strategy Cost models:**

- 1 exp Alcohol-Related Disorders/
- 2 (alcohol\$ adj (disorder\$ or addiction\$ or use\$ or misuse or abuse\$)).mp.
- 3 exp Drinking Behavior/
- 4 or/1-3
- 5 family therapy.mp. or exp Family Therapy/
- 6 (community adj1 training).mp.
- 7 marital therapy.mp. or exp Marital Therapy/
- 8 conjoint therapy.mp.
- 9 couples therapy.mp. or exp Couples Therapy/
- 10 (mutual\$ adj2 help\$).mp.
- 11 joint advice.mp.
- 12 network therapy.mp.
- 13 benevolent confrontation.mp.
- 14 cooperative counsel\$.mp.

- 15 (pressure\$ adj2 change\$).mp.
- 16 pressure to change.mp.
- 17 family casework\$.mp.
- 18 families anonymous.mp.
- 19 relational intervention\$.mp.
- 20 group treatment\$.mp.
- 21 exp Family Relations/
- 22 ((parent\$ or mother\$ or maternal or father\$ or paternal or sibling\$ or family) adj2 (relation\$ or intervention\$ or skill\$ or training\$)).mp.
- 23 or/5-22
- 24 4 and 23
- 25 decision support techniques/
- 26 markov.mp.
- 27 exp models economic/
- 28 decision analysis.mp.
- 29 cost benefit analysis/
- 30 or/25-29
- 31 30 and 24

**Database: Ovid MEDLINE 1966 to August Week 1 2006**

**Search Strategy QOL:**

- 1 exp Alcohol-Related Disorders/
- 2 (alcohol\$ adj (disorder\$ or addiction\$ or use\$ or misuse or abuse\$)).mp.
- 3 exp Drinking Behavior/
- 4 or/1-3
- 5 family therapy.mp. or exp Family Therapy/
- 6 (community adj1 training).mp.
- 7 marital therapy.mp. or exp Marital Therapy/
- 8 conjoint therapy.mp.
- 9 couples therapy.mp. or exp Couples Therapy/
- 10 (mutual\$ adj2 help\$).mp.
- 11 joint advice.mp.
- 12 network therapy.mp.
- 13 benevolent confrontation.mp.
- 14 cooperative counsel\$.mp.
- 15 (pressure\$ adj2 change\$).mp.
- 16 pressure to change.mp.
- 17 family casework\$.mp.
- 18 families anonymous.mp.
- 19 relational intervention\$.mp.
- 20 group treatment\$.mp.
- 21 exp Family Relations/
- 22 ((parent\$ or mother\$ or maternal or father\$ or paternal or sibling\$ or family) adj2 (relation\$ or intervention\$ or skill\$ or training\$)).mp.
- 23 or/5-22
- 24 4 and 23
- 25 quality of life/
- 26 life style/
- 27 health status/

- 28 health status indicators/
- 29 or/25-28
- 30 24 and 29

**Database: Cochrane Library (Wiley version) 2006 Issue 3 (NHS EED)  
Search strategy:**

- #1 MeSH descriptor Alcohol-Related Disorders explode all trees
- #2 alcohol\*
- #3 (#1 OR #2)
- #4 family next therapy
- #5 couples next therapy
- #6 conjoint next therapy
- #7 conjoint next therapy
- #8 marital next therapy
- #9 network next therapy
- #10 mutual next help
- #11 joint next advice
- #12 benevolent next confrontation
- #13 cooperative next counselling
- #14 pressure\* near/2 change
- #15 families next anonymous
- #16 family next casework
- #17 MeSH descriptor Family Relations explode all trees
- #18 (parent\* or sibling\* or maternal or father\* or paternal or family) next (relation\* or intervention\* or skill\* or training)
- #19 (#4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18)
- #20 (#19 AND #3)

**Database: Office of Health Economics Economic Evaluations Database (OHE HEED) 2006 August issue**

**Search terms:**

- (alcohol\* or drink\* or drunk\*) and (violen\* or abusive)
- (alcohol\* or drink\* or drunk\*) and (family therapy or parent\*)

**Appendix 2. List of excluded clinical effectiveness studies**

Study	Reason for exclusion
Alfano,A.M., Thurstin,A.H. Program evaluation research in ongoing alcoholism treatment: a summary of the Tuscaloosa VA project. <i>Alcoholism</i> 1989;24(4):30 -314	Not RCT
Bauman,K.E.Ennett,S.T.Foshee,V.A.Pemberton,M.King,T.S. Koch,G.G. Influence of a family program on adolescent smoking and drinking prevalence. <i>Prevention Science</i> 2002;3(1)35- 42	Prevention in adolescent drinkers
Beidler,Robert J. Treating Drug Addicts and Alcoholics Together: A Clinical Trial. <i>Journal-of-Addictive-Diseases</i> 1991;10(3):81-96	Not family therapy
Birchler GR, Fals-Stewart W. Use of behavioral couples therapy with alcoholic couples: Effects on maladaptive responses to conflict during treatment. Poster presented at the 35 <sup>th</sup> Annual Convention of the association for the Advancement of Behaviour Therapy, Philadelphia, USA, 2001.	Not available
Boyd-Ball,A.J. A culturally responsive, family-enhanced intervention model. <i>Alcoholism: Clinical and Experimental Research</i> 2003;27(8):1356-1360	Not RCT
Bruno,V.Truppi,M.C.Zugaro,M. Introduction to Alcoholism and Family-Therapy <i>Minerva Medica</i> 1982;73(21):1473-1480	Case study
Cadogan,D.A. Marital group therapy in the treatment of alcoholism <i>Quarterly Journal of Studies on Alcohol</i> 1973;34(4):1187-1194	Not RCT
Christensen,A. Cost-effectiveness in behavioral family therapy <i>Behavior Therapy</i> 1980;11(2):208-226	In problem children
Cohen PC, Krause MD. Casework with the wives of alcoholics. New York, USA, Family Services Association of America, 1971	Not available
Copello,A. Orford,J. Hodgson,R. Tober,G. Barrett,C. Social behaviour and network therapy. Basic principles and early experiences. <i>Addictive Behaviors</i> .2002;27(3):345.-366.	Subgroup of UKATT study
Copello A. Templeton L. Krishnan M. Orford J. Velleman R. A treatment package to improve primary care services for people with alcohol and drug problems. <i>Addiction Research</i> 2000;8(5):471-484	Not RCT
Corder,B.F.Corder,R.F.Laidlaw,N.D. An intensive treatment program for alcoholics and their wives. <i>Quarterly Journal of Studies on Alcohol</i> 1972;33(4):1144-1146	Not RCT
Dittrich JE, Trapold MA. Wives of alcoholics: A treatment programme and outcome study. <i>Bulletin of the Society of Psychologists in Addictive Behaviors</i> 1984;3:91-102	Not available
Doyle,M.Carr,A.Rowen,S.Galvin,P.Lyons,S..Cooney,G.Family-oriented treatment for people with alcohol problems in Ireland: a comparison of the effectiveness of residential and community-based programmes. <i>Journal of Family Therapy</i> 2003;25:15 -40	Not RCT
Enders,L.E. Mercier,J.M. Treating chemical dependency: the need for including the family. <i>International Journal of the Addictions</i> 1993;28(6):507-519	Not RCT

Epstein,E.E.McCrady,B.S.Miller,K.J.Steinberg,M. Attrition from conjoint alcoholism treatment: do dropouts differ from completers? Journal of Substance Abuse 1994;6(3):249-265	No alcohol outcomes presented
Esser,P.H.Evaluation of Family Therapy with Alcoholics British Journal of Addiction 1971;66(4):251-255	Not RCT
Fals-Stewart,W.Birchler,G.R. Behavioral couples therapy with alcoholic men and their intimate partners: The comparative effectiveness of bachelor's- and master's-level counsellors. Behavior Therapy.2002;33(1):123.-147	RCT of counsellor training
Ferreira,A.J.Family Therapy in Alcoholism. Psychotherapy and Psychosomatics 1967;15(1):20	Narrative review
Gacic,B.Family-Therapy for Alcohol – (Combined Intensive Family-Therapy for Alcoholism) Revue de l'Alcoolisme 1977;23(4):242-254	Not RCT
Galanter,M. Network therapy for substance abuse: A clinical trial Psychotherapy: Theory., Research, Practice, Training.1993;30(2):251-258	Not RCT
Grigg DN. An ecological assessment of the efficacy of individual and couples treatment formats of experiential systemic therapy for alcohol dependency. Unpublished Doctoral dissertation, University of Columbia, Canada 1994.	Not available
Henggeler,S.W.Pickrel,S.G.Brondino,M.J.Multisystemic treatment of substance-abusing and dependent delinquents: outcomes, treatment fidelity, and transportability. Mental Health Services Research 1999;1(3):171-184	No information on numbers with alcohol misuse
Hunt, GM, Azrin NH. A community-reinforcement approach to alcoholism. Behaviour Research and Therapy 1973;11(1):91-114	Not RCT
Ino,A.Hayasida,M. Before-discharge intervention method in the treatment of alcohol dependence. Alcoholism: Clinical and Experimental Research 2000;24(3):373-376	Not RCT
Kadden,R.M. Litt,M.D. Searching for Treatment Outcome Measures for Use across Trials Journal of Studies on Alcohol.2004;65(1):145-152.)	Not family therapy
Kahler,C.W.McCrady,B.S.Epstein,E.E.Sources of distress among women in treatment with their alcoholic partners. Journal of Substance Abuse Treatment 2003;24(3):257-265	Part of a larger RCT
Kearney MS. A comparative study of multiple family group therapy and individual conjoint family therapy within an outpatient community chemical dependency treatment programme. Unpublished Doctoral Dissertation, University of Minnesota, USA. 1984	Not available
Liddle,H.A.Rowe,C.L. Dakof,G.A.Ungaro,R.A.Henderson,C.E. Early Intervention for Adolescent Substance Abuse: Pretreatment to Posttreatment Outcomes of a Randomized Clinical Trial Comparing Multidimensional Family Therapy and Peer Group Treatment Journal of Psychoactive Drugs.2004;36(1):49.-63	Less than 50% alcohol patients
Liddle HA, Dakof GA, Parker K, Diamond GS, Barrett K, Tejada M. Multidimensional family therapy for adolescent drug abuse: Results of a ranomised clinical trial. American Journal of Drug and Alcohol Abuse 2001;27(4):651-688	Less than 50% alcohol patients

Long CG, Williams M, Hollin CR. Treating alcohol problems: A study of programme effectiveness and cost-effectiveness according to length and delivery of treatment. <i>Addiction</i> 1998;93(\$):561-571	Not RCT
Loveland-Cherry,C.J. Ross,L.T.Kaufman,S.R.Effects of a home-based family intervention on adolescent alcohol use and misuse <i>Journal of Studies on Alcohol</i> 1999;60.(SUPPL.13):94.-102	Prevention in adolescent drinkers
Maharajh,H. Family therapy of alcoholics: outcome and evaluation [abstract] <i>The West Indian Medical Journal</i> .1986;35:41. Commonwealth Caribbean Medical Research Council, 31 <sup>st</sup> Scientific Meeting, Trinidad & Tobago, 1986	Not RCT
Maharajh,H.D.Bhugra,D. Brief family therapy with alcohol-dependent men in Trinidad and Tobago <i>Acta Psychiatrica Scandinavica</i> .1993;87.(6.):422.-426	Not RCT
McNabb,J.Der-Karabetian,A. Rhoads,J. Family involvement and outcome in treatment of alcoholism <i>Psychological Reports</i> 1989;65(3 Pt 2):1327-1330	Not RCT
Meeks,D.E.Kelly,C. Family Therapy with Families of Recovering Alcoholics. <i>Quarterly Journal of Studies on Alcohol</i> 1970;31(2):399-413	Case studies
Mirabeau,F. Research update. Evaluation outcome study of family education in the treatment of alcoholic patients <i>Journal of Addictions Nursing</i> 1997;9(2):77-80	Not RCT
Nakamura,K.Takano,T. Iguchi,T.Family involvement for improving the abstinence rate in the rehabilitation process of female alcoholics <i>International Journal of the Addictions</i> 1991;26(10):1055-1064	Not RCT
Noel,N.E.McCrary,B.S.Stout,R.L.Fisher-Nelson,H. Predictors of attrition from an outpatient alcoholism treatment program for couples. <i>Journal of Studies on Alcohol</i> 1987;48(3):229-235	No alcohol-related outcomes
O'Farrell,T.J.Kleinke,C.L.Thompson,D.L.Differences between alcoholic couples accepting and rejecting an offer of outpatient marital therapy. <i>American Journal of Drug &amp; Alcohol Abuse</i> 1986;12(3):285-294	Not RCT
O'Farrell,T.J.Murphy,C.M. Marital violence before and after alcoholism treatment. <i>Journal of Consulting &amp; Clinical Psychology</i> 1995;63(2):256-262	Not RCT
O'Farrell,T.J.Murphy,C.M.Stephan,S.H.Fals-Stewart,W.Murphy,M..Partner Violence before and after Couples-Based Alcoholism Treatment for Male Alcoholic Patients: The Role of Treatment Involvement and Abstinence <i>Journal of Consulting &amp; Clinical Psychology</i> 1995;72(2):256-266	Not RCT
Orchen MD. A treatment efficacy study comparing relaxation training, EMG biofeedback and family therapy among heavy drinkers. Unpublished Doctoral Dissertation, Long Island University, USA, 1983	Not available
Ossip-Klein DJ, Vanlandingham W, Prue DM, Rychtarik RG. Increased attendance at alcohol aftercare using calendar prompts and home-based contracting. <i>Addictive behaviors</i> 1984;9:85-89	No alcohol outcomes

Pearlman,S.Zweben,A.Li,S. The comparability of solicited versus clinic subjects in alcohol treatment research British Journal of Addiction 1989;84(5):523-532	Not RCT
Pratt,C.C.Schmall,V.L.Wilson,W.Benthin,A. Alcohol problems in later life: Evaluation of a model community education program. Community Mental Health Journal 1992;28(4):327-335	Not RCT
Robbins,M.S.Liddle,H.A.Turner,C.W.Dakof,G.A.Alexander,J.F.Kogan,S.M . Adolescent and parent therapeutic alliances as predictors of dropout in multidimensional family therapy. Journal of Family Psychology 2006;20(1):108-116	Not alcohol patients
Rotunda,R.J.West,L.O'Farrell,T.J.Enabling behavior in a clinical sample of alcohol-dependent clients and their partners Journal of Substance Abuse Treatment 2004;26(4):269-276	No alcohol outcomes
Rowe CL, Liddle HA. Family-based treatment development for adolescent alcohol abuse. International Journal of Adolescent Medicine and Health 2006;18(1):43-51	Narrative review
Rychtarik RG, McGillicuddy NB. Reducing violence against women with alcoholic partners. Poster presented at the Research Society on Alcoholism Meeting, San Fransisco, USA, 2002	Not available
Seale,J.P.Sparks,T.Robbins,L.Couch,K.W. Successful physician interventions with hospitalized alcoholic patients. Journal of the American Board of Family Practice 1992;5(4):433-436	Not RCT
Sikic,B I. An evaluation of a program for the treatment of alcoholism in Croatia International Journal of Social Psychiatry 1974;18(3):171-182	Not RCT
Slesnick,N. Variables associated with therapy attendance in runaway substance abusing youth: Preliminary findings. American Journal of Family Therapy 2001;29(5):411.-420	Not RCT
Slesnick,N.Prestopnik,J.L. Office versus home-based family therapy for runaway, alcohol abusing adolescents: examination of factors associated with treatment attendance. Alcoholism Treatment Quarterly 2004;22:3-19	No alcohol outcomes
Soyka M, Preuss U, Schuetz. Use of acamprosate and different kinds of psychosocial support in relapse prevention of alcoholism. Drugs Research and Development 2002 3(2):1-12	Not RCT
Spoth,R.Redmond,C.Shin,C.Azevedo,K. Brief family intervention effects on adolescent substance initiation: School-level growth curve analyses 6 years following baseline Journal of Consulting & Clinical Psychology 2004;72(3):535.-542	Prevention in adolescent drinkers
Steinglass,P. An experimental treatment program for alcoholic couples Journal of Studies on Alcohol 1979;40(3):159-182	Not RCT
Stout RL, McCrady BS, Longabaugh R, Noel NE, Beattie MC. Marital therapy enhances the long-term effectiveness of alcohol treatment: Replication of an outcome crossover effect. Paper presented at the Joint Meeting of the Research Society on Alcoholism and the Committee on Problems of Drug Dependence, Philadelphia, USA, June 1987	Not available
Thomas RG, Yoshioka M, Ager R, Adams KB. Reaching the unco-operative alcohol abuser through a co-operative spouse. Paper presented at the 5 <sup>th</sup> Congress of the International Society for Bio-Medical Research on Alcoholism, Toronto, Canada 1990	Not available

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<p>Waldron,H.B.Slesnick,N.Brody,J.L.Turner,C.W.Peterson,T.R. Treatment outcomes for adolescent substance abuse at 4-and 7-month assessments. Journal of Consulting and Clinical Psychology 2001;69(5):802-813</p>	<p>Not alcohol patients</p>
<p>Waldron,H.B.Turner,C.W.Ozechowski,T.J.Profiles of drug use behavior change for adolescents in treatment. Addictive Behaviors 2005;30(9):1775-1796</p>	<p>No useable outcomes</p>
<p>Winters,J.Fals-Stewart,W.O'Farrell,T.J.Birchler,G.R.Kelley,M.L. Behavioral couples therapy for female substance-abusing patients: effects on substance use and relationship adjustment. Journal of Consulting and Clinical Psychology 2002;70(2):344-355</p>	<p>Less than 50% alcohol misuse</p>
<p>Zetterlind U, Hansson H, Aberg-Orbeck K, Berglund M. Coping skills therapy, group support and information for spouses of alcoholics: a controlled randomised trial. Poster presented at the International conference in the Treatment of Addictive Behaviors, Santa Fe, USA, 1998</p>	<p>Not available</p>

### Appendix 3. List of excluded cost-effectiveness studies

Study	Reason for exclusion
Barrett B, Byford S, Crawford MJ, Patton R, Drummond C, Henry JA, Touquet R. Cost-effectiveness of screening and referral to an alcohol health worker in alcohol misusing patients attending an accident and emergency department: A decision-making approach. <i>Drug and Alcohol Dependence</i> 2006;81:47-54	Not family therapy
Bray JW, Zarkin GA. Economic evaluation of alcoholism treatment. <i>Alcohol Research and Health</i> 2006;29(1):27-33	Describes methods and reviews past work
Fals-Stewart W, O'Farrell TJ, Birchler GR. Behavioral couples therapy for male substance-abusing patients: A cost outcomes study. <i>Journal of Consulting and Clinical Psychology</i> 1997;65(%):789-802	Less than 50% alcohol misusers
Finney JW, Monahan SC. The cost-effectiveness of treatment for alcoholism: A second approximation. <i>Journal of Studies on Alcohol</i> 1996;57:229-243	No incremental cost effectiveness, very unusual methods
Holder H, Longabaugh R, Miller WR, Rubonis AV. The cost-effectiveness of treatment for alcoholism: a first approximation. <i>Journal of Studies on Alcohol</i> 1991;52:517-540	Vote counting for effectiveness,
Lennox RD, Scott-Lennox JA, Holder HD. Substance abuse and family illness: Evidence from health care utilization and cost-offset research. <i>Journal of Mental Health Administration</i> 1992;19(1):83-95	Narrative review of economic studies
Long CG, Williams M, Hollin CR. Treating alcohol problems: A study of programme effectiveness and cost-effectiveness according to length and delivery of treatment. <i>Addiction</i> 1998;93(\$):561-571	No cost methods presents, no actual cost results given
McKenna M, Chick J, Buxton M, Howlett H, Patience D, Ritson B. The Seccatt Survey: I. The costs and consequences of alcoholism. <i>Alcohol and Alcoholism</i> 1996;31(6):565-576	No family therapy mentioned
Mortimer D, Segal L. Economic evaluation of interventions for problem drinking and alcohol dependence: Do within-family external effects make a difference? <i>Alcohol and Alcoholism</i> 2006;41(1):92-98	No family therapy used
O'Farrell TJ. Alcohol Abuse. <i>Journal of Marital and Family Therapy</i> 2003;29(1):121-146	Systematic review, reviewing included cost effectiveness studies
O'Farrell TJ, Fals-Stewart W. Family-involved alcoholism treatment. An update. <i>Recent Developments in Alcoholism</i> 2001;15:329-356	Systematic review, reviewing included cost effectiveness studies
Pike CL, Piercy FP. Cost effectiveness research in family therapy. <i>Journal of Marital and Family Therapy</i> 1990;16(4):375-388	Describes methods, example not alcohol misuse

Spath RL, Gyll M, Day SX. Universal family-focused interventions in alcohol use disorder prevention: Cost effectiveness and cost-benefit analyses of two interventions. <i>Journal of Studies on Alcohol</i> 200;63:219-228	On prevention of alcohol problems rather than treatment
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**Appendix 4. Quality assessment of included RCTs**

RCT, date (country)	Random method	Allocation concealment (Y/N/NR)	Blinding of outcome assessment	Follow up length	Percentage lost to follow up	Modified Jadad score
Azrin, 1976 (USA)	Coin flip	N	Y	2 yrs	0%	4
Bennun, 1988 (UK)	NR	NR	NR	6 mths	NR	1
Dembo, 2002 (USA)	NR	NR	NR	4 yrs	67%	1
Fichter, 1993 (Germany)	Cluster randomised	Y	NR	18 mths	17%	3
Hedberg, 1974 (USA)	NR	N	NR	6 mths	0%	2
Latimer, 2003 (USA)	NR	NR	NR	6 mths	2.3%	2
Li, 2003 (China)	NR	NR	NR	3 yrs	4.9%	2
Longabaugh, 1995 (USA)	Wei's Urn method	NR	NR	18 mths	27.9%	2
Sleznick, 2006 (USA)	Computerised Wei's Urn	NR	NR	15 mths	16-19%	3
UKATT, 2005 (UK)	Remote computer	Y	Y	12 mths	16.8%	5
Azrin 1982 (USA)	NR	NR	N	6 mths	0%	2

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RCT, date (country)	Random method	Allocation concealment (Y/N/NR)	Blinding of outcome assessment	Follow up length	Percentage lost to follow up	Modified Jadad score
Barrowclough, 2001 (UK)	Computer generated random list	Y	Y	12 mths	11.1%	5
Bowers, 1990 (USA)	NR	NR	Y	12 mths	25%	2
Fals-Stewart, 2005 (USA)	NR	NR	NR	12 mths	14%	2
Fals-Stewart, 2006 (USA)	Computer, in blocks	N	NR	12 mths	15.9%	2
Howden Chapman, 1988 (NZ)	NR	NR	NR	18 mths	18.6%	2
Karno, 2002 (USA)	NR	NR	NR	5 mths	36%	1
Kelly, 2002 (USA)	NR	NR	NR	12 mths	11.3%	2
McCrary, 1982 (USA)	NR	NR	NR	4 yrs	3.0%	2
McCrary, 1991 (USA)	Wei's Urn	NR	Y	18 mths	16%	4
McCrary, 1999 (USA)	NR	NR	NR	18 mths	21%	1
Monti, 1990 (USA)	NR	NR	NR	6 mths	23%	1
O'Farrell, 1985 (USA)	Random number table	Y	NR	3 mths	5.6%	4

Therapy involving family and friends in alcohol abuse or dependence

RCT, date (country)	Random method	Allocation concealment (Y/N/NR)	Blinding of outcome assessment	Follow up length	Percentage lost to follow up	Modified Jadad score
O'Farrell, 1993 (USA)	NR	NR	NR	12 mths	0%	2
Shoham, 1998 (USA)	NR	NR	NR	12 mths	27.0%	1
Walitzer, 2004 (USA)	NR	NR	NR	12 mths	10.9%	2
Zweben, 1988 (USA)	NR	NR	Y	18 mths	48.6%	2
Barber, 1995 (Aus)	NR	NR	NR	3 mths	NR (?0%)	1
Barber, 1996 (Aus)	NR	NR	NR	17 wks	NR (?0%)	1
Barber, 1998 (Aus)	NR (also all from Melbourne allocated to one arm - ? No)	NR	NR	4 wks	NR (/0%)	1
Copello, unpublished (UK)	Cluster randomised by trial statistician	Y	NR	12 wks	10%	4
Halford, 2001 (Aus)	Random number tables	NR	NR	6 mths	22%	2
Miller, 1999 (USA)	Wei's Urn	NR	NR	12 mths	6%	3
Sisson, 1986 (USA)	Coin flip	N	NR	5 mths	0%	3

## Appendix 5. HTBS meta-analysis results

RCT name, date	No treated	No control	Events treated	Events control	OR	95%CI	Months follow up	Outcome	Comments
Hunt 1973	8	8	7	1	49.0	2.50		C	Not RCT
Hedberg 1974	15	30	11	16	2.4063	0.65, 7.89	6	C	The categorical outcomes extracted for this systematic review do not match the ones given here
O'Farrell 1996	10	12	6	6	1.50	0.28, 7.63	12	A	There are only continuous outcomes for abstinence given in this RCT
O'Farrell 1993	30	29	14	10	1.6625	0.59, 4.60	12	A	There are only continuous outcomes for abstinence given in this RCT
McCrary 1991	31	14	9	4	1.0227	0.26, 4.05	18	A	Matches this systematic review
Zweben 1988	79	139	8	13	1.0921	0.43, 2.78	18	C	The comparator in this RCT was family therapy
Bowers 1990	8	8	6	4	3.0	0.38, 19.3	12	C	The categorical outcomes extracted for this systematic review do not match the ones given here

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McCrary 1982	26	7	16	4	1.2	0.22, 6.43	6	C	The categorical outcomes extracted for this systematic review do not match the ones given here
Corder 1972	20	20	11	3	6.9259	1.54, 20.03	6	C	Not RCT
Cadogan 1973	20	20	13	7	3.449	0.95, 10.96	6	C	Not RCT
Fichter 1993	49	51	14	16	0.875	0.37, 2.05	18	A	Matches this systematic review
Smith 1998	64	42	22	6	3.1429	1.16, 6.70	9	A	Not marital or family therapy

Treated total 360, control total 380

Treated events 137, control events 90

Overall odds ratio 1.81, 95%CI 1.26 to 2.61

ChiSquare for heterogeneity 25.9, Degrees of freedom 11.

## Appendix 6. HTBS estimated disease cases for men and women and costs by disease

**Table 13. HTSB model - Males estimated disease cases**

	Alcohol dependent (discounted at 6% pa)	Non-alcohol dependent (discounted at 6% pa)
Death to include suicide	936	318
Stroke	43 (26)	33 (18)
Cancer	88 (53)	97 (50)
Cirrhosis	102 (72)	10 (6)
Alcoholic psychosis	571 (403)	-
Chronic pancreatitis	44 (31)	-
Epilepsy	41 (29)	-
Alcohol dependence syndrome	814 (575)	-

**Table 14. HTSB model - Females estimated disease cases**

	Alcohol dependent (discounted at 6% pa)	Non-alcohol dependent (discounted at 6% pa)
Death to include suicide	785	268
Stroke	51 (31)	33 (18)
Cancer	146 (93)	125 (73)
Cirrhosis	52 (35)	4 (3)
Alcoholic psychosis	160 (107)	-
Chronic pancreatitis	32 (22)	-
Epilepsy	50 (34)	-
Alcohol dependence syndrome	260 (175)	-

**Table 15. HTSB model -Average in-patient days and costs by disease**

	In-patient days	Mean cost	Low estimate	High estimate
Death to include suicide	16.31	2,897	2,571	3,219
Stroke	44.37	8,131	7,216	8,893
Cancer	11.97	3,165	2,807	3,517
Cirrhosis	3.7	726	651	798
Alcoholic psychosis	5.0	1,373	1,223	1,520
Chronic pancreatitis	8.56	3,301	2,819	3,696
Epilepsy	7.32	2,836	2,425	3,172
Alcohol dependence syndrome	10.9	5,000	4,500	7,000

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ISBN No: 07044 26455  
9780704426450

Price: £15.00