

**Where are we with dual diagnosis
(substance misuse and mental illness)?**

A review of the literature

Sarah A. Afuwape

November, 2003

rethink
severe mental illness

This literature review has been produced for Rethink and it is part of a series of work which includes:

- Interviews with carers and people with experience of living with psychosis and drug or alcohol dependency, a collaborative venture between Rethink and Adfam.
- A seminar series on Dual Diagnosis with practitioners (from health, social services, housing, probation), service users and carers addressing how services for people with complex needs are, and should be, delivered locally.
- A Dual Diagnosis tool kit resource produced by Rethink and Turning Point – please see www.rethink.org/dualdiagnosis

Sarah A. Afuwape produced the review for Rethink severe mental illness autumn 2003. Sarah is currently finishing her Ph.D. research at the Institute of Psychiatry entitled “A profile of Black dually diagnosed individuals and the efficacy of a community-based intervention aimed at improving clinical and social outcomes”. In addition, Sarah is Evaluation Project Co-ordinator for the Cares For Life Project (CoLP), a new mental health service for Black minority ethnic groups living in the London borough of Southwark.

Contents

Background

Introduction

Section 1 What is dual diagnosis and how common is it?

Definition

Prevalence

Theories of dual diagnosis

Factors associated with dual diagnosis

Section 2 Dual diagnosis Treatment

Models of treatment

Treatment interventions

Family interventions

Section 3 Special groups

Black and minority ethnic groups

Women

Section 4 Frequently Asked Questions about dual diagnosis

Section 5 Recommendations for future research

Introduction

People who live with severe mental illness and substance misuse encounter many problems. Research has shown that mental health and substance misuse services are often ill prepared to deal with both conditions. The purpose of this report is to present a review of the dual diagnosis literature and highlight a number of key issues which contribute to what we currently know about this area. A literature search was conducted using the databases *PubMed*, *Web of Science* as well as extensive use of bibliographies. The dual diagnosis field is a rapidly expanding area for both research and innovative practice development. As this review was being compiled, two prominent pieces of research were due to be published in the *British Journal of Psychiatry* (Weaver et al 2003; Arseneault et al 2004) and the Mental Health Research Network were preparing to adopt a Dual Diagnosis Trial as one of their first NIMHE (National Institute of Mental Health England) networked research projects led by Professor Barrowclough at the University of Manchester (<http://mhrn.info>).

The report is divided into three sections and begins by defining the concept of dual diagnosis and how common it is. It also examines those factors that are often linked to co-morbidity such as relapse and high rates of hospital admission. Section 2 summarises the literature examining issues surrounding treatment whilst specific groups namely, Black and Minority Ethnic groups and women are the foci of Section 3 to provide examples of the impact of dual diagnosis on two specific groups.

Although the vast majority of the dual diagnosis literature originates from the United States, when writing this report, emphasis, where possible, has been placed on studies and literature conducted in the UK. It is also important to acknowledge that we have not explored the 'gray' literature in this report or information on web sites relating to service user expert opinion because of time and budget constraints within the project.

Section 1

What is dual diagnosis and how common is it?

1.1 Definition

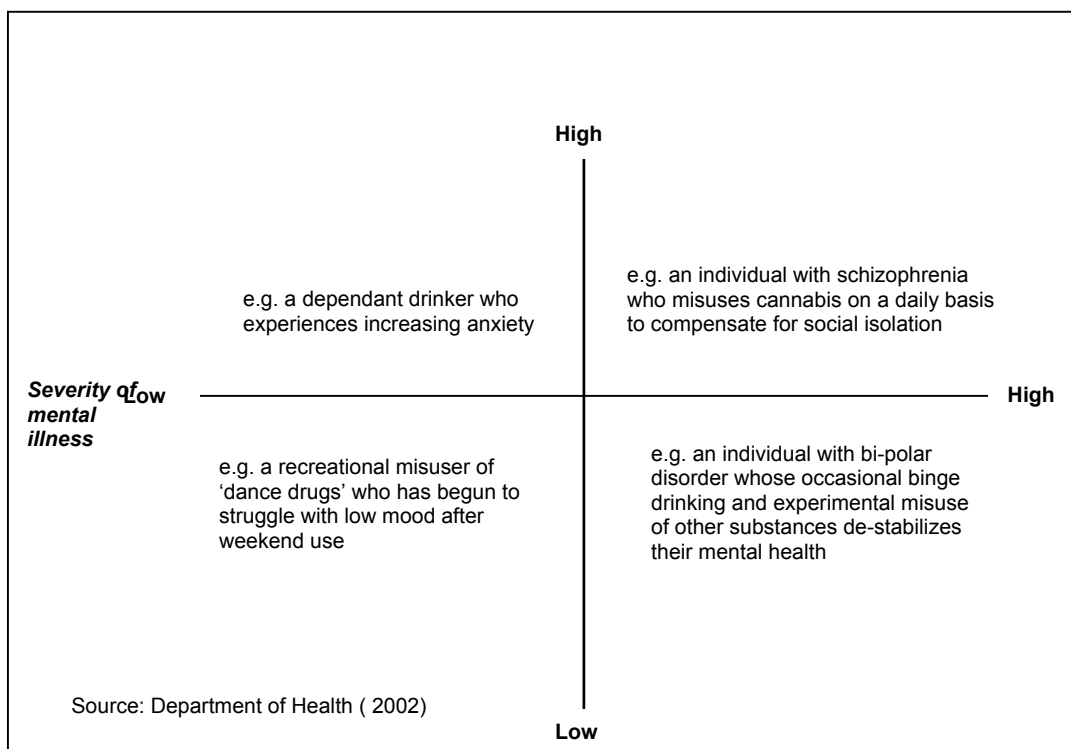
The term 'dual diagnosis' and co-morbidity are often used interchangeably and there is considerable debate surrounding the appropriateness of these terms to describe what is commonly a heterogeneous group of individuals with complex needs and a varied range of problems. In fact, the use of the word 'diagnosis' in this context is something of a misnomer as an individual rarely receives a formal diagnosis of both problems. At its very broadest, the concept is used to define an individual with a combination of psychiatric disorder and substance misuse disorder, for example, depression and alcoholism. More often though, the term is restricted to specify severe mental illness (e.g. psychosis, schizophrenia) and substance misuse disorder (e.g. cannabis abuse). Other terms often used to describe this population are: co-occurring addictive and mental disorders (COAMD), mentally ill chemical abusers (MICA) and chemically addicted mentally ill (CAMI).

El Guebaly (1990) proposes that the term dual diagnosis should include two over-lapping but clearly separate groups of individuals. One subgroup has both a major substance disorder and a major psychiatric illness whilst the other subgroup uses substances in ways that effect the course and treatment of the mental illness (El Guebaly 1990).

Others such as Lehman et al (1989) have classified individuals with dual diagnosis using the following criteria: those with a) **primary mental illness and substance misuse**, whereby the symptoms of the mental illness lead to drug use; b) **substance misuse with psychiatric progression**, which describes the way in which substance use or withdrawal from substances can cause symptoms of mental illness; c) **dual primary disorder**, whereby the substance misuse disorder and the mental illness are initially unrelated and can interact to worsen each other and d) **common aetiological group**, in which common underlying factors (e.g. homelessness as a risk factor for both depression and substance misuse) and may predispose individuals to both conditions (Lehman, Myers, & Corty 1989; Williams 2002).

The Department of Health's Good Practice Guide to dual diagnosis illustrates well, the scope of co-existent psychiatric and substance misuse disorders by describing four main groups of individuals based on the severity of problematic substance misuse and the mental illness (Figure 1). Those classically known as 'dually diagnosed' are represented in two boxes on the right (Department of Health 2002).

Figure 1 The scope of co-existing psychiatric and substance misuse disorders



1.2 Prevalence

Most of the evidence concerning prevalence comes from the United States, although there is a rapidly growing European perspective.

One of the first and largest US studies (The Epidemiological Catchment Area Study) that attempted to assess how common dual diagnosis was showed that 47% of the people they surveyed with schizophrenia had had a substance misuse disorder at some time in their life and that the odds of having a substance misuse disorder was significantly higher amongst patients with psychotic illness than among those in the general population without (Kessler et al. 1994;Regier et al. 1990).

Another study examined the extent of substance abuse in a group of 187 chronic mentally ill patients living in the community. According to ratings by clinicians, approximately one third of the sample abused alcohol, street drugs, or both during the six months before evaluation (Drake & Wallach 1989).

Studies conducted in the UK have indicated slightly more moderate rates of substance misuse among individuals with severe mental illness. Research conducted by Cantwell (2003) with individuals with schizophrenia showed that among the 316 study participants, 7% had reported problematic drug use in the year prior to being interviewed and 21% had reported problematic use some time before that (Cantwell 2003).

Wright and colleagues identified individuals with psychotic illnesses who had been in contact with services in the London Borough of Croydon over the previous 6 months. Cases of alcohol or substance misuse and dependence were identified through standardised interviews with clients and keyworkers. Results showed that prevalence rates of dual diagnosis were 33% for the use of any substance, 20% for alcohol misuse only and 5% for drug misuse only. A lifetime history of any illicit drug use was observed in 35% of the sample (Wright et al. 2000). Other studies conducted on dual diagnosis prevalence can be found in Table 1.

Table 1 Studies reporting Dual Diagnosis Prevalence

Author(s)	Country/setting	Prevalence rates
		Lifetime (LT) Current rate (CR)*
(Menezes et al. 1996)	UK, South London psychiatric hospitals	32% (LT) 37% (CR)
(Kamaili et al. 2000)	Ireland, Inpatients	40% (LT) 20% (CR)
(Mueser et al. 2000)	USA, Inpatients	52% (LT)
(Duke et al. 2001)	UK, Outpatient clinic	16% (LT)
(Graham et al. 2001)	UK, Community-based mental health	24% (CR)
(Weaver et al. 2001)	UK, London adult mental health services	24%(CR)

*Current at the time of the study, or up to 1 year prior to the study

It is important to note that rates of dual diagnosis can vary greatly depending on a number of factors including the way dual diagnosis is initially defined, the instruments used to measure the disorders, the ability of the clinician to recognise the disorders, the population which is investigated and the location in which the prevalence research is conducted.

1.3 Theories of dual diagnosis

There are many theories to explain why individuals with severe mental illnesses are vulnerable to the misuse of substances and how the mental illness-substance misuse relationship co-exists. Does having a psychotic illness lead to substance misuse and if so, in what way? Or is it the case that substance misuse causes psychotic illness? Or perhaps there are other underlying factors that precipitate both. Mueser *et al* (1998) have identified several theories that attempt to explain the mental illness-substance misuse relationship.

Self medication theory

This theory was first proposed by Khantzian (1987) and suggests that people with severe mental illnesses initiate the use of a particular substance for relief of a specific set of symptoms and to counter the negative affects of anti-psychotic medication (Khantzian 1997). It is proposed that substances are not chosen at random, but are selected for their unique effects. For example, uses of stimulants such as nicotine or amphetamines are used as ways to combat sedation caused by high doses of certain types of antipsychotic medication. To investigate this theory further, several research studies have examined the motivations for and the effect of using alcohol and drugs among people with severe mental illness. The findings of some are reported in Table 3.1. On the whole these studies appear to find no evidence in support of the self-medication theory; individuals did not use substances to alleviate specific symptoms of their psychiatric disorder, rather they appeared to use for very similar reasons given by users in the general population.

'Alleviation of dysphoria' theory

This theory suggests that individuals with severe mental illness commonly experience dysphoria (feeling bad) and the dysphoria makes them prone to using psychoactive substances to alleviate these feelings. Despite the existence of a wide range of dysphoric feelings (anxiety, depression, boredom, and loneliness), the literature on self-reported reasons for use seems to lend support for the experience of these feelings being the primary motivator for drug and alcohol misuse (Pristach & Smith 1996).

Multiple risk factor theory

Mueser and others (1998) suggest that although there is general support for the *alleviation of dysphoria* theory there are still many possible underlying factors which indirectly, may be reasons why people with severe mental illness misuse substances. Mueser calls these 'risk factors' and they include factors such as social isolation, poverty, lack of structured daily activity, lack of adult role responsibility, living in areas with high

drug availability and association with people who already misuse drugs (Anthony & Helzer 1991; Berman & Noble 1993). Other evidence suggests that past traumatic events such as sexual abuse, are associated with the development of psychiatric problems and substance abuse; the prevalence of sexual abuse is high in individuals seeking help for mental health problems, especially in women, with one in every two women with dual diagnosis reporting past sexual abuse (Banerjee, Clancy, & Crome 2002).

Table 2 Studies investigating the self-medication theory for dual diagnosis

Authors	Study method	Findings
(Dixon et al. 1990)	Investigated 83 inpatients with psychotic illnesses admitted to a New York hospital. Most popular drugs of choice were alcohol cannabis and cocaine	Most frequent reported reasons for use were to increase happiness and decrease anxious feelings and depression.
(Noordsy et al. 1991)	Investigated the subjective experiences of alcohol use among 75 community-based individuals with schizophrenia in New Hampshire.	Over half of the sample reported that alcohol improved social anxiety, tension, apathy, and sleep difficulties. Approximately 15% of subjects reported that alcohol did not relieve any specific psychotic symptom, with similar proportions reporting that alcohol aggravated psychotic symptoms.
(Addington & Duchak 1997)	Interviewed 41 subjects who had schizophrenia and who also abused/were dependent upon substances. Subjects asked to describe their reasons for using.	Drugs were reportedly used to increase pleasure, to 'get high' and to reduce depression rather than to medicate symptoms of illness.

The supersensitivity theory

This final theory proposed by Mueser et al. (1998) says that certain individuals with severe mental illness have biological and psychological vulnerabilities, which are caused by genetic and early environmental events in their life. These vulnerabilities interact with stressful life events to either cause a psychiatric disorder or to trigger a relapse in an existing illness. The theory states that although anti-psychotic medication can reduce the vulnerability, substance abuse may increase it, causing the individual to be more likely to

experience negative consequences from using relatively small amounts substances. These individuals therefore, are “supersensitive” to the affects of certain substances and suggest that individuals with psychotic illness such as schizophrenia may be less capable of sustaining moderate substance use over time without experiencing negative symptoms. Despite the limitations of the research studies conducted in this area, namely that several have focused primarily on schizophrenia with much less research on other illnesses, the supersensitivity theory provides a good explanation of why relatively low levels of substance use often result in negative consequences for individuals with severe mental illness (Mueser, Drake, & Wallach 1998).

Table 3 Studies investigating the *supersensitivity* model of dual diagnosis

Authors	Study method	Findings
(Arseneault et al. 2004)	Reviewed five existing studies of well-defined samples to investigate whether cannabis was a causal risk factor for schizophrenia.	Cannabis use is neither a sufficient nor necessary cause for schizophrenia, although can play a part in onset.
(Drake, Osher, & Wallach 1989)	Examined patterns of alcohol use among 115 individuals with schizophrenia discharged from a US state hospital.	Alcohol use was associated with an increase in symptoms, chronic medical problems, and higher rates of re-hospitalisation. Minimal drinking, not considered alcohol abuse, predicted re-hospitalisation during 1-year prospective follow-up.
(Knudsen & Vilmar 1984)	Ten patients with schizophrenia whose condition was acutely aggravated following cannabis use, despite use of anti-psychotic medication, were investigated.	Authors conclude that cannabis use constitutes a risk factor for patients with schizophrenia, with a possible additional worsening effect caused by the interaction of cannabis with anti-psychotic medication.
(Lieberman, Kane, & Alvir 1987)	Reviewed 36 studies of psychostimulant drugs (e.g. amphetamines) in patients with schizophrenia.	Patients with schizophrenia were found to be highly sensitive to low doses of amphetamines that produced minimal responses in individuals without schizophrenia.
(Drake & Wallach 1993)	Examined longitudinal course of drinking in two samples of patients with severe mental illness.	Fewer than 5% of patients were able to maintain symptom-free drinking over time without negative consequences compared to 50% of the general population who drink alcohol over time without developing a disorder

1.4 Factors associated with dual diagnosis

There has been some debate about whether those with a dual diagnosis have more 'negative' outcomes and worse prognoses than those with a severe mental illness alone, with the belief that the additional substance abuse adversely affects the course of the illness. US and UK studies have indicated that individuals with dual diagnosis have a number of difficulties and have poorer outcomes including:

- Increased severity of symptoms and relapse
- More frequent hospital admission
- Higher treatment costs
- Increased likelihood of committing an offence or hostile behaviour
- Increased likelihood of suicide
- Increased rates of homelessness and insecure housing
- More contact with the criminal justice system
- Increased risk of HIV infection
- Family problems or problems with intimate relationships
- Isolation and social withdrawal
- Greater levels of unemployment
- Increased risk of poverty

More recent research however with people with schizophrenia has failed to find many of these effects; a study examining 316 individuals in Scotland with and without substance use problems showed no differences between the groups in the number of hospital admissions, the number of days admitted or whether or not they were detained under the Mental Health Act. More importantly, this study found little effect of individuals' substance misuse on their symptoms. The research did show however that those individuals with the substance misuse problems were more likely to have had contact with the police both in terms of them reporting crimes committed against them, and for other reasons (Cantwell 2003).

Table 4 Substance misuse and mental illness; studies investigating the negative effects associated with dual diagnosis

Factor investigated	Author	Study	Findings
Symptom severity and relapse	(Linszen et al. 1994)	Examined the relationship between cannabis abuse and symptoms of schizophrenia by comparing individuals with schizophrenia who abused cannabis with nonabusers.	Significantly more and earlier psychotic relapses occurred in the cannabis-abusing group. Concluded that cannabis abuse can be considered a stressor, causing relapse in patients with schizophrenia and related disorders.
	(Drake, Osher, & Wallach 1989)	Examined patterns of alcohol use among 115 individuals with schizophrenia discharged from the state hospital	Alcohol use was associated with increased symptomatology,
Hospital readmission	(Drake, Osher, Wallach 1989)	As above	Alcohol use associated with a higher rate of rehospitalisation. Even minimal drinking, not considered alcohol abuse by clinicians, predicted rehospitalisation at 1 year follow-up
Treatment costs	(McCrone et al. 2000)	To compare the service use and costs of individuals who have a dual diagnosis with those who have a diagnosis of psychosis but no substance abuse.	A greater proportion of the patients with dual diagnosis used, in-patient care and the emergency clinic. Individuals with dual diagnosis had significantly higher 'core' psychiatric service costs than non-dual-diagnosis individuals.
Hostile behaviour and aggression	(Scott et al. 1998)	To investigate whether 'dual diagnosis' is associated with aggression and offending.	The severity of aggression and offending among the sample was low. Keyworkers and individuals with a dual diagnosis were significantly more likely than those with psychosis only to report any history of committing an offence or recent hostile behaviour.
Suicide	(Kamali et al. 2000)	To identify whether the presence of suicidal thoughts is associated with comorbid substance use in patients with schizophrenia	Those misusing substances reported more suicidal thoughts compared with past or non-substance misusers

Summary

- The term *dual diagnosis* has several definitions though is generally used to refer to individuals with a severe mental illness (e.g. schizophrenia, manic-depression or “psychosis”) and substance misuse problems
- Those with dual diagnosis comprise a heterogeneous group, though share similarities in that such individuals often have complex needs (relating to health, social, economic and emotional stressors or circumstances) which can often be exacerbated by their substance use
- There are several theories explaining how severe mental illness and substance misuse are related. No one theory has satisfactorily explained this relationship, although all have made some contribution to understanding its complexity
- Prevalence rates vary widely and depend largely on the way dual diagnosis is defined and measured and the study setting
- Some research studies have shown that individuals with dual diagnosis fare worse than individuals with single diagnoses of severe mental illness, whilst others have found no differences between these groups.
- Majority of peer-review research is found in the USA and thus there has been a lack of UK based Dual Diagnosis research though this research ‘gap’ is currently being addressed.

Section 2

Dual Diagnosis Treatment

2.1 Models of treatment

Historically, three types of treatment model have been identified in the literature; serial, parallel and integrated as Figure 2 illustrates. Serial treatment models involve treating one condition first (e.g. the alcohol dependency) and soon after, commencing treatment for the other (e.g. the affective disorder). Difficulties have been found with this approach as it is based on the assumption that one condition is more 'primary' to the other when in fact, both the mental illness and the substance misuse are likely to be mutually interactive, alongside other equally relevant needs (e.g. social isolation, unemployment, housing problems) when considering a holistic approach to recovery. Treatments following the parallel model focus on both conditions simultaneously, however treatment is delivered by two separate agencies and the responsibility to communicate with the two teams often lies with the client. This approach is also problematic as clients often find it difficult to remain motivated to maintain contact with both agencies and engage in treatment, and as a result fall through the net of care. The integrated model is an adaptation of the parallel model in that mental health and substance misuse treatments are delivered concurrently however here, treatments are co-ordinated and delivered by the same staff member, or team of clinicians, in the same treatment setting.

In the US, evidence suggests that on the whole, integrated approaches have moderate success in reducing the number of days clients spend in hospital, clients' overall symptoms, social problems and improving engagement (Drake et al. 1998). Others such as Ley et al (2000) in a recent review of programmes that followed an integrated approach, have concluded that the evidence supporting integrated approaches is unclear and that no one programme is superior to another (Ley et al. 2000). Despite this, integration of services still seems to be the way forward for those with dual diagnosis (Royal College of Psychiatrists 2000). Edeh (2002) suggests that ideally, there should be integration of the team, the service components and the treatment principals and philosophies (Edeh 2002). Studies that have investigated these forms of integrated techniques are shown in Table 5.

Figure 2 Models of dual diagnosis treatment

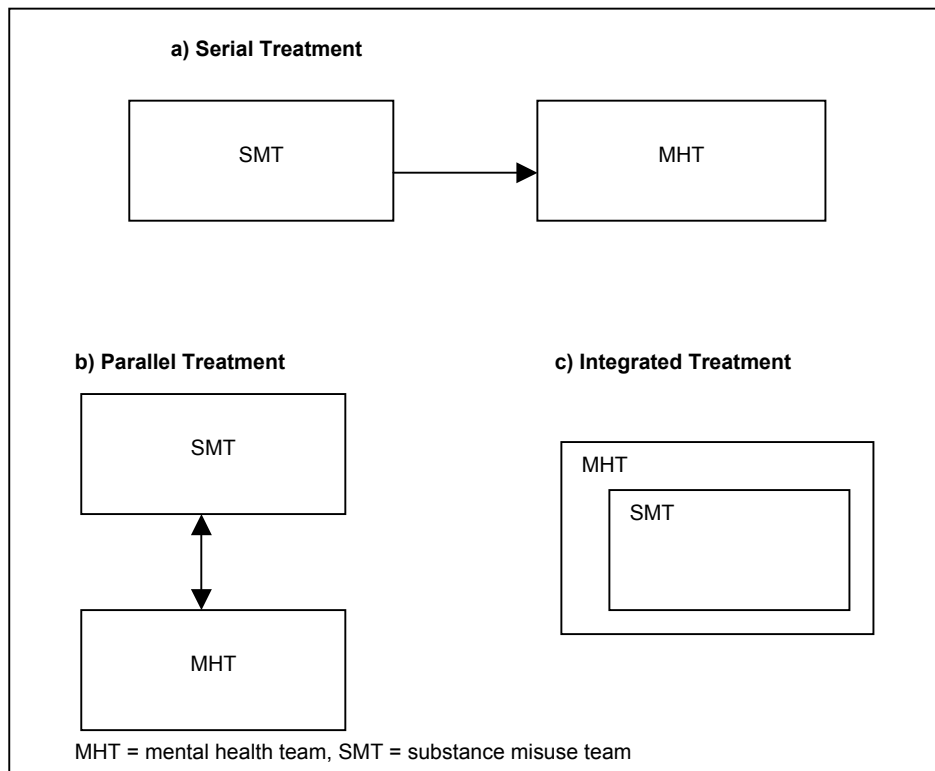


Table 5 Studies of integrated approaches to mental illness and substance misuse treatment

Author	Country	Aim / Method	Findings
(Kofoed et al. 1986)	USA	Dual diagnosis outpatients referred to weekly support group comprising substance abuse education, counselling and alcohol treatment.	High drop-out rate, though remainder showed significant reductions in days of hospital use after treatment compared to before
(Ridgely et al. 1998)	USA	Report on a project of inter-agency collaboration offering co-ordinated mental health and substance abuse treatment	Evaluations at year one and two showed an increase in referrals, joint assessment of clients and joint training of professionals
(Barrowclough et al. 2001)	UK	Standard psychiatric care was compared with standard care integrated with psychological techniques used in substance misuse.	Compared to the standard treatment, the integrated treatment programme showed greater improvements in clients' general functioning, symptoms and days abstinent from drugs or alcohol over 12 month period.
(Moggi et al. 2002)	Switzerland	Assessed a 4-month in-patient treatment programme based on integrated models for dual diagnosis clients.	Clients entering the programme reported less frequent substance use, less severe psychiatric symptoms and lower rehospitalisation rates at 1-year follow-up than on admission.
(Granholtm et al. 2003)	USA	Outpatients with dual diagnosis (substance dependence and comorbid schizophrenia, depressive disorder or bipolar disorder) were investigated. An integrated team provided dual diagnosis treatment for up to 24 weeks.	A 60% reduction in the number of psychiatric hospitalisation days was found for the year after treatment as compared to the year before.

In the UK, Johnson (1997) suggests that probably the most effective method of integrating services would be to deliver services from already well-established Community Mental Health Teams (specialist teams in the community for individuals with mental health problems). The three potential styles of service delivery for dually diagnosed proposed by Johnson are highlighted in Table 6, each with their own drawbacks (Johnson 1997).

Table 6 Johnson’s proposed models of dual diagnosis service integration

Proposed model	Drawbacks
1. Attach an addictions professional to each CMHT to facilitate referrals and joint discussion of clients	<ul style="list-style-type: none"> - Does not allow both types of care by the same worker - High level of 'burnout' for the lone specialist - Lack of time to provide training for colleagues
2. Provide training in substance misuse techniques for all community mental health workers.	<ul style="list-style-type: none"> - Finances and little time may not be available for intensive training required - Need for ongoing training fro new staff
3. A specialist dual diagnosis worker to manage dual diagnosis clients and provide support and advice to rest of team	<ul style="list-style-type: none"> - High level of 'burnout' and isolation as worker would manage the care of those with the most challenging needs

2.2. Treatment Interventions

There is a great deal of dual diagnosis literature on techniques and interventions to treat or manage co-morbidity. On the whole, treatment interventions have been based on one of 4 approaches: biological, social or psychological, as well as frequent use of combinations of these approaches (known as bio-psychosocial approaches). For example, within a dual diagnosis programme, medication can be used to target symptoms of mental illness and inhibit substance misuse behaviours, family therapy and housing support to support an environment with allows abstinence, and rehabilitation to promote meaningful roles (Drake & Meuser 2000). Figure 3 illustrates the way in which these three methods can be integrated for optimum collaboration. A vital aspect of all the treatment approaches is the development and maintenance of the supportive therapeutic relationships that adopt a holistic approach to care and treatment.

Biological

Biological (or medication) treatments are used to manage both the substance misuse and the mental illness. In the former case it is used if individuals have a physical dependence on alcohol, opiates (such as heroin) or certain types of prescription medication (such as diazepam) and plays a role in alleviating withdrawal symptoms. During detox programmes individuals receiving treatment need to be monitored closely for changes in mental state and therefore inpatient treatments is often more preferable over a community approach. Biological approaches are less likely to be used with individuals with severe mental illness and alcohol misuse as such individuals are relatively unlikely to develop the physiological syndrome of dependence or the medical problems associated with sustained and heavy use (Drake et al. 1990; Drake & Mueser 2000). Medication for severe mental illness often helps to control the biological disturbances underlying the illness by reducing anxiety, hallucinations, delusions, stabilizing mood or helping with sleep problems.

Social and Psychological

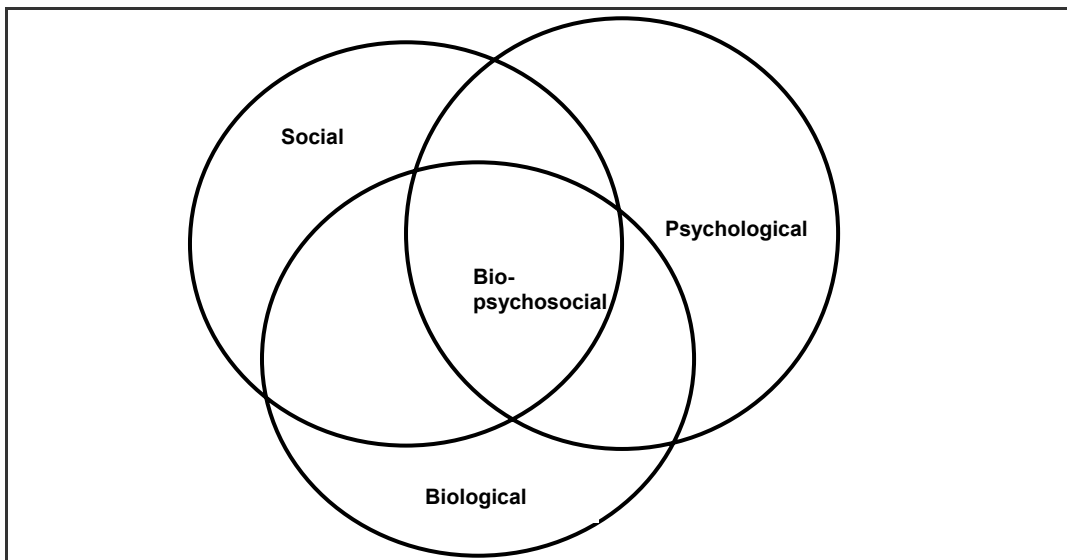
Therapeutic techniques with an emphasis on psychological principals are often used with those with mental health disorders and substance misuse to engage individuals in treatment and prevent future relapse. Some of the following techniques are often combined:

- **Motivational Interviewing (MI):** a psychological technique, which aims to facilitate an individual's motivation to change their substance, use behaviour by engaging

in supportive, directed conversation about the individual's use and related life events. MI minimises confrontation by selecting as targets, only those behaviours mutually agreed upon (Miller & Rollnick 1994). This technique is increasingly being used with people with dual diagnosis (Martino et al. 2002); Barrowclough et al 2001).

- Cognitive Behavioural Therapy / Counselling: a psychological method of weakening the connections between difficult situations and an individual's negative habitual reaction to them (e.g. anxiety and substance use). These methods have been found to improve alcohol use and psychological functioning in individuals with dual diagnosis (Fisher, Sr. & Bentley 1996; Haddock et al. 2003)
- Family education: involving family members in the treatment plan of dually diagnosed individuals can be a valuable form of support for all parties (Mueser & Glynn 1995). Families are also in an ideal position to encourage adherence to medication regimens and to monitor use of substance misuse.
- Self-help groups: Peer-orientated groups such as Alcohols Anonymous (AA) and Narcotics Anonymous (NA) are based on the 12-step philosophy and have been found to be effective in addressing substance misuse and helping individuals to adhere to anti-psychotic medication regimens (Magura et al. 2002).

Figure 3. The overlap of therapeutic interventions for dual diagnosis



2.3 Family interventions

Little attention has been paid to the role non-treatment support, such as the family, can play in contributing to the well-being of individuals with dual diagnosis. It has been suggested that informal support in the form of economic assistance or help with daily living can be valuable resources especially to individuals with co-occurring disorders who tend to be marginally engaged in services. Families, or informal carers can easily become the primary source of continuous care when treatment fails, and may often be the providers of the last resort (Clark 2001). On the other hand, some research has shown that individuals with dual diagnosis are less satisfied with their family relationships than those with a severe mental illness alone (Kashner et al. 1991) and that receiving family support may exacerbate difficulties by increasing conflict (e.g. supply of additional money may be used for drugs, existing poor family dynamics worsen carer-client relationship). Table 7 shows studies which examine the role of the family/informal carer in promoting well-being in individuals with dual diagnosis.

Table 7 Studies examining the role of the family in supporting individuals with dual diagnosis

Author	Country	Aim / Method	Findings
(Clark 2001)	USA	Explores the relationship between direct support from family and friends and outcomes of substance use	Assistance from family and other informal carers was associated with reduced substance use in people with a dual diagnosis. In particular, a positive relationship was found between substance use reduction and economic assistance in that the more financial assistance given the greater the reduction.
(Schofield et al. 2001)	UK	Examines possible differences between individuals with a dual diagnosis that had and did not have carer contact. Examined possible differences in clients' illness history and type of substance used.	Those clients who did not have carer contact were older and had spent significantly more days in hospital during their last admission than those who did have carer contact.

Summary

- Three types of treatment model have been identified in the literature; parallel, serial and integrated
- Parallel and serial treatment models of dual diagnosis service provision have been found to be less effective than integrated treatment approaches
- Models of integrated mental health services and substance use services are the way forward and have begun to be implemented in the UK
- Bio-psychosocial treatment interventions are holistic in their approach and are more appropriate for the treatment of co-occurring disorders and complex needs

Section 3

Black and Minority Ethnic and Women: The needs of specific groups

3.1 Black and minority ethnic (BME) groups

Despite the increase in the last 20 years of research on the use of drugs and alcohol in ethnic majority populations with severe mental illness, there is still little empirical evidence on comorbid substance misuse in Black and minority ethnic populations living in the UK. According to Wanigaratne *et al* (2003) the poverty of information on the substance use behaviour of these groups has contributed to the construction of racist stereotypes such as the myth that most drug users are Black people (Wanigaratne *et al*. 2003). More is known however about the experience of the BME mental health service user. With particular reference to Black service users, research shows that these individuals are more likely to be diagnosed with schizophrenia, when hospitalised are more likely to be detained involuntarily under the Mental Health Act (Davies *et al*. 1996), and are generally more dissatisfied with psychiatric services than White individuals (Parkman *et al*. 1997). Furthermore, mental health outcomes of Black clients have been shown to be poorer in terms of readmission (Bhui 1998). This section examines the literature on substance use in BME groups. As there is little existing literature specifically on dual diagnosis in these groups, it will review the literature investigating substance misuse and mental health problems in psychiatric and drug treatment populations.

Patterns of Drug Use

The idea that the extent and pattern of substance use varies depending on the ethnic group has proved to be controversial and is reflected within the existing literature about racist stereotyping (Sangster *et al*. 2001). Sangster and colleagues in their work examining aspects of BME substance misuse and service utilization, propose that overall levels of drug use in these groups are lower than among the White majority despite obvious illegal substance use in a wide range of BME communities. There are also noticeable differences between different minority ethnic groups, with particularly low levels of substance use found in Black African and South Asian communities. According

to findings by Sangster et al (2001), among those BME individuals presenting to drug services in London, African Caribbean users were found to be up to five times more likely than White individuals to present with crack cocaine-related problems whilst South Asian users tended to present with problems resulting from (non-injected) opiate use such as heroin (Sangster et al. 2001).

With specific reference to dually diagnosed populations, Miles et al. (2003) in their examination of the characteristics of subgroups of individuals with comorbidity classified individuals as users of alcohol only, alcohol and cannabis, cannabis only and users of stimulants. Results showed that dually diagnosed individuals in the alcohol-only subgroup were more likely to be White whereas those in the cannabis-only subgroup were more likely to be Black Caribbean, Black British or Black African. These ethnic differences were found when information from the case managers' ratings was used to classify the groups as well as when clients' self-report information was used. Other differences were found by Mueser et al. (2001) in their comparison of dual diagnosis in rural and urban areas of the United States. Results showed that not only were African American individuals concentrated predominantly in the urban area (as is found of minority ethnic groups in other countries) they were found to have higher rates of cocaine-use disorder than White individuals (Mueser et al. 2001).

Service Use

Throughout the literature drug services and mental health services as separate agencies have been criticised for failing to tackle the needs of individuals from Black and minority ethnic communities (Keating et al. 2002; Nefertari & Ahmun 1999). Within drug services, research has shown that particular barriers exist that prevent certain minority ethnic groups from using them, resulting in an under-representation of BME clients both in the statutory and non-statutory sector services (Abdulrahim 1992). Similarly, a report produced by The Sainsbury Centre for Mental Health describes the 'fear' of mental health services which is often experienced by Black individuals (Keating et al 2002, *Breaking the Circles of Fear*). To address these inequalities in service provision, there has been a call for more ethnically diverse staff to deliver services and break the institutional barriers to service utilization (National Institute for Mental Health in England 2003).

3.2 Women

Whilst both men and women with severe mental illness are negatively affected by substance misuse, the effects of abuse appear to affect women more severely (Gearon & Bellack 1999). Specific differences have been found between men and women in their patterns of substance misuse and co-morbidity (Department of Health 2002).

- Women who misuse substances are significantly more likely than other women or men to have experienced sexual, physical and/or emotional abuse as children (Dansky et al. 1995;Dunn, Ryan, & Dunn 1994)
- Studies suggest substance misuse lifestyles impact negatively on women's sexual health putting them at greater risk for HIV and violent victimisation (Alexander 1996)
- Research consistently shows that women become intoxicated, addicted and develop substance-related disorders sooner than men (Schuckit et al. 1995)
- Women present to drug and alcohol services at a later stage in their addiction than men and are more likely to drop out of treatment (Reed 1987;Weisner & Schmidt 1992)
- Women with children may be deterred from seeking help with mental illness and/or substance misuse for fear of their children being removed from their care (Blanche, Nicholson, & Pursell 1994)

Violent victimisation in women with SMI and substance abuse

Violence in the lives of women with serious mental illness is so common that its victims may simply view it as a part of daily living (Gearon & Bellack 1999). Whilst the rate of ever having been a victim of physical violence among women in the US general population is estimated to be between 21% and 34%, (Browne 1993), studies of women with severe mental illness have found that between 42% and 62% of women had reported adult physical abuse (Jacobson 1989). Similarly in the UK, research into the prevalence of abusive experiences and psychiatric problems in

women attending GP surgeries found that physical abuse was associated with adult mental health problems (Coid et al. 2003).

Treatment needs

Alexander (1996) has suggested that as integrated treatment services evolve, they need to effectively address the needs of women service users. In addition to standard care, important components should include physical health care, behavioural skills training to increase their safety and the provision of women-only groups that function therapeutically and to provide support (Alexander 1996).

Summary

- Little is known about the experiences of individuals with dual diagnosis from Black and Minority Ethnic groups in the UK
- Research investigating the experiences of Black mental health service users indicates that individuals from these groups have worse outcomes than White service users
- Individuals from BME groups and women are under-represented in substance misuse services
- There is evidence to suggest that women with severe mental illness are affected more negatively by substance abuse than men
- Integrated treatment models must address the needs of 'special' groups when planning service delivery

Frequently Asked Questions about dual diagnosis

Why do people with mental illness abuse drugs and alcohol?

Evidence suggests that people who have severe mental illness use drugs for the same reasons as people who are not mentally ill, namely for recreational purposes (to relax, for a 'high' etc.). There may be many other factors contributing to continued use including addiction to the drug, individuals' attempts to manage psychiatric symptoms and social risk factors such as living in areas with high drug availability.

Which substances are commonly abused?

The drug most commonly misused by those with severe mental illness is alcohol, followed by cannabis and crack cocaine (Cuffel, Heithoff, & Lawson 1993; Lehman et al. 1994; Miles et al. 2003) although prescription drugs such as tranquillizers and sleeping tablets are often misused (Miles et al 2003). Stimulant use by people with schizophrenia has also been reported to be common in some US studies.

Does substance use lead to mental health problems?

Recent research indicates that cannabis use in adolescence can increase the likelihood of experiencing symptoms of schizophrenia in adulthood (Arseneault et al. 2002). On the whole though, there is little evidence that substance use **by itself** causes long-term mental health problems. Drug use may indeed exacerbate symptoms of existing mental health problems as many service users have witnessed, or even initiate a first episode, but is unlikely to be the sole cause for long-term mental health problems.

Is substance use more prevalent among individuals with severe mental illness than among those without?

The evidence is very mixed and there is no clear answer. Results from the Epidemiological Catchment Area Study, a large US prevalence study of co-morbidity, showed that the rate of lifetime substance use disorder in the general population was 17% compared to 48% and 56% for people with schizophrenia and bipolar disorder respectively (Regier et al 1990). However, Mueser and colleagues have concluded that, other than higher rates of amphetamine and hallucinogen misuse, substance use is not more prevalent in people with severe mental illness than in the general population (Mueser et al. 1995).

Are there different problems associated with the type of substance abuse?

Apart from the adverse affects associated with substance abuse and dependence (e.g. anxiety, nausea and muscle pain associated with opiate withdrawal, depression and paranoia often linked with cannabis use), little research has been conducted into this area. One study investigated whether 'subgroups' of dual diagnosis clients (based on the substance they abused most often) were characterized by different problems (such as cocaine users being characterized by higher rates of inpatient admissions and violence), found that the stimulant-using subgroup were more likely to have had a history of violence, however no other differences were found (Miles et al 2003).

Are certain groups of people more likely to be dually diagnosed than others?

Studies conducted consistently show that men are significantly more likely to have a dual diagnosis than women (Weaver et al. 2001) and younger people (18 – 50 years) more likely than older people (Cantwell 2003). High rates of dual diagnosis have been found among those who are homeless (Drake, Osher, & Wallach 1991) and also among offenders . There is still some debate though as to whether individuals with severe mental illness are more likely than those without, to misuse substances (Phillips & Johnson 2001).

What is the government's policy about helping people with dual diagnosis?

Addressing the needs of those with dual diagnosis is a national priority for the government. The Department of Health has recently published a "Good Practice Guide" informing of best practice in service delivery. An important strategy is to progress towards "mainstreaming" services for people with mental health problems and substance misuse whereby mental health services take primary responsibility for the care of these groups. In practice, this will mean that one person or a team of people will work in one setting and provide co-ordinated interventions for dual diagnosis. The emphasis is on developing very close working relationships.

Section 5

Recommendations for future research

Dual diagnosis research has increased rapidly in the United Kingdom over the last decade, however it still lags way behind work conducted in the United States. Integrated services for those with dual diagnosis also remain relatively few and funding to improve existing services is limited.

The direction of future research lies in an increase in large-scaled randomised controlled trials, which will continue to direct and update service deliverers about which dual diagnosis treatments are most effective at minimising harm and improving the quality of life for dually diagnosed individuals. Service-user led research in particular, is the way forward and essential for informing on the needs of users.

Extensive research into substance misuse among Black and minority ethnic groups in order to determine rates of dual diagnosis and to improve access to services, is another important area of investigation, especially given the over-representation of schizophrenia in certain Black minority groups.

Finally, future research must focus on evaluating health promotion and health education programmes in an effort to increase dual diagnosis awareness and reduce the stigma attached to having a co-morbid disorder.

Section 6

- References

Abdulrahim, D. 1992, *Working with Diversity: HIV prevention and black and ethnic minority communities*, North East and North West Thames Regional Health Authorities, London.

Addington, J. & Duchak, V. 1997, "Reasons for substance use in schizophrenia", *Acta Psychiatr.Scand.*, vol. 96, no. 5, pp. 329-333.

Alexander, M. J. 1996, "Women with co-occurring addictive and mental disorders: an emerging profile of vulnerability", *Am.J.Orthopsychiatry*, vol. 66, no. 1, pp. 61-70.

Anthony, J. C. & Helzer, J. E. 1991, "Syndromes of drug abuse and dependence," in *Psychiatric Disorders in America: The Epidemiologic Catchment Area Study*, L. N. Robins & D. A. Regier, eds., Free Press, New York, pp. 116-154.

Arseneault, L., Cannon, M., Poulton, R., Murray, R., Caspi, A., & Moffitt, T. E. 2002, "Cannabis use in adolescence and risk for adult psychosis: longitudinal prospective study", *BMJ*, vol. 325, no. 7374, pp. 1212-1213.

Arseneault, L., Cannon, M., Witton, J., & Murray, R. 2004, "Causal association between cannabis and psychosis: examination of the evidence", *Br.J.Psychiatry*, vol. 184, pp. 110-117.

Banerjee, S., Clancy, C., & Crome, I. 2002, "Co-existing Problems of Mental Disorder and Substance Misuse (dual diagnosis). An Information Manual. Found at <http://www.rcpsych.ac.uk>", *Royal College of Psychiatrists' Research Unit*.

Barrowclough, C., Haddock, G., TARRIER, N., Lewis, S. W., Moring, J., O'Brien, R., Schofield, N., & McGovern, J. 2001, "Randomized controlled trial of motivational interviewing, cognitive behaviour therapy, and family intervention for patients with comorbid schizophrenia and substance use disorders", *Am.J Psychiatry*, vol. 158, no. 10, pp. 1706-1713.

Berman, S. & Noble, E. P. Childhood antecedents of substance misuse. *Current Opinion in Psychiatry* 6, 382-387. 1993.

Bhui, K. 1998, "London's Ethnic Minorities and the Provision of Mental Health Services," in *London's Mental Health*, S. e. a. Johnson, ed., Kings Fund, London.

Blanche, A., Nicholson, J., & Pursell, J. 1994, "Patients with severe mental illness and their children: The need for human services integration", *Journal of Mental Health Administration*, vol. 21, pp. 388-396.

Browne, A. 1993, "Violence against women by male partners. Prevalence, outcomes, and policy implications", *Am.Psychol.*, vol. 48, no. 10, pp. 1077-1087.

Cantwell, R. 2003, "Substance use and schizophrenia: effects on symptoms, social functioning and service use", *Br.J.Psychiatry*, vol. 182, pp. 324-329.

Clark, R. E. 2001, "Family support and substance use outcomes for persons with mental illness and substance use disorders", *Schizophr.Bull.*, vol. 27, no. 1, pp. 93-101.

Coid, J., Petruckevitch, A., Chung, W., Richardson, J., Moorey, S., & Feder, G. 2003, "Abusive experiences and psychiatric morbidity in women primary care attenders.", *Br J Psychiatry.*, vol. 183, no. 4, pp. 332-339.

Cuffel, B. J., Heithoff, K. A., & Lawson, W. 1993, "Correlates of patterns of substance abuse among patients with schizophrenia", *Hosp.Community Psychiatry*, vol. 44, no. 3, pp. 247-251.

Dansky, B. S., Saladin, M. E., Brady, K. T., Kilpatrick, D. G., & Resnick, H. S. 1995, "Prevalence of victimization and posttraumatic stress disorder among women with substance use disorders: comparison of telephone and in-person assessment samples", *Int.J.Addict.*, vol. 30, no. 9, pp. 1079-1099.

Davies, S., Thornicroft, G., Leese, M., Higgingsbotham, A., & Phelan, M. 1996, "Ethnic differences in risk of compulsory psychiatric admission among representative cases of psychosis in London", *BMJ*, vol. 312, no. 7030, pp. 533-537.

Department of Health. Mental Health Policy Implementation Guide. Dual Diagnosis Good Practice Guide. 2002.

Dixon, L., Haas, G., Weiden, P., Sweeney, J., & Frances, A. 1990, "Acute effects of drug abuse in schizophrenic patients: clinical observations and patients' self-reports", *Schizophr.Bull.*, vol. 16, no. 1, pp. 69-79.

Drake, R. E., Mercer-McFadden, C., Mueser, K. T., McHugo, G. J., & Bond, G. R. 1998, "Review of integrated mental health and substance abuse treatment for patients with dual disorders", *Schizophrenia Bulletin*, vol. 24, no. 4, pp. 589-608.

Drake, R. E. & Mueser, K. T. 2000, "Psychosocial approaches to dual diagnosis", *Schizophr.Bull.*, vol. 26, no. 1, pp. 105-118.

Drake, R. E., Osher, F. C., Noordsy, D. L., Hurlbut, S. C., Teague, G. B., & Beaudett, M. S. 1990, "Diagnosis of alcohol use disorders in schizophrenia", *Schizophr.Bull.*, vol. 16, no. 1, pp. 57-67.

Drake, R. E., Osher, F. C., & Wallach, M. A. 1989, "Alcohol use and abuse in schizophrenia. A prospective community study", *J.Nerv.Ment.Dis.*, vol. 177, no. 7, pp. 408-414.

Drake, R. E., Osher, F. C., & Wallach, M. A. 1991, "Homelessness and dual diagnosis", *Am.Psychol.*, vol. 46, no. 11, pp. 1149-1158.

Drake, R. E. & Wallach, M. A. 1989, "Substance abuse among the chronic mentally ill", *Hosp.Community Psychiatry*, vol. 40, no. 10, pp. 1041-1046.

Drake, R. E. & Wallach, M. A. 1993, "Moderate drinking among people with severe mental illness", *Hospital & Community Psychiatry*, 44(8):780-2, 1993 Aug.(10 ref) no. 8, pp. 780-782.

Duke, P. J., Pantelis, C., McPhillips, M. A., & Barnes, T. R. E. 2001, "Comorbid non-alcohol substance misuse among people with schizophrenia - Epidemiological study in central London", *British Journal of Psychiatry*, vol. 179, pp. 509-513.

Dunn, G. E., Ryan, J. J., & Dunn, C. E. 1994, "Trauma symptoms in substance abusers with and without histories of childhood abuse", *J.Psychoactive Drugs*, vol. 26, no. 4, pp. 357-360.

Edeh, J. 2002, "Dual or Separate Services?," in *Dual Diagnosis, substance misuse and psychiatric disorders*, G. H. Rassool, ed., Gaskell Science Limited, pp. 204-215.

El Guebaly, N. 1990, "Substance abuse and mental disorders: the dual diagnoses concept", *Can.J.Psychiatry*, vol. 35, no. 3, pp. 261-267.

Fisher, M. S., Sr. & Bentley, K. J. 1996, "Two group therapy models for clients with a dual diagnosis of substance abuse and personality disorder", *Psychiatr.Serv.*, vol. 47, no. 11, pp. 1244-1250.

Gearon, J. S. & Bellack, A. S. 1999, "Women with schizophrenia and co-occurring substance use disorders: an increased risk for violent victimization and HIV", *Community Ment.Health J.*, vol. 35, no. 5, pp. 401-419.

Graham, H. L., Maslin, J., Copello, A., Birchwood, M., Mueser, K., McGovern, D., & Georgiou, G. 2001, "Drug and alcohol problems amongst individuals with severe mental health problems in an inner city area of the UK", *Soc.Psychiatry Psychiatr.Epidemiol.*, vol. 36, no. 9, pp. 448-455.

Granholm, E., Anthenelli, R., Monteiro, R., Sevcik, J., & Stoler, M. 2003, "Brief Integrated Outpatient Dual-diagnosis Treatment Reduces Psychiatric Hospitalizations", *Am.J.Addict.*, vol. 12, no. 4, pp. 306-313.

Haddock, G., Barrowclough, C., Tarrier, N., O'Brien, R., Schofield, N. Q. J., Palmer, S., Davies, L., Lowens, I., McGovern, J., & Lewis, S. 2003, "Cognitive-behavioural therapy and motivational intervention for schizophrenia and substance misuse. 18-month outcomes of a randomised controlled trial.", *Br.J.Psychiatry*, vol. 183, pp. 418-426.

Jacobson, A. 1989, "Physical and sexual assault histories among psychiatric outpatients", *Am.J.Psychiatry*, vol. 146, no. 6, pp. 755-758.

- Johnson, S. 1997, "Dual diagnosis of severe mental illness and substance misuse: a case for specialist services?", *Br.J.Psychiatry*, vol. 171, pp. 205-208.
- Kamali, M., Kelly, L., Gervin, M., Browne, S., Larkin, C., & O'Callaghan, E. 2000, "The prevalence of comorbid substance misuse and its influence on suicidal ideation among in-patients with schizophrenia", *Acta Psychiatr.Scand.*, vol. 101, no. 6, pp. 452-456.
- Kashner, T., Rader, L., Rodell, D., Beck, C., Rodell, L., & Muller, K. 1991, "Family characteristics, substance abuse and hospitalisation patterns of patients with schizophrenia", *Hospital and Community Psychiatry*, vol. 42, pp. 195-197.
- Keating, F., Robertson, D., McCulloch, A., & Francis, E. 2002, *Breaking the Circles of Fear*, The Sainsbury Centre for Mental Health, London.
- Kessler, R. C., McGonagle, K. A., Zhao, S., Nelson, C. B., Hughes, M., Eshleman, S., Wittchen, H. U., & Kendler, K. S. 1994, "Lifetime and 12-month prevalence of DSM-III-R psychiatric disorders in the United States. Results from the National Comorbidity Survey", *Arch.Gen.Psychiatry*, vol. 51, no. 1, pp. 8-19.
- Khantzian, E. J. 1997, "The self-medication hypothesis of substance use disorders: a reconsideration and recent applications", *Harv.Rev.Psychiatry*, vol. 4, no. 5, pp. 231-244.
- Knudsen, P. & Vilmar, T. 1984, "Cannabis and neuroleptic agents in schizophrenia", *Acta Psychiatr.Scand.*, vol. 69, no. 2, pp. 162-174.
- Kofoed, L., Kania, J., Walsh, T., & Atkinson, R. M. 1986, "Outpatient treatment of patients with substance abuse and coexisting psychiatric disorders", *Am.J.Psychiatry*, vol. 143, no. 7, pp. 867-872.
- Lehman, A. F., Myers, C. P., & Corty, E. 1989, "Assessment and classification of patients with psychiatric and substance abuse syndromes", *Hosp.Community Psychiatry*, vol. 40, no. 10, pp. 1019-1025.

Lehman, A. F., Myers, C. P., Dixon, L. B., & Johnson, J. L. 1994, "Defining subgroups of dual diagnosis patients for service planning", *Hosp. Community Psychiatry*, vol. 45, no. 6, pp. 556-561.

Ley, A., Jeffery, D. P., McLaren, S., & Siegfried, N. 2000, "Treatment programmes for people with both severe mental illness and substance misuse. [update of Cochrane Database Syst Rev. 2000;(2):CD001088]. [Review] [47 refs]", *Cochrane Database of Systematic Reviews [Computer File]* no. 4, p. CD001088.

Lieberman, J. A., Kane, J. M., & Alvir, J. 1987, "Provocative tests with psychostimulant drugs in schizophrenia", *Psychopharmacology (Berl)*, vol. 91, no. 4, pp. 415-433.

Linszen, D. H., Dingemans, P. M., Lenior, M. E., Nugter, M. A., Scholte, W. F., & Van der Does, A. J. 1994, "Relapse criteria in schizophrenic disorders: different perspectives", *Psychiatry Res.*, vol. 54, no. 3, pp. 273-281.

Magura, S., Laudet, A., Mahmood, D., Rosenblum, A., & Knight, E. 2002, "Adherence to Medication Regimens and Participation in Dual-Focus Self Help Groups", *Psychiatric Services*, vol. 53, no. 3, pp. 310-316.

Martino, S., Carroll, K., Kostas, D., Perkins, J., & Rounsaville, B. 2002, "Dual Diagnosis Motivational Interviewing: a modification of Motivational Interviewing for substance-abusing patients with psychotic disorders", *J.Subst.Abuse Treat.*, vol. 23, no. 4, pp. 297-308.

McCrone, P., Menezes, P. R., Johnson, S., Scott, H., Thornicroft, G., Marshall, J., Bebbington, P., & Kuipers, E. 2000, "Service use and costs of people with dual diagnosis in South London", *Acta Psychiatr.Scand.*, vol. 101, no. 6, pp. 464-472.

Menezes, P. R., Johnson, S., Thornicroft, G., Marshall, J., Prosser, D., Bebbington, P., & Kuipers, E. 1996, "Drug and alcohol problems among individuals with severe mental illness in south London", *Br.J.Psychiatry*, vol. 168, no. 5, pp. 612-619.

Mental Health Policy Implementation Guide. Dual Diagnosis Good Practice Guide. 2002.

Miles, H., Johnson, S., Amponsah-Afuwape, S., & et al 2003, "Characteristics of subgroups of individuals with psychoactive illness and a comorbid substance use disorder by substance of choice", *Psychiatric Services.*, vol. 54, pp. 554-564.

Miller, W. & Rollnick, S. 1994, *Motivational Interviewing. Preparing People to Change Addictive Behaviour.* Guilford Press, New York.

Moggi, F., Brodbeck, J., Koltzsch, K., Hirsbrunner, H. P., & Bachmann, K. M. 2002, "One-year follow-up of dual diagnosis patients attending a 4-month integrated inpatient treatment", *European Addiction Research.*, vol. 8, no. 1, pp. 30-37.

Mueser, K. T., Drake, R. E., & Wallach, M. A. 1998, "Dual diagnosis: A review of etiological theories", *Addictive Behaviors*, vol. 23, no. 6, pp. 717-734.

Mueser, K. T., Essock, S. M., Drake, R. E., Wolfe, R. S., & Frisman, L. 2001, "Rural and urban differences in patients with a dual diagnosis", *Schizophr.Res.*, vol. 48, no. 1, pp. 93-107.

Mueser, K. T. & Glynn, S. 1995, "Families as members of the treatment team," in *Behavioural Family Therapy for Psychiatric Disorders*, Allyn & Bacon, Needham Heights, MA.

Mueser, K. T., Nishith, P., Tracy, J. I., DeGirolamo, J., & Molinaro, M. 1995, "Expectations and motives for substance use in schizophrenia", *Schizophr.Bull.*, vol. 21, no. 3, pp. 367-378.

Mueser, K. T., Yarnold, P. R., Rosenberg, S. D., Swett, C., Jr., Miles, K. M., & Hill, D. 2000, "Substance use disorder in hospitalized severely mentally ill psychiatric patients: prevalence, correlates, and subgroups", *Schizophr.Bull.*, vol. 26, no. 1, pp. 179-192.

National Institute for Mental Health in England 2003, *Inside Outside. Improving Mental Health Services for Black and Minority Ethnic Communities in England*, Department of Health.

Nefertari, M. & Ahmun, V. 1999, "Black drug services eclipsed: viewing the world through white lenses", *Druglink*, vol. September/October, pp. 20-21.

Noordsy, D. L., Drake, R. E., Teague, G. B., Osher, F. C., Hurlbut, S. C., Beaudett, M. S., & Paskus, T. S. 1991, "Subjective experiences related to alcohol use among schizophrenics", *J.Nerv.Ment.Dis.*, vol. 179, no. 7, pp. 410-414.

Parkman, S., Davies, S., Leese, M., Phelan, M., & Thornicroft, G. 1997, "Ethnic differences in satisfaction with mental health services among representative people with psychosis in south London: PRISM study 4", *Br.J.Psychiatry*, vol. 171, pp. 260-264.

Phillips, P. & Johnson, S. 2001, "How does drug and alcohol misuse develop among people with psychotic illness? A literature review", *Soc.Psychiatry Psychiatr.Epidemiol.*, vol. 36, no. 6, pp. 269-276.

Pristach, C. A. & Smith, C. M. 1996, "Self-reported effects of alcohol use on symptoms of schizophrenia", *Psychiatr.Serv.*, vol. 47, no. 4, pp. 421-423.

Reed, B. G. 1987, "Developing women-sensitive drug dependence treatment services: why so difficult?", *J.Psychoactive Drugs*, vol. 19, no. 2, pp. 151-164.

Regier, D. A., Farmer, M. E., Rae, D. S., Locke, B. Z., Keith, S. J., Judd, L. L., & Goodwin, F. K. 1990, "Comorbidity of mental disorders with alcohol and other drug abuse. Results from the Epidemiologic Catchment Area (ECA) Study", *JAMA*, vol. 264, no. 19, pp. 2511-2518.

Ridgely, M. S., Lambert, D., Goodman, A., Chichester, C. S., & Ralph, R. 1998, "Interagency collaboration in services for people with co-occurring mental illness and substance use disorder", *Psychiatr.Serv.*, vol. 49, no. 2, pp. 236-238.

Royal College of Psychiatrists 2000, *Drugs: Dilemmas and Choices* Gaskell, London.

Sangster, D., Shiner, M., Patel, K., & Sheikh, N. 2001, *Delivering drug services to black and minority ethnic communities*, Home Office.

Schofield, N., Quinn, J., Haddock, G., & Barrowclough, C. 2001, "Schizophrenia and substance misuse problems: a comparison between patients with and without significant carer contact", *Soc.Psychiatry Psychiatr.Epidemiol.*, vol. 36, no. 11, pp. 523-528.

Schuckit, M. A., Anthenelli, R. M., Bucholz, K. K., Hesselbrock, V. M., & Tipp, J. 1995, "The time course of development of alcohol-related problems in men and women", *J.Stud.Alcohol*, vol. 56, no. 2, pp. 218-225.

Scott, H., Johnson, S., Menezes, P., Thornicroft, G., Marshall, J., Bindman, J., Bebbington, P., & Kuipers, E. 1998, "Substance misuse and risk of aggression and offending among the severely mentally ill", *Br.J.Psychiatry*, vol. 172, pp. 345-350.

Wanigaratne, S., Dar, K., Abdulrahim, D., & Strang, J. 2003, "Ethnicity and Drug Use: exploring the nature of particular relationships among diverse populations in the United Kingdom", *Drugs: education prevention and policy*, vol. 10, no. 1, pp. 39-55.

Weaver, T., Rutter, D., Madden, P., Ward, J., Stimson, G., & Renton, A. 2001, "Results of a screening survey for co-morbid substance misuse amongst patients in treatment for psychotic disorders: prevalence and service needs in an inner London borough", *Social Psychiatry and Psychiatric Epidemiology*, vol. 36, no. 8, pp. 399-406.

Weisner, C. & Schmidt, L. 1992, "Gender disparities in treatment for alcohol problems", *JAMA*, vol. 268, no. 14, pp. 1872-1876.

Williams, H. 2002, "Dual Diagnosis - an Overview: Fact or Fiction?," in *Dual Diagnosis; Substance Misuse and Psychiatric Disorders*, H. Rassool, ed., Blackwell Sciences, Oxford.

Wright, S., Gournay, K., Glorney, E., & Thornicroft, G. 2000, "Dual diagnosis in the suburbs: prevalence, need, and in-patient service use", *Social Psychiatry & Psychiatric Epidemiology*, vol. 35, no. 7, pp. 297-304.

Rethink is the operating name of the National Schizophrenia Fellowship, a company Limited by guarantee. Registered in England no 12279770. Registered Charity No 271028.

rethink
severe mental illness