

Dual Diagnosis

A Report on Prevalence, Policy and Management

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FOREWORD

In Ireland and internationally, we have seen major advancements in Mental Health and Addiction care in recent years. More community based treatment and recovery focused models of care dominate the policy framework guiding the work of front line practitioners both in Mental Health and Addiction services.

Community led services are ideally placed to lead on a recovery focused agenda for those with dual diagnosis in Ireland. People with dual diagnosis are entitled to a responsive evidence-based Mental Health and Addiction service that places an equitable weight on their dual health care needs. Indeed *A Vision for Change* (Expert Group on Mental Health Policy, 2006) recommends that “mental health services for both adults and children are responsible for providing a mental health service only to those individuals who have co-morbid substance abuse and mental health problems” (p. 146) and that “general adult CMHTs should generally cater for adults who meet these criteria, particularly when the primary problem is a mental health problem” (p. 146). Nine years on there exists no nationally agreed standards or policy framework within the public healthcare system for the holistic care of people with a dual diagnosis of a mental health disorder and addiction, and no specialist area Mental Health Teams have been established to manage the care and recovery of service users with dual diagnosis.

Health and social care systems, organisational cultures and practices can be at times complex and difficult to navigate for the service user with dual diagnosis. Critical to improving health outcomes is a systemic shared care responsive treatment and intervention framework for dual diagnosis. To achieve this it is fundamental that health and social care practitioners have a greater understanding of what the evidence says works and what doesn't in understanding dual diagnosis care. Practitioners in both Mental Health and Addiction fields actively welcome a broadening of their knowledge base on dual diagnosis and treatment modalities that aim to improve outcomes for service users.

There exists a dearth in recent local and national reporting on dual diagnosis. This report commissioned by the Alcohol Forum seeks to add voice to the current national conversations on dual diagnosis and addiction management and treatment. It is aimed at frontline practitioners, managers and service planners across Mental Health and Addiction fields and the wider social care community. In many ways the advances in mental health and addiction care in Ireland are influenced by existing Mental Health systems, priorities and structures. This report aims to inform overdue health and social care conversations on recovery orientated dual diagnosis and addiction policy, training and practice. It furthermore aims to discuss approaches to managing dual diagnosis and perhaps stimulate a meaningful and timely dialogue about co-ordinated service provision and policy review nationally for those experiencing mental health and addiction problems.

Mr. Kieran Doherty
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LIST OF ABBREVIATIONS

AIDS	Acquired Immunodeficiency Syndrome
CBT	Cognitive Behavioural Therapy
CMHT	Community Mental Health Team
CSAT	Center for Substance Abuse Treatment
DSM	Diagnostic and Statistical Manual of Mental Disorders
DoCRGA	Department of Community, Rural and Gaeltacht Affairs
EGMHP	Expert Group on Mental Health Policy
GDC	Group Drug Counselling
HIV	Human Immunodeficiency Virus
ICD	International Classification of Diseases
IGT	Integrated Group Therapy
MI	Motivational Interviewing
NACD	National Advisory Committee on Drugs
NCCMH	National Collaborating Centre for Mental Health
NESARC	National Epidemiologic Survey on Alcohol and Related Conditions
NSMHWB	National Survey of Mental Health and Wellbeing
WHO	World Health Organization

INTRODUCTION

AIM AND SCOPE

The aim of this report is to inform both mental health and substance misuse services and the wider social care community about dual diagnosis, with the hope that this may lead to better decision making and therefore the delivery of more effective services for people experiencing dual diagnosis. The report provides the following:

- A review of terminology relating to dual diagnosis;
- A summary of research findings on the prevalence of dual diagnosis internationally and in Ireland;
- The policy context for health care service provision related to dual diagnosis in Ireland; and
- A review of the management of dual diagnosis, with the main focus on screening, assessment and treatment planning; treatment approaches; psychosocial interventions and their effects; and models of treatment.

The report has a general relevance to both mental health and substance misuse service provision and to the wider social care community. However, it does not specifically address the care of adolescents or individual populations such as those in forensic settings, the homeless, those with learning disabilities, and different cultural groups. Despite this, the report recognises that mental health and substance misuse services for people with dual diagnosis must be culturally appropriate and must target the specific needs of particular populations.

The main focus of this report is on people experiencing both severe mental illness and substance use disorder. Additional cross-cutting issues such as physical health, legal and social problems, although recognised as being common in this population, are not extensively addressed in this report.

The report is descriptive in nature, with limited attempt to create a critical discussion. It addresses terminology, prevalence, policy and management issues relating to dual diagnosis; however, a comprehensive review of these issues is beyond the scope of this report since they are major topics in their own right. Whilst acknowledging that there is an evolving discourse on dual diagnosis, this is not incorporated in the report. It provides an overview of screening, assessment and treatment planning, highlights assessment considerations and outlines assessment methods, but it does not include a detailed description of assessment methods or a discussion of issues relating to the management of specific severe mental illnesses or substance use disorders.

The report focuses on psychosocial interventions and does not cover medical treatment. Nevertheless, it is recognised that the latter plays a key role in the management of dual diagnosis. This report provides evidence on the effects of psychosocial interventions based on findings from three Cochrane reviews and two other systematic reviews. It should be noted that there are other studies in this area that may provide evidence different from that presented here.

Although this report presents evidence-based models of treatment for people with dual diagnosis, it is limited in that it does not extensively cover models of treatment for different forms of dual disorders or different levels of service.

STRUCTURE OF THE REPORT

The content of the report is organised into five sections:

SECTION 1 - TERMINOLOGY reviews terms and sets out key definitions related to dual diagnosis.

SECTION 2 - PREVALENCE presents research evidence on the prevalence of dual diagnosis in Ireland and internationally by reviewing general population-based studies and clinical cohort studies.

SECTION 3 - POLICY CONTEXT sets out the policy context for health care service provision related to dual diagnosis in Ireland by providing an outline of policy-making structures, as well as a review of mental health, general health and substance misuse policies.

SECTION 4 - MANAGEMENT OF DUAL DIAGNOSIS reviews the management of dual diagnosis by addressing the following: general management issues and the need for evidence-based practice; screening, assessment and treatment planning; treatment approaches; evidence on the effects of psychosocial interventions; and examples of evidence-based treatment models.

SECTION 5 - CONCLUSIONS provides the report's conclusions.

GENERAL NOTE ON SELECTION OF LITERATURE

The report is based on a review of literature chosen from a variety of sources. A search was conducted using the following electronic databases: SocINDEX; Psychology and Behavioral Sciences Collection; MEDLINE; CINAHL; Biomedical Reference Collection: Comprehensive; and the Cochrane Library. The websites of government departments and statutory bodies who are responsible for health in the UK, the USA, Canada, Australia, New Zealand, and Ireland were searched for relevant publications. Several authors and the National Documentation Centre on Drug Use in Ireland were contacted to obtain original publications. Information from some abstracts was used, when access to publications was unavailable.

SECTION 1 - TERMINOLOGY

This section begins with an overview of the many terms that have been used to describe clinical presentations of people with both mental health and substance use disorders. This is followed by a definition of key terms relating to dual diagnosis, severe mental illness, substances, and substance use disorder. The section concludes by summarising key points.

TERMS AND DEFINITIONS

The term *dual diagnosis* has been defined differently by different users. In the literature, it is often used interchangeably with other terms such as *co-occurring substance related and mental health disorders* (Jacobs, Cahill, & Gold, 2005); *concurrent disorders* (The Standing Senate Committee on Social Affairs, Science and Technology, 2004); *comorbidity* (Department of Health, 2009a, 2009b); *co-existing mental health and addiction problems (co-existing problems, or CEP)* (Ministry of Health, 2010); *co-existing mental health and substance use problems* (Todd, 2010); *co-occurring substance misuse and mental health problems* (Joint Working Group, 2003); and *dual diagnosis (co-existing mental health and drug and alcohol problems)* (HM Government, 2011). In Irish policy documents the following terms are used synonymously: *dual diagnosis* (Department of Community, Rural and Gaeltacht Affairs, 2009); *co-morbidity* (Expert Group on Mental Health Policy, 2006); and *co-existing drug and mental health problems (dual diagnosis)* (Working Group on Drugs Rehabilitation, 2007).

There is no consensus on either the term or the definition of *dual diagnosis*. Daley and Moss (2002) argued that the use of the word *dual* can be misleading, since many affected individuals have more than two disorders. As reported by Jacobs et al. (2005), the terms *co-occurring disorders* and *co-morbidity* might be preferable to the term *dual diagnosis*. The authors explained that a single type of dual diagnosis does not exist: There are many forms of mental disorders and many patterns of substance misuse, and most substance users, young people in particular, use or misuse multiple substances. Therefore, a wide range of different forms of dual disorders can occur. Clinicians who conduct a comprehensive assessment usually diagnose several disorders with associated multiple problems: abuse of or dependence on two or three substances, one or more other mental health disorders, a personality disorder, and physical medical illness (Jacobs et al., 2005). McKeown (2010) also debated the usefulness of the concept of dual diagnosis, noting that it is grounded in the theoretical separation of mental disorders and substance misuse in classification systems such as *ICD-10* and *DSM-IV*, and is inaccurate.

The term *dual diagnosis*, although unfortunately ambiguous, has been chosen for this report mainly because of its common use in research and practice by many substance misuse and mental health professionals, both internationally and in Ireland. In this report, *dual diagnosis* refers to “the simultaneous presentation of one or more mental health disorders with one or more substance use disorders” (Ziedonis, Smelson, Rosenthal, & Batki, 2005, p. 3).

With regard to mental health disorders, the primary focus of this report is on those disorders which are generally included in the category of *severe mental illness*. The term *severe mental illness* refers to different mental health disorders which entail persistent and serious difficulties in an individual's psychological and social functioning (Mueser, Noordsy, Drake, & Fox, 2003). The following criteria are commonly proposed to determine severe mental illness: (a) *mental health diagnoses* which commonly include diagnoses of schizophrenia and mood (affective) disorders (e.g., major depression, bipolar disorder, or recurrent depressive disorder); (b) *duration of illness* which refers to either a specified time since the onset of illness or a specified period of hospitalisation; (c) *intensity of contact with services* which is usually defined as a certain amount of time in hospital or a certain number of admissions over a given period; and (d) *disability* which means serious impairments in role requirements (Charlwood, Mason, Goldacre, Cleary, & Wilkinson, 1999).

The term *substance use disorder* describes a wide range of disorders that result from the use of one or more substances and that vary in severity (World Health Organization [WHO], 1992). They are categorised differently depending on the classification system used. Thus, for the following two categories the diagnostic criteria are similar: *substance dependence* in the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text rev.; *DSM-IV-TR*; American Psychiatric Association, 2000) and *dependence syndrome* in the *International Classification of Diseases* (10th revision, *ICD-10*; WHO, 1992). However, the criteria for *substance abuse* (*DSM-IV-TR*) and *harmful use* (*ICD-10*) differ: in the *DSM-IV-TR*, significance is placed on negative social consequences, whereas in the *ICD-10*, on mental and physical health consequences. In the *DSM-5*, the current fifth edition of the manual, the *DSM-IV-TR* substance abuse and substance dependence categories have been subsumed into one disorder termed *substance use disorder* measured on a continuum from mild to severe (Wakefield, 2013).

Regarding substance use disorders, the main focus of this report is on those substance use disorders (abuse, harmful use, and dependence) that meet the *DSM* or *ICD* diagnostic system criteria. However, although the report covers these disorders, it is recognised that even infrequent use of substances in relatively low doses can lead to negative consequences for people with severe mental illness (Kavanagh, Mueser, & Baker, 2003; Ziedonis et al., 2005).

The term *substance* refers to both drugs and alcohol. *Drugs* mean commonly misused illicit substances, such as opioids, hallucinogens, cannabis, amphetamines, and cocaine. Even though *alcohol* is a drug, it is distinguished from other drugs by its legal status in Ireland.

Many different terms have been used in the referenced literature to refer to dual diagnosis, substance use, and individuals who experience dual diagnosis. Some of these terms have been used interchangeably throughout this report:

- Dual diagnosis/Dual disorder/Co-occurring disorder/Co-morbid disorder
- Substance use disorder/Substance abuse/Harmful use/Substance dependence/Substance misuse/Addiction
- Mental disorder/Psychiatric disorder
- Patient/Client/Service user

KEY POINTS

- There is no consensus either on the term or the definition of dual diagnosis. In this report, *dual diagnosis* is defined as a “simultaneous presentation of one or more mental health disorders with one or more substance use disorders” (Ziedonis et al., 2005). The primary focus is on those mental health disorders which are generally included in the category of severe mental illness, and on substance use disorders (abuse, harmful use, and dependence) that meet the *DSM* or *ICD* diagnostic system criteria.
- There is no single type of dual diagnosis. Numerous forms of dual disorders are possible due to a wide range of patterns of substance misuse and forms of mental health disorders.

SECTION 2 - PREVALENCE

This section reports research evidence on the prevalence of dual diagnosis internationally and in Ireland. It begins with a review of the findings from general population-based studies. The findings from clinical cohort studies are then presented, divided into four subsections: literature reviews embracing studies from different countries, studies from America, studies from Australia and Europe, and studies from Ireland. The section ends with a presentation of key points.

SEARCH METHODS FOR SELECTION OF STUDIES

The literature informing this section on the prevalence of dual diagnosis was identified through electronic searches of MEDLINE, Psychology and Behavioral Sciences Collection, SocINDEX, Biomedical Reference Collection: Comprehensive, and CINAHL for peer-reviewed articles published between 2009 and 2013 (searches were conducted in 2014). The key words used were *dual diagnosis*, *substance use*, *severe mental illness*, *affective disorder*, *major depression*, *bipolar disorder*, and *schizophrenia*.

Twenty two studies presenting prevalence rates of dual diagnosis were reviewed. The original search provided some 1,600 articles, of which 59 were identified as possibly relevant. The full texts of 58 articles and one abstract were analysed. A further 37 articles were then removed. The inclusion criteria were: (1) studies that reported rates of co-morbidity between substance use disorders (abuse, harmful use, or dependence) and severe mental illnesses (e.g., major depression, bipolar disorder, schizophrenia, schizophreniform disorder, and schizoaffective disorder); (2) studies that reported substance use disorders and severe mental illnesses according to the *DSM* or *ICD* diagnostic system criteria; (3) participants were older than 16 years of age; and (4) articles that were written in English. Additionally, studies that included patients with less severe mental health disorders (e.g., mild depression) were excluded, where possible. Given that substance use and other mental health disorders tend to be more common in populations from prisons, forensic mental health settings, and/or shelters for the homeless (Koskinen, Löhönen, Koponen, Isohanni, & Miettunen, 2009, 2010; Rosenthal, Nunes, & Le Fauve, 2012), studies examining only these groups were also excluded, so as to avoid bias.

The following details from each study are presented where available (see Appendices A and B): authors, publication year, sample size, mean age and/or age range, setting, location of the study (country), diagnostic system, mental health disorders, substance use disorders, and prevalence estimates.

Findings from general population-based studies are presented first, followed by results from clinical cohort studies from America, Australia and Europe. Four Irish studies reporting prevalence of dual diagnosis were identified. One study (Kamali et al., 2009) did not meet the age criteria for this review. Nevertheless, to be more inclusive, findings of this study are presented.

GENERAL POPULATION-BASED STUDIES PRESENTING PREVALENCE RATES ON DUAL DIAGNOSIS

In Australia, Teesson, Slade, and Mills (2009) examined 12-month co-morbidity of 8,841 respondents from the general population using data from the 2007 National Survey of Mental Health and Wellbeing (NSMHWB). *ICD-10* diagnoses included in the survey were categorised into three classes of mental health disorder: (1) affective disorders, (2) anxiety disorders, and (3) substance use disorders. The study found that 20% of respondents met criteria for at least one 12-month mental disorder. Of those, 3.5% met criteria for all three classes of disorder. The proportion of respondents who met criteria for any 12-month substance use disorder was 5.1%. Of those, 21.5% met criteria for any affective disorder.

Mewton, Teesson, Slade, and Grove (2011) examined epidemiology of 12-month alcohol use disorders among 1,471 young adults in Australia using data from the 2007 NSMHWB. The findings demonstrated that 11.1% of respondents met criteria for 12-month alcohol use disorder. Of those, 11.5% met criteria for an affective disorder.

In a study on stimulant use disorders in the Australian population, Sara et al. (2012) reported prevalence of co-morbid mental health disorders using data from the 2007 NSMHWB study. It was found that of 263 respondents with a lifetime stimulant use disorder, 39% had a lifetime affective disorder, and 13% had at least one symptom of psychosis.

In the USA, Grella, Karno, Warda, Niv, and Moore (2009) examined lifetime prevalence of mood disorders among individuals with opioid use disorders. A total of 578 adults with lifetime opioid abuse or dependence were identified from 43,093 participants from the civilian non-institutionalised population who were interviewed in the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC). The findings demonstrated that 51.5% of those with opioid use disorders had major depression, and 20.1% had manic disorder.

Data gathered from 1,643 respondents with lifetime bipolar disorder in the NESARC study revealed that over half (54%) had a lifetime alcohol use disorder (abuse or dependence) (Oquendo et al., 2010).

CLINICAL COHORT STUDIES PRESENTING PREVALENCE RATES OF DUAL DIAGNOSIS

Literature reviews embracing studies from different countries

Two studies (Koskinen et al., 2009, 2010) were conducted to estimate the rates of substance use disorders (alcohol or cannabis) in patients with schizophrenia across different countries (mainly in North America and Western Europe). A systematic literature review and meta-analysis involving 60 studies across 23 countries (Koskinen et al., 2009) reported that the total median prevalence of alcohol use disorders in participants with schizophrenia was 17.8%. The median rate of current alcohol use disorders was 9.4% and that of lifetime alcohol use disorders 20.6%. Findings of a meta-analysis comprising 35 studies across 16 countries (Koskinen et al., 2010) demonstrated that the total median rate of cannabis use

disorders in participants with schizophrenia was 27%. The median of current and lifetime prevalence was 16% and 27.1%, respectively.

Studies from America

A study of co-morbidity of substance use disorders with schizophrenia in the Latino population across the Southwest United States, Mexico, and Central America (Jiménez-Castro et al., 2010) found that 23.4% of 518 patients with schizophrenia had substance use disorders. The prevalence rates for dual diagnosis by geographic region were 44.1% (49/111) in the US, 15.8% (49/310) in Mexico and 23.7% (23/97) in Central America.

Gao et al. (2010) examined interactions between co-occurring anxiety disorders and substance use disorders in patients with rapid-cycling bipolar disorder. The study reported that the current and lifetime prevalence of any substance use disorder without anxiety disorder in 303 patients was 27.72% and 66.3%, respectively; and in 261 patients with anxiety disorder was 36.8% and 66.7%, respectively.

A study on the effect of co-occurring substance use disorder (excluding nicotine and caffeine) on the effectiveness of medical treatment of major depression (Davis et al., 2012) found that 13.1% of 664 patients with major depression had substance use disorders in the past six months. Of the total number of patients, 2.3% were diagnosed with both alcohol and drug use disorders, 7.8% with alcohol use disorder only, and 3% with drug use disorder only.

Niciu et al. (2009) examined three subtypes of major depression episode (MDE): independent MDE (not attributed to substance use); substance-induced MDE; and both subtypes of depressive episodes. The study demonstrated that out of a total of 1,929 alcohol and/or drug (cocaine or opiate) dependent participants, 156 had independent MDE, 539 had substance-induced MDE, and 168 had both types of MDE at some time in their lives. All subtypes were more common in participants with both alcohol and drug dependence (50%, 64.01% and 63.10%, respectively) compared to those with drug dependence only (26.92%, 27.46% and 22.62%, respectively) or with alcohol dependence only (23.8%, 8.53% and 14.29%, respectively).

A study on the role of depression in treatment outcomes for 526 participants with methamphetamine dependence (Glasner-Edwards et al., 2009) found that 15.2% of participants had current major depressive disorder at three-year follow-up. A further study on mental health disorders in those with methamphetamine dependence (Glasner-Edwards et al., 2010) demonstrated that at three-year follow-up, 4.9% and 12.7% had current and lifetime psychosis, respectively; and 3.9% and 8.6% had current and lifetime mania, respectively.

Studies from Australia and Europe

In Australia, a study on major depression among 400 methamphetamine users (McKetin, Lubman, Lee, Ross, & Slade, 2011) found that 40% of methamphetamine dependents met the criteria for major depression and 44% met the criteria for substance-induced depression in the year prior to the study.

Carrà et al. (2012) conducted a study in France, Germany, and the UK that aimed to examine the prevalence of substance dependence in patients with schizophrenia. Data was

gathered from 1,204 patients in nine centres in the three countries. Co-morbid dependence on any substance was most prevalent in the UK (35%), followed by Germany (21%) and France (19%). Similar variations were found in relation to dependence on alcohol and other substances when considered separately. Prevalence rates for alcohol dependence were 26% in the UK, 18% in Germany, and 14% in France; prevalence rates for drug dependence were estimated at 18%, 8% and 7%, respectively.

In the Netherlands, Carpentier et al. (2009) examined psychiatric co-morbidity in methadone maintained patients. The study found that current prevalence rates for mood disorders and psychotic disorders were 46.1% and 10%, respectively. Lifetime prevalence rates for these disorders were 39.4% and 37.8%, respectively. The lifetime prevalence rate for hypomanic or manic episode was estimated at 27.5%.

In the Jorvi Bipolar Study from Finland, Mantere et al. (2010) reported three evaluations of co-morbidity for 144 patients with bipolar disorder: at intake, 21.5% of the sample was diagnosed with substance use disorders, followed by 7.6% and 11.1% at six and 18 months, respectively.

In Italy, Maremmanni et al. (2011) examined dual diagnosis in treatment-seeking patients with heroin dependence. Out of 1,090 patients, 52.7% had mental health disorders. Of these, 45.8% met diagnostic criteria for recurrent depression, 25.8% for bipolar spectrum disorders, and 15.5% for chronic psychosis.

Studies from Ireland

In a study of substance misuse in patients with first-episode psychosis, Kamali et al. (2009) reported that out of a total of 166 patients, 46.4% had a lifetime history of substance use disorders. Co-morbid drug use disorders were the most prevalent (36.1%), followed by alcohol use disorders (21.1%) and both drug and alcohol use disorders (10.8%). As for specific co-morbid mental health and substance use disorders, the prevalence rates were as follows: 22.7% for current and 46.0% for lifetime schizophrenia or schizophreniform psychosis; 28.0% for current and 48.0% for lifetime bipolar disorder; 9% for current and 18.0% for lifetime depression; and 15.0% for current and 38.5% for lifetime delusional disorder.

Iro and O'Connor (2009) evaluated the prevalence of psychiatric co-morbidity among patients with substance use disorders attending a tertiary addiction centre in Dublin. A review of patient records revealed that 43% of 137 patients had a mental health disorder. Of those, 53% had depression, 19% had schizophrenia spectrum disorders, 8% had unspecified psychotic disorder, and 7% had bipolar disorder.

Lyne, O'Donoghue, Clancy, Kinsella, and O'Gara (2010) examined cocaine use and mental health disorders using the records of 465 alcohol dependent patients. The findings demonstrated that 45.9% of alcohol dependent cocaine users and 37.2% of alcohol dependent non-cocaine users had mental health disorders. Prevalence estimates for specific mental health disorders among cocaine and non-cocaine users were as follows: for depressive disorder 28.4% and 25.4%; for psychotic disorder 6.8% and 1.4%; and for bipolar disorder 4.1% and 2%, respectively.

In a further study, Lyne, O'Donoghue, Clancy, and O'Gara (2011) reported that 34.2% of 465 alcohol dependent patients had mental health disorders. Of the total number of patients, 25.3% met criteria for depressive disorder, 2.8% for bipolar affective disorder, and 2.2% for psychotic disorder.

KEY POINTS

- The review of publications focusing on dual diagnosis internationally and in Ireland demonstrates wide variations in prevalence rates across studies. This can be explained by differences in the methodologies used, including diverse definitions of dual diagnosis, participant characteristics, settings where participants were recruited, methods used to assess mental disorders, assessment procedures, and time scales. As a result, making comparisons between study results and generalising them is problematic.
- Five general population-based studies were identified for review. Three studies examined the prevalence of dual diagnosis based on data from the 2007 Australian National Survey of Mental Health and Wellbeing (NSMHWB). These studies suggest significant levels of co-morbidity between all three major classes of mental disorder (affective, anxiety and substance use disorders) and between substance use and affective disorders (Teesson et al., 2009), with high rates of co-morbidity between alcohol use and affective disorders in young people (Mewton et al., 2011). Two studies used data from the 2001-2002 US National Epidemiologic Survey on Alcohol and Related Conditions (NESARC). Significant levels of co-morbidity between individual disorders were reported in the USA: opioid use disorder and either major depression or manic disorder (Grella et al., 2009); and bipolar and alcohol use disorder (Oquendo et al., 2010).
- Thirteen clinical cohort studies were identified reporting the prevalence rates of dual diagnosis in different countries. These studies varied in many respects, including the number and age of participants, settings, time scales, diagnostic criteria, and measurement instruments and procedures, thus limiting the comparability of results. In many instances, the findings are applicable only to the particular clinical group. Wide variations were found in the prevalence of substance use disorders in people with mental health disorders and conversely in the prevalence of mental health disorders in people with substance use disorders. The rates reported range from 3% to 66%, depending on the definition of dual diagnosis and participant characteristics. Nevertheless, many studies reported high prevalence rates, suggesting that dual diagnosis is common in a range of clinical settings.
- Four clinical cohort studies were identified presenting evidence on the prevalence of dual diagnosis in Ireland, with one study reporting the lifetime prevalence rate for the total sample at 46.4% (Kamali et al., 2009). Significant levels of specific types of dual diagnosis in different settings were also evident. However, due to

methodological differences across studies, such as population characteristics and the types of disorders examined, it is difficult to compare results and reach clear conclusions.

SECTION 3 - POLICY CONTEXT

This section sets out the policy context for health care service provision related to dual diagnosis in Ireland. It begins with a brief description of policy-making structures. Then it reviews relevant policy documents on mental health, general health, and substance misuse. Finally, the section ends with a summary of key points.

MENTAL HEALTH AND SUBSTANCE MISUSE POLICY-MAKING STRUCTURES

In Ireland, up to the present day, dual diagnosis has usually been managed within mental health services and addiction services. These services have evolved under different policies established by separate government departments. The Department of Health has long held responsibility for the formulation and evaluation of policies and strategic planning for mental health services (Department of Health, 2012; Expert Group on Mental Health Policy, 2006). Then, in 2009, the Government decided to incorporate alcohol in a National Substance Misuse Strategy, with the Department of Health responsible for alcohol related issues (Department of Community, Rural and Gaeltacht Affairs [DoCRGA], 2009). In May 2011, co-ordination of the implementation of the National Drugs Strategy was transferred to the Department of Health (Pike & Nelson, 2011). Prior to this, from 1997 to 2002, this function had been held by the Department of Tourism, Sport and Recreation; and from 2002 to 2011, by the Department of Community, Equality and Gaeltacht Affairs (formerly from 2002 to 2009 DoCRGA) (Pike, 2011).

MENTAL HEALTH AND GENERAL HEALTH POLICY

In 1984, the report of the Study Group on the Development of the Psychiatric Services entitled *The Psychiatric Services – Planning for the Future* was published and accepted as the official policy document for mental health services in Ireland. Later, sections on mental health were also included in two general health policy documents: *Shaping a Healthier Future: A Strategy for Effective Healthcare in the 1990s* (Department of Health, 1994) and *Quality and Fairness: A Health System for You. Executive Summary: Health Strategy*. (Department of Health and Children, 2001). Whilst these documents emphasised the management of mental health problems, they did not specifically address dual diagnosis.

In 2006, the Department of Health and Children published the report of the Expert Group on Mental Health Policy [EGMHP] entitled *A Vision for Change* which has been accepted by the Government as a ten year policy document for mental health services in Ireland. Maintaining the existing “dual standpoint”, *A Vision for Change* set out a number of recommendations in relation to responsibility for the care of people with substance misuse problems and those with dual diagnosis. The report stated that “the major responsibility for care of people with addiction lies outside the mental health system. These services have their own funding structure within Primary and Continuing Community Care (PCCC) in the HSE” (EGMHP, 2006, p. 146). Regarding responsibility for the care of adults with dual diagnosis, *A Vision for Change* offered the following two recommendations:

RECOMMENDATION 15.3.1: Mental health services for both adults and children are responsible for providing a mental health service only to those individuals who have co-morbid substance abuse and mental health problems.

RECOMMENDATION 15.3.2: General adult CMHTs [Community Mental Health Teams] should generally cater for adults who meet these criteria, particularly when the primary problem is a mental health problem. (EGMHP, 2006, p. 149)

According to *A Vision for Change* (EGMHP, 2006), CMHTs' services should be based on best practice, including involvement of service users, a recovery approach, the planning of care, and appropriate responses to employment and housing needs. As the report suggested, CMHTs would provide addiction counselling expertise and mental health interventions and would liaise with community-based addiction services. For treatment to be effective, both addiction and mental health services will need to have a co-ordinated approach to the management of dual diagnosis (EGMHP, 2006).

In addition to the management of service users with dual diagnosis by general adult CMHTs, *A Vision for Change* (EGMHP, 2006) offered two further recommendations on the development of specialist substance abuse mental health teams:

RECOMMENDATION 15.3.4: Specialist adult teams should be developed in each catchment area of 300,000 to manage complex, severe substance abuse and mental disorder.

RECOMMENDATION 15.3.5: These specialist teams should establish clear linkages with local community mental health services and clarify pathways in and out of their services to service users and referring adult CMHTs. (p. 149)

The report specified that the specialist substance abuse mental health teams should offer services to those presenting with mental health problems related to substance misuse and should link with the general adult CMHTs from whom they would receive referrals. Comparing the specialist teams with the general adult CMHTs, the intention is that the specialist teams would deliver services using an integrated approach, while general adult CMHTs would use serial or parallel approaches (EGMHP, 2006).

In addition, *A Vision for Change* (EGMHP, 2006) included the recommendation regarding the post of National Policy Co-ordinator:

RECOMMENDATION 15.3.3: The post of National Policy Coordinator should be established to deliver national objectives and standards pertaining to primary care and community interventions for drug and alcohol abuse and their linkage to mental health services. (p. 147)

Although *A Vision for Change* (EGMHP, 2006) has recommended structural and operational changes, considerable challenges remain. Over the years, issues regarding mental health policy as outlined in *A Vision for Change* and its implementation have been raised consistently and are well documented (DoCRGA, 2009; Health Service Executive, 2010; MacGabhann, Moore, & Moore, 2010; The College of Psychiatry of Ireland, 2010, 2012). Specifically, significant concerns regarding the exclusion of addiction services from mental health services and difficulties in accessing appropriate treatment have been highlighted. As stated in the *National Drugs Strategy (interim) 2009-2016* (DoCRGA, 2009), “while alcohol and drug addiction are classified internationally as a mental health disorder, this is no longer the case in Ireland, leading to concerns that people may not get the treatment they require” (DoCRGA, 2009, p. 59). Regarding the post of the National Policy Co-ordinator and the specialist substance abuse mental health teams, neither has been established. The *Vision for Change Implementation Plan: 2009-2013* (as cited in MacGabhann et al., 2010) hinted at extra financial resources regarding dual diagnosis for addiction services; however, no such resources were made available to mental health services. Furthermore, to date, there are no national guidelines on managing dual diagnosis.

SUBSTANCE MISUSE POLICY

In the early 2000s, there was a dearth of substance misuse policy documents addressing dual diagnosis (Department of Tourism, Sport and Recreation, 2001; Strategic Task Force on Alcohol, 2002, 2004). However, in the past ten years, progress has been made in this regard. The *National Drugs Strategy 2001-2008: Rehabilitation*, published by a Working Group on Drugs Rehabilitation in 2007, made brief reference to dual diagnosis, indicating that “a significant number of people have coexistent mental health and substance misuse problems (commonly referred to as dual diagnosis)” (Working Group on Drugs Rehabilitation, 2007, p. 18). The report also identified a gap in the systematic co-ordination of care for this group.

Issues regarding dual diagnosis were more explicitly addressed in further substance misuse policy documents. The *Report of the HSE Working Group on Residential Treatment & Rehabilitation (Substance Users)* (Corrigan & O’Gorman, 2007) recommended that:

Clients with comorbidity issues who are in residential drug and alcohol services should be provided with adequate support by the mental health services, and that clear pathways into residential mental health services for those requiring them should be agreed, as outlined in the NACD [National Advisory Committee on Drugs] commissioned report on

Mental Health and Addiction Services and the Management of Dual Diagnosis in Ireland (MacGabhann et al., 2004). (Corrigan & O’Gorman, 2007, p. 5)

The report further recommended that access to appropriate mental health services for people with dual diagnosis be provided across catchment areas where it is not available in their own area (Corrigan & O’Gorman, 2007).

In 2009, DoCRGA published its *National Drugs Strategy (interim) 2009-2016*, with recommendations to enhance collaboration between general and emergency hospital services, substance misuse services, and mental health services, and against this background to meet the needs of service users with dual diagnosis. Further, it suggested that clear pathways be developed into mental health services after medical detoxification, and that there be flexibility in referring service users with dual diagnosis across catchment areas (DoCRGA, 2009).

Later, following recommendations from the report of the Working Group on Drugs Rehabilitation (2007), the *National Drugs Rehabilitation Framework Document* (Doyle & Ivanovic, 2010) was produced to provide a framework for planning and implementing various approaches to the provision of integrated care pathways for people affected by drug misuse. With regard to dual diagnosis, the document emphasised the need to ensure access to appropriate services and recommended that practitioners conducting assessments must be able to identify possible mental health problems and, where required, to propose further assessment referral (Doyle & Ivanovic, 2010).

In 2012, following the Government decision in 2009 to incorporate alcohol into the National Substance Misuse Strategy, the Department of Health published the *Steering Group Report on a National Substance Misuse Strategy*, with the focus on alcohol. This report, combined with the *National Drugs Strategy (interim) 2009-2016* (DoCRGA, 2009), will be treated as a single National Substance Misuse Strategy until the end of 2016. With regard to dual diagnosis, the report highlighted a number of issues concerning assessment, collaboration between mental health and substance misuse services, treatment approaches, detoxification, and access to residential services. It recommended to:

Develop joint protocols between mental health services and drug and alcohol services with the objective of integrating care planning to improve the outcomes for people with co-morbid, severe mental illness and substance misuse problems.

Establish a forum of stakeholders to progress the recommendations in *A Vision for Change* in relation to establishing clear linkages between the addiction services, primary care services, community mental health teams and specialist mental health teams to facilitate the required development of an integrated approach to service development, including:

- developing detoxification services;

- ensuring availability of, and access to, community-based appropriate treatment and rehabilitation services through the development of care pathways; and
- ensuring access to community mental health teams where there is a coexisting mental health condition. (Department of Health, 2012, p. 42)

In summary, despite the increasing recognition of dual diagnosis in the policy documents for substance misuse services, a number of policy gaps remain. These relate to the development of necessary services (e.g., detoxification services); access to appropriate mental health services, community based treatment and rehabilitation; the development of clear care pathways; and enhancement of collaboration and co-operation between services. Thus, it is necessary to address these gaps for services to be effective in managing dual diagnosis.

KEY POINTS

- In Ireland, the management of dual diagnosis has normally taken place within mental health services and addiction services, evolving separately under different policies established by different government departments.
- In *A Vision for Change* (EGMHP, 2006), the principal policy document for mental health services in Ireland, addiction services are excluded from mental health services, which is contrary to general international practice. This has serious implications regarding access to appropriate services for people with dual diagnosis.
- In recent years, dual diagnosis has increasingly been addressed in the policy documents for mental health services and addiction services. Despite this progress, significant challenges remain, including the lack of implementation of recommendations; the absence of guidelines on the management of dual diagnosis, service provision and development; difficulties in the systemic co-ordination of care; a lack of effective collaboration between general and emergency hospitals, mental health services and addiction services; and difficulties in accessing appropriate services for people with dual diagnosis.
- The development and implementation of appropriate policy in the area of dual diagnosis is necessary in order to ensure effective service provision.

SECTION 4 - MANAGEMENT OF DUAL DIAGNOSIS

This section reviews the management of dual diagnosis. First, it highlights management issues. Then it provides a description of screening, assessment and treatment planning, followed by a summary of assessment considerations and an outline of assessment methods. Next, three principal treatment approaches are discussed. This is followed by a review of evidence on the effects of psychosocial interventions for people with dual diagnosis. Then treatment models and evidence on their effectiveness are presented. The section concludes by summarising key points.

MANAGEMENT ISSUES

Substance use disorders and severe mental illnesses on their own place many demands on individuals, health services, and society at large. In combination they make the situation even more difficult (Thylstrup & Johansen, 2009). Dual disorders are associated with a variety of negative outcomes, including exacerbation of symptoms, medication adherence problems, higher rates of relapse, increased risk of physical health problems, HIV infection, suicide, violent behaviour, and homelessness (MacGabhann et al., 2004).

Significant barriers to care for this population exist. In a study by Baldacchino et al. (2011) of service alternatives and care co-ordination for people with dual diagnosis, data gathered at seven sites in France, Finland, Scotland, Poland, England, and Denmark revealed that 14 (1.2%) centres were aimed exclusively at dual diagnosis, 242 (21.4%) at substance misuse, 270 (23.9%) at social services, 386 (34.1%) at mental health services, and the rest at general health and social care. The study also found that between 50% and 90% of the centres had some level of networking, with only 30% having a joint care agreement or shared patient records with at least one other centre (Baldacchino et al., 2011). The need was identified for a more integrated approach, clear policy, network organisation, adequate knowledge and skills related to co-morbid disorders, improved communication, and better co-ordination of assessments and treatment (Baldacchino et al., 2011).

Difficulties also arise when it comes to determining and implementing the most effective interventions for the treatment of dual diagnosis. There is no single best approach for all clinical situations (Center for Substance Abuse Treatment [CSAT], 2007c), and no standardised interventions and protocols exist (Farren, Hill, & Weiss, 2012). To assist practitioners in the selection and delivery of the most effective and appropriate interventions, practice guidelines can play an important role serving as a tool to ensure that practitioner behaviours conform to set standards (Rosen & Proctor, 2003). With regard to dual diagnosis, there is limited availability of guidelines. Perron, Bunger, Bender, Vaughn, and Howard (2010) examined to what extent dual diagnosis was addressed in guidelines which focused on the treatment of either substance use disorders or severe mental illness. Out of a total of 19 relevant guidelines from the National Guideline Clearinghouse in the United States, 11 included some type of recommendations in relation to the assessment and/or treatment of dual diagnosis, with only two offering specific information for treatment (Perron et al., 2010). The study highlighted the need to better address dual diagnosis in the existing guidelines and

the need for comprehensive evidence-based treatment guidelines focusing on integrated treatment methods (Perron et al., 2010).

With regard to the situation in Ireland, in 2002, a national research study was commissioned by the National Advisory Committee on Drugs to examine the management of dual diagnosis in statutory mental health and addiction services across the country. Subsequently, the report *Mental Health and Addiction Services and the Management of Dual Diagnosis in Ireland* (MacGabhann et al., 2004) was published, which provided important new information about this problem. Outlined below is a summary of study findings indicating how dual diagnosis was managed at the time:

- there was no clear understanding of the concept of dual diagnosis and no formal recognition within the services;
- service provision was fragmented, with at least three types of care co-ordination reported: parallel (52%), integrated (29%), and serial (16%);
- 56% of addiction services and 33% of mental health services reported having structures for dual diagnosis; however, it was unclear what these structures were;
- 21% of services reported having a policy on dual diagnosis;
- 58% of addiction services and 43% of mental health services had exclusion criteria preventing access to care;
- most respondents (93%) believed that screening should be routine, and 66% indicated always assessing for dual diagnosis; however, this could not be substantiated;
- many services (71%) did not provide treatment specific to dual diagnosis;
- 24% of services reported not having formal communication; of those who had, joint case management accounted for 30%, service level agreements for 17%, and joint agreement for 10% (MacGabhann et al., 2004).

In a later study reviewing developments in service provision for dual diagnosis in Ireland, MacGabhann et al. (2010) reported increasing awareness of dual diagnosis in policy and practice within mental health and addiction services. However, remaining issues were also noted, including the lack of national policy direction, the absence of national guidelines on the management of dual diagnosis, the absence of prevalence rates, and a lack of effective practice developments and appropriate educational programmes to address dual diagnosis (MacGabhann et al., 2010).

SCREENING, ASSESSMENT AND TREATMENT PLANNING

According to the Co-Occurring Center for Excellence (CSAT, 2007a), a leading USA national resource in the field of co-occurring mental health and substance use disorders, in order to deal with both disorders, each in the context of the other, effective service provision requires the integration of screening, assessment and treatment planning. These are related elements of a process which guides the delivery of services to people with dual diagnosis (CSAT, 2007a).

Screening for dual diagnosis is a formal process that focuses on both substance misuse and mental health. Ideally, it should occur in a broad range of settings such as health,

education, criminal justice, and homeless services, which would increase the likelihood of detection and referral for further assessment and treatment of those with dual diagnosis (CSAT, 2007a). It is usually brief and begins at the first point of contact the client has with the health services. The purpose of screening is to determine whether there is evidence of substance use and/or mental health problems that calls for further examination (CSAT, 2005). A range of related issues such as medical, housing, and victimisation can also be explored (CSAT, 2007a). The following should be considered regarding screening:

- Screening is not equivalent, nor does it provide an alternative, to assessment. It does not attempt to determine the presence, type or severity of a disorder or to explore the relationship between substance use and mental health problems (Todd, 2010).
- Observed signs, symptoms or behaviours relating to substance use problems (or mental health problems) in the presence of mental health problems (or substance use problems) do not necessarily indicate or equal dual diagnosis.
- Positive screens for mental health and substance use problems should be followed up by a more comprehensive assessment (Todd, 2010).

A comprehensive assessment is a more time-intensive process that leads to better understanding of the relationship between co-occurring mental health and substance use disorders, informs treatment planning and increases the likelihood that treatment planning will be effective (Croton, 2007). The Co-Occurring Center for Excellence (CSAT, 2007a) stated four goals for the assessment of dual diagnosis:

1. Establish formal diagnoses,
2. Evaluate the level of functioning,
3. Determine the readiness for change, and
4. Make initial decisions about the required level of care.

In addition, assessment should include consideration of social supports, cultural differences, special life circumstances, and medical conditions (e.g., HIV or AIDS) that may have an impact on the decision as to which services are appropriate for the individual client (CSAT, 2007a).

Information obtained during screening and assessment should be integrated by the treatment team and the client into a treatment plan for dual diagnosis (CSAT, 2007a). During the treatment planning process, initial decisions should be taken as to which services are required to meet the client's needs; what the client wants to achieve; where services will be provided; and how services offered by different providers will be co-ordinated and monitored (CSAT, 2007a).

Assessment considerations

Screening, assessment and treatment planning are made more difficult by a number of factors.

First, a client's mental state can influence accurate reporting, make it difficult to understand service requirements and impede participation in treatment. The effects of substance use or withdrawal from substances can mimic a range of mental health disorders

(e.g., psychotic, affective, and anxiety) (Petitjean, 2005). Also, hallucinations, delusions, symptoms of cognitive impairment (e.g., poor attention) and symptoms of affective disorders (e.g., mania) may weaken the validity of clients' reports about their substance use or mental state (Mueser et al., 2003).

Second, clients with substance use disorders often deny or minimise the negative consequences of substance use in their lives. Similarly, those with mental disorders tend to deny their mental disorder or minimise the degree of their disability (Mueser et al., 2003).

Third, the timing of assessments is important. For example, a higher level of depression can be observed during periods of heavy alcohol consumption or withdrawal from alcohol which usually reduces in the first four weeks of abstinence (Hintz & Mann, 2005).

Fourth, the legal context of assessment needs to be considered. Legal sanctions and their implications can be a significant barrier preventing clients with drug use disorders from providing a truthful account of drug use (Mueser et al., 2003).

Fifth, most clients with dual diagnosis are less motivated to change and to address substance use problems compared to those with substance use disorders only (Horsfall, Cleary, Hunt, & Walter, 2009). Therefore, external factors (e.g., mental health or substance misuse service providers, family, and the legal system) should be considered when trying to increase the level of motivation (Ziedonis et al., 2005).

Sixth, there are a number of issues which may affect clients' views about their condition, services and their providers. Some of these are: cultural identity, gender, membership of some non-ethnic subcultures (e.g., sex workers, gang members), membership of 12-Steps groups or other recovery practices, clients' sexual orientation, and family situations (CSAT, 2007a).

Seventh, different norms of substance use for those with severe mental illness and the general population must be taken into account. As noted by Mueser et al. (2003), the use of large quantities of alcohol and drugs, resulting in physiological dependency and other consequences, is common for people in the general population with substance use disorders. However, even the use of mild to moderate quantities of substances for those with severe mental illness can result in significant negative consequences (Mueser et al., 2003).

Finally, consideration must be given to the appropriateness of assessment instruments for dual diagnosis. These tools may not be sensitive to the complexity of co-occurring mental health and substance use problems and may be of limited value in the assessment of these disorders (MacGabhann et al., 2004).

Assessment methods

Information may be collected for assessment purposes using a range of methods, including:

- psychiatric examination using classification systems (*DSM* and *ICD*);
- review of medical and psychiatric records;
- observation of the client;
- physical examination;
- interviews with family members, friends, and service providers;
- screening and assessment tools; and

- biochemical tests (CSAT, 2005, 2007a).

A description of tools for identifying dual diagnosis in mental health and substance misuse settings is provided in the literature (CSAT, 2005; MacGabhann, et al., 2004; Ministry of Health, 2010). The reliability and validity of these tools for assessing dual diagnosis should be carefully considered.

TREATMENT

Treatment is a process in which pharmacological and psychosocial interventions are provided in order to control or eliminate the symptoms or causes of a disorder or illness (Drake, Mueser, & Brunette, 2007). Pharmacological interventions are critical in the management of severe mental illness in the majority of clinical situations, including those where substances are misused (Ziedonis et al., 2005). These interventions play an important role throughout the treatment process, and their use should be co-ordinated with psychosocial interventions (Mueser et al., 2003). The latter may vary according to client needs and characteristics; the setting where services are provided; content, intensity and duration; and whether offered individually or as an integral part of a treatment programme. Common psychosocial interventions for dual diagnosis treatment include: motivational interviewing, individual or group therapy, 12-Step recovery, group and individual skills training, and family psychoeducation (Cleary, Hunt, Matheson, Siegfried, & Walter, 2008).

Treatment approaches

There are three principal approaches to the treatment of dual diagnosis: *serial* (or *sequential*), *parallel*, and *integrated*. Each approach has its place on the continuum of care.

Serial treatment approach

With the serial treatment approach, the dual disorders are treated one at a time by different service providers. This approach can be particularly useful when an acute disorder warrants immediate treatment (e.g., medically complicated withdrawal); however, in a situation where one disorder cannot be deemed acute over the other, the serial approach has disadvantages, because it does not take into account the potentially interactive nature of dual diagnosis (DeVido & Weiss, 2012). People with dual diagnosis are affected by both substance use and mental health disorders; each disorder may exacerbate and lead to relapse in the other disorder, interfering with the person's ability to function effectively (Jacobs et al., 2005).

Another common issue relating to serial services is that people presenting with dual diagnosis may be treated for one disorder and may not be referred for treatment of another disorder (Jacobs et al., 2005; Mueser et al., 2003). Problems with referrals may occur for various reasons, including (a) policies and exclusion criteria associated with different services (MacGabhann et al., 2004), (b) a clinician's belief that each disorder has to be managed separately (Jacobs et al., 2005); and (c) a lack of knowledge and awareness of the disorders (McKeown, 2010). In addition, even if people with dual diagnosis are referred, they may fail

to attend treatment due to a lack of motivation, poor awareness of their problem, or difficulty in establishing new treatment relationships (Mueser et al., 2003).

Parallel treatment approach

With the parallel approach, different professionals, usually working in different agencies, treat mental health and substance use disorders at the same time. In services where treatment for both disorders may not be available from the same clinician or team, this approach can be an alternative to the serial treatment approach (DeVido & Weiss, 2012). The key to effective parallel treatment is collaboration between, and co-ordination of, the different services involved in the treatment of clients with dual diagnosis (Mueser et al., 2003). However, in practice this is difficult to achieve. A number of problems have been identified: (a) there is often too little contact between separate services and collaboration is difficult to develop and maintain; thus, too much responsibility can be placed on the individual client who is often unable to carry the burden of integration because of the symptoms related to the diagnoses; (b) as in the case of serial treatment, clients often fail to continue their treatment because of a lack of motivation and awareness of their problems, and an inability to sustain relationships with separate services; (c) individual services may be precluded from forming successful partnerships because of different treatment philosophies which result in contradictory messages to clients leading to reduced prospects of clinical improvement; and (d) funding barriers can make treatment for one or the other disorder impossible (Mueser et al., 2003).

Integrated treatment approach

The complexities of dual diagnosis imply that multiple interventions may be indicated (Kavanagh et al., 2003), and it has long been proposed that they should be provided in an integrated way. However, no standardised method exists to achieve this; there are many approaches as to what integrated treatment is and how it should be delivered (Farren, Hill & Weiss, 2012). Nonetheless, integrated treatment can broadly be defined as a combination of treatments from the mental health and substance misuse fields delivered in the same treatment programme or by the same treatment provider (Ziedonis et al., 2005). When compared to the serial and parallel treatment approaches, an integrated approach has the following advantages: (a) there is no need for the co-ordination of different service providers, (b) treatment is delivered concurrently to both disorders which are both viewed as “primary”, and (c) philosophical differences are reduced between mental health and substance misuse treatment providers (Mueser et al., 2003). Integrated treatment also poses challenges, including (a) increased demands on the team or the clinician to manage both mental health and substance use disorders at the same time, as well as the means needed to achieve this (DeVido & Weiss, 2012), (b) the need for cross-training and for commitment from service providers to learn about dual diagnosis (CSAT, 2007b), and (c) methodological difficulties when conducting research to assess the effectiveness of integrated interventions, and difficulties for practitioners in identifying which interventions are the most effective (Thylstrup & Johansen, 2009).

Treatments can be integrated at different levels: individual, service and systems. There are numerous approaches as to how this can be accomplished. However, it is beyond the scope of this report to review them all. Nevertheless, worth noting are the recommendations

for treating different types of co-occurring severe mental illness and substance use disorder, including schizophrenia and substance use disorders (Ziedonis et al., 2005), psychosis and alcohol misuse (Baker, Hiles, Thornton, Hides, & Lubman, 2012), psychosis and substance misuse (National Collaborating Centre for Mental Health [NCCMH], 2011), schizophrenia and substance use disorders (Dixon et al., 2010), and severe mental illness and substance misuse (Mueser et al., 2003). In addition, there are several useful resources available on integrated treatment programmes and systems (CSAT, 2005, 2006, 2007a, 2007b, 2007e; Substance Abuse and Mental Health Services Administration, 2002).

As outlined, there are advantages and disadvantages to the serial, parallel and integrated treatment approaches. When it comes to determining the most appropriate treatment approach for people with dual diagnosis, this should be done based on the individual needs of the clients (Ministry of Health, 2010; Todd, 2010). According to the UK *Mental Health Policy Implementation Guide: Dual Diagnosis Good Practice Guide* (Department of Health {UK}, 2002), the serial approach can be problematic for those with co-occurring severe mental disorders and substance misuse, as it may assume the absence of mutual interaction between the disorders. The parallel approach can also cause problems for this population; however, it may be feasible if communication and co-operation that facilitates a close working relationship between mental health and substance misuse services make treatment of both disorders possible on one site (Department of Health {UK}, 2002). Regarding integrated treatment, the literature indicates that it is the most likely effective treatment for people with severe mental disorders, and otherwise where there is a strong mutual influence between the disorders (Kavanagh et al., 2003). There are consensus agreements in the UK and the USA that people with co-occurring psychosis and substance misuse (NCCMH, 2011) and co-occurring schizophrenia and substance misuse (Ziedonis, et al., 2005) will be more likely to have positive outcomes when interventions integrate the management of the substance use and mental disorders. With regard to some disorders that have a relatively low risk of recurrence, treatment focusing on mutual influences between the disorders may be less important (Kavanagh et al., 2003).

One common approach that helps to conceptualise where an individual client fits within a particular health care system is contained in the four quadrant framework outlined in Figure 1. The underlying assumptions are that people with co-occurring disorders differ in the severity of their disorders and that these differences determine the level of care placement (National Association of State Mental Health Program Directors and National Association of State Alcohol and Drug Abuse Directors, 1999). According to the framework, the higher the severity of the disorders, the more intensive the level of service co-ordination needed. For example, it was indicated that an integrated approach to services is required for people with more severe substance use disorders and more severe mental disorders (Quadrant IV) (CSAT, 2007e).

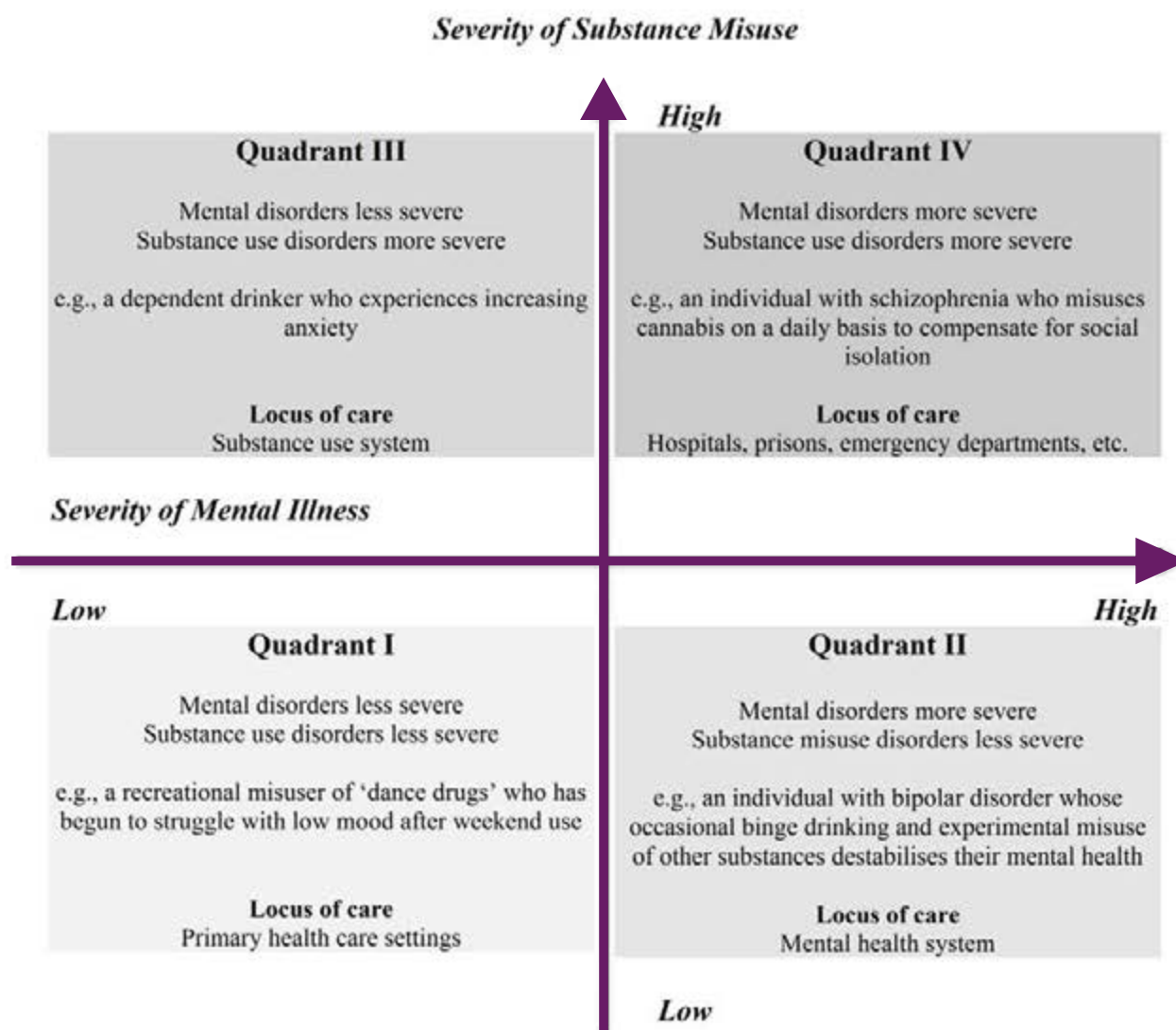


Figure 1. The scope of co-occurring mental health and substance use disorders. Adapted from *Mental health policy implementation guide: Dual diagnosis good practice guide*, by Department of Health, 2002, p. 8; and *Substance abuse treatment for persons with co-occurring disorders*. Treatment Improvement Protocol (TIP) Series 42. DHHS Publication No. (SMA) 05-3992, by Center for Substance Abuse Treatment, 2005, p. 29.

Psychosocial interventions and research on their effects

In this subsection, evidence on the effects of psychosocial interventions for dual diagnosis is presented based on the findings of three Cochrane reviews (Cleary et al., 2008; Hunt, Siegfried, Morley, Sitharthan, & Cleary, 2013; Jeffery, Ley, McLaren, & Siegfried, 2000) and two other systematic reviews (Cleary et al., 2009; Drake, O'Neal, & Wallach, 2008). Characteristics of these reviews are provided in Appendix C. It should be noted that there are other studies in this area that may provide evidence different from that presented here.

Jeffery et al. (2000) conducted a systematic review of randomised controlled trials (RCTs) to evaluate the effect of substance misuse treatment programmes within psychiatric care for people with co-morbid serious mental illness and substance misuse, when compared

with psychiatric care alone. The review found that no one type of substance misuse treatment programme within psychiatric care demonstrated a clear advantage over psychiatric care alone. There was also no evidence to support any type of programme over another. Jeffery et al. suggested that results were impacted by methodological issues. These included: (a) in some cases, not enough substance misuse treatment was provided to the experimental group; (b) some of the programmes compared were similar; (c) issues relating to the way programmes were implemented; (d) high dropout rates; and (e) “sufficient” rather than “comprehensive” programmes providing a limited range of services. In addition, an alternative explanation was offered that there was no real effect at all.

Cleary et al. (2008) updated the Jeffery et al. (2000) review with the objective of assessing the effects of psychosocial interventions for substance use reduction in people with a severe mental illness. The findings of the review (Cleary et al., 2008) were similar to those of Jeffery et al. (2000). Cleary et al. (2008) found no clear evidence to support an advantage of any particular psychosocial intervention over another to reduce substance use or improve mental state. There was little evidence supporting the effectiveness of integrated, non-integrated or skills training programmes over usual treatment. The authors noted that the findings of small studies with brief interventions demonstrated some support for motivational interviewing (MI) alone in reducing substance use. The main findings were from one small study reporting that more participants had abstained from alcohol. Also, more participants who had received MI attended their first aftercare appointment. When MI was provided in combination with cognitive behavioural therapy (CBT), some benefit over treatment as usual for mental state, social functioning and life satisfaction was reported. However, there was no clear evidence to support CBT as a standalone intervention. Based on these findings, Cleary et al. suggested that MI can be an essential element to the effectiveness of treatment with CBT.

According to Cleary et al. (2008), methodological difficulties had an effect on results and made it impossible to reach definite conclusions. The difficulties included high dropout rates, differences in the way interventions were provided, and varying settings, samples, and outcome measures. Moreover, in some instances, levels of treatment for comparison groups may have been higher compared to standard care.

Most recently, Hunt et al. (2013) updated the review of Cleary et al. (2008) with the objective of assessing the effects of psychosocial interventions for substance use reduction in people with a severe mental illness compared to standard care. The systematic review by Hunt et al. (2013) produced similar results to the two previous reviews (Cleary et al., 2008; Jeffery et al., 2000). Hunt et al. (2013) found no compelling evidence that any type of psychosocial intervention was superior to any other. The findings demonstrated some support for MI as a standalone intervention. Furthermore, some positive outcomes were reported, when MI was offered in combination with CBT or with both CBT and contingency management. In one study, some support was also found for contingency management alone for the reduction of stimulant use in homeless people. As in the two previous systematic reviews (Cleary et al., 2008; Jeffery et al., 2000), similar methodological problems were reported which impeded comparisons of interventions and interpretation of results.

To be more inclusive, Drake et al. (2008) included both randomised controlled trials and quasi-experimental studies in a systematic review of interventions for co-occurring severe

mental illness and substance use disorder. The study found that three types of integrated interventions for substance use disorder appeared to be effective for dual diagnosis treatment: (a) group counselling was consistently effective at improving substance use outcomes across several types of groups, (b) contingency management was promising in reducing substance use, and (c) long-term residential treatment may be effective for those who had failed to respond to other out-patient interventions. Despite the promising findings, further research was needed for these interventions. The study also demonstrated that case management and legal intervention had no effect on substance use outcomes. However, they had a positive impact in other areas: case management increased community tenure, while legal interventions enhanced involvement in treatment. Other types of interventions, such as individual counselling, family interventions, and intensive out-patient rehabilitation had been understudied and needed further research.

Drake et al. (2008) identified a number of methodological difficulties, including a lack of standardisation, varying interventions, absence of fidelity assessment, heterogeneity of participants, and varying outcome measures. As a result, comparison and interpretation of study results was limited.

Cleary et al. (2009) conducted a systematic review to assess the efficacy of psychosocial interventions for people with dual diagnosis focusing on substance use, mental health and retention. The review found that MI as a standalone intervention had a positive impact on substance use reduction in the short term. Combined MI and CBT also had some advantage for mental health over longer periods. There was little evidence showing that CBT as a standalone intervention was effective. As for long-term integrated residential programmes, substance use reduction was observed; however, the supporting evidence was from lower quality studies. There was some support for contingency management, but further research was warranted. With regard to other interventions such as intensive case management, group therapy and non-integrated assertive community treatment (ACT), the evidence showed little support for their effectiveness. Finally, studies assessing integrated ACT produced inconsistent results.

According to Cleary et al. (2009), the systematic review was limited by methodological difficulties, including varying participants' demographic characteristics, diversity of disorders and their severity. In addition, some studies included in the review might have used unreliable data.

Models of treatment for dual diagnosis

While recognising the findings of the systematic reviews (Cleary et al., 2008; Cleary et al., 2009; Drake et al., 2008; Hunt et al., 2013; Jeffery et al., 2000), it should be noted that a number of treatment models for dual diagnosis have been developed and researched with results showing a positive impact on outcomes. This report does not attempt to extensively cover models of treatment for different forms of dual diagnosis or different levels of service. Instead, it presents four examples of integrated treatment models that have been developed to meet the needs of those with dual diagnosis.

Integrated group therapy (IGT)

Weiss and Connery (2011) provided guidelines on integrated group therapy (IGT) for patients with co-occurring substance use disorder and bipolar disorder. IGT is an evidence-based treatment that emphasises the relationship between the disorders and the importance of dealing with them simultaneously, based on key guiding principles:

- *The single-disorder paradigm.* Instead of trying to deal with the two disorders separately, patients with co-occurring substance use disorder and bipolar disorder are encouraged to see themselves in terms of one disorder called “bipolar substance abuse”.
- *A focus on commonalities in the two disorders during the recovery and relapse process.* There are similarities in recovery from, and relapse to, bipolar disorder and substance use disorder. Thoughts and behaviours are labelled as either “recovery thoughts/behaviours” or “relapse thoughts/behaviours”.
- *A focus on the relationship between the two disorders.* Substance use is seen as a factor that negatively affects the course of bipolar disorder. Similarly, non-adherence to bipolar disorder medication increases the risk of relapse to substance use (Weiss & Connery, 2011).

The main goals of IGT are

- to promote abstinence from substance misuse (including alcohol),
- to promote adherence to bipolar disorder pharmacotherapy,
- to teach symptom recognition in order to sustain mood stability and to prevent relapse to substance use disorder,
- to teach skills that help to prevent relapse to substance misuse and to maintain mood stability, and
- to improve other elements of functioning (e.g., interpersonal relationships) (Weiss & Connery, 2011).

IGT is comprised of 12 one-hour group sessions and is designed to be delivered by substance misuse counsellors or mental health professionals. The therapy is based primarily on cognitive-behavioural therapy principles. It is designed to be used in conjunction with pharmacological treatment and may be provided with psychosocial treatments such as individual psychotherapy, other group therapy, case management, and self-help groups.

Three studies were conducted to examine IGT for people with co-occurring substance use disorder and bipolar disorder (Weiss et al., 2000; Weiss et al., 2007; Weiss et al., 2009). They all demonstrated the therapy’s effectiveness. In each study, participants were taking a mood stabiliser and many engaged in other treatments (e.g., individual therapy, self-help groups).

In the pilot study (Weiss et al., 2000), substance use and mood disorder outcomes of patients receiving IGT were compared with the outcomes of those who received the usual treatment. The IGT group did significantly better in reducing substance use and was more likely to maintain abstinence for three or more consecutive months. Regarding mood

outcomes, although manic symptoms improved, no significant difference in depressive symptoms was observed.

In a further randomised controlled trial (Weiss et al., 2007), IGT (20 sessions) was compared to group drug counselling (GDC), which had a similar structure, but differed in content, with the former addressing both substance use disorder and bipolar disorder and the latter mainly substance use disorder. The study demonstrated significantly better outcomes for the IGT group in reducing substance use during treatment and follow-up. However, the group had similar outcomes in the number of weeks ill with episodes of bipolar disorder during treatment and follow-up. In addition, the IGT group reported more manic and depressive symptoms than the GDC group.

Another randomised controlled trial of a more “community-friendly” version of IGT was conducted to facilitate its adoption in community-based substance misuse treatment programmes (Weiss et al., 2009). For this study, IGT was revised by (a) providing 12 sessions instead of 20 to improve the possibility of receiving funding, (b) incorporating simplified information on bipolar disorders and CBT to make the intervention more appropriate for delivery by substance misuse counsellors with less experience in this field, and (c) choosing an open format of enrolment whereby participants could enter treatment at any stage and remain for 12 weeks. The purpose of the study was to compare the revised “community-friendly” version of IGT to GDC. Both interventions were comprised of 12 sessions and were provided in an open format. The findings demonstrated an advantage of IGT over GDC. The IGT group was more likely to achieve abstinence from substances and was also more likely to achieve both abstinence and no episodes of mania or depression in the last month of treatment (Weiss & Connery, 2011).

Building Recovery by Improving Goals, Habits, and Thoughts intervention

Watkins et al. (2011) developed the Building Recovery by Improving Goals, Habits, and Thoughts (BRIGHT) intervention for people with persistent depression in residential substance abuse treatment settings. The BRIGHT intervention is a group cognitive-behavioural therapy (CBT) designed to be more suitable for use by substance misuse counsellors. This intervention comprises 16 sessions of two hours each, organised into four modules on specific topics (thoughts, activities, people, and substance abuse) and is aimed at being implemented twice a week for an eight week period. The group sessions were conducted in a semi-open format, meaning that new patients could begin their treatment at the start of each of the four modules and leave after 16 sessions.

Watkins et al. (2011) tested the effectiveness of the BRIGHT intervention in a non-randomised community-based trial that compared two types of intervention: (a) residential substance abuse treatment and (b) residential treatment combined with group CBT. The findings demonstrated that group CBT designed specifically for the treatment of depression had a positive effect on both mental health and substance use outcomes. Although the two types of intervention improved outcomes for patients with depression, those receiving group CBT reported a more significant reduction in depressive symptoms. Moreover, they showed improvement in mental health functioning, bringing them close to population norms. This group also had a greater reduction in substance use at six months.

The dual diagnosis programme

The dual diagnosis programme at St. Patrick's University Hospital in Dublin, Ireland was established in 2003 to provide treatment for people with an affective disorder and a substance use (mainly alcohol) disorder (Farren & McElroy, 2008). The programme is based on the FIRESIDE principles for integrated dual diagnosis treatment (see Table 2) and consists of three stages¹:

1. *Assessment with detoxification and mood stabilisation.* This usually lasts from three days to two weeks.
2. *Engagement with full or modified in-patient programme.* The programme is generally four weeks long. It is based on a cognitive-behavioural relapse prevention approach to both affective and substance use disorders, with the emphasis on the relationship between those disorders and recovery from both. Components of the psycho-education programme are provided in Table 3.
3. *Aftercare.* This is for up to six months following discharge from the treatment programme. A step down regime is provided as follows: weekly group support for the first two months, two-weekly for the next two months, and monthly for the last two months.

Table 2

The FIRESIDE principles

<i>Follow-up</i>	Importance of aftercare emphasised.
<i>Interrelationship of diagnoses</i>	Can't improve in one without treating the other.
<i>Relapse Prevention</i>	Main addiction therapeutic intervention.
<i>Education</i>	Lectures, videos, and discussions.
<i>Stabilisation of withdrawal and mood</i>	Pharmacotherapy before, during and after the programme.
<i>Individualisation of programme</i>	Flexibility of programme to aid retention.
<i>Diagnostic equivalence</i>	Both diagnoses emphasised equally.
<i>Empowerment</i>	Individual responsibility encouraged and demanded.

Note. From "Treatment response of bipolar and unipolar alcoholics to an inpatient dual diagnosis program," by C. K. Farren and S. McElroy, 2008, *Journal of Affective Disorders, Volume 106*, p. 2. Copyright 2007 by Elsevier B.V. Adapted with permission.

¹ From "Treatment response of bipolar and unipolar alcoholics to an inpatient dual diagnosis program," by C. K. Farren and S. McElroy, 2008, *Journal of Affective Disorders, Volume 106*, p. 2. Copyright 2007 by Elsevier B.V. Adapted with permission.

Table 3

Components of the 4-week dual diagnosis programme

<ul style="list-style-type: none"> • Lectures, both general and specific for the programme (5 general, 2 specific per week) • Video session, specific for the programme (1 per week) • Individual therapy sessions (2 per week) • AA and Dual Recovery groups (3 per week) • Group treatments (5 per week): <ul style="list-style-type: none"> ○ Relapse prevention ○ Dual Diagnosis Education ○ 1st Step ○ Recovery planning ○ Discussion Group 	<p>Content of lecture includes definitions, epidemiology, medical complications of alcohol dependence and affective disorders, interaction between mood and substances, psychotherapy and pharmacotherapy.</p> <p>Educates on managing anxiety and stress, stigma, relaxation techniques and assertiveness.</p> <p>These sessions are modelled on interpersonal supportive therapy.</p> <p>Modelled on <i>Chemical Dependency Counselling: A Practical Guide</i>, by R. R. Perkinson, 2002, Second Edition. Clients discuss individual experiences of relapse, identifying and combating triggers, inaccurate thinking, feelings and action.</p> <p>Interaction of symptoms, medication, thoughts and feelings, and self care.</p> <p>Each client presents their written work to the group detailing the effect their substance use and mood disorder has had on them and their relationships.</p> <p>Each client produces and discusses a practical plan to avoid relapse of mood and substance use.</p> <p>Daily and weekly plan.</p>
<p>Each session lasts 1 hour</p>	

Note. From “Treatment response of bipolar and unipolar alcoholics to an inpatient dual diagnosis program,” by C. K. Farren and S. McElroy, 2008, *Journal of Affective Disorders, Volume 106*, p. 2. Copyright 2007 by Elsevier B.V. Adapted with permission.

The effect of the in-patient dual diagnosis programme was examined in several studies. Farren and McElroy (2008) conducted a trial to assess treatment outcomes of alcohol dependents with either bipolar or unipolar affective disorder. The study demonstrated a significant reduction in alcohol use and mood symptoms, with a high rate of abstinence from alcohol at three and six months follow-up.

In a further prospective study (Farren & McElroy, 2010), significant improvements in substance use outcomes were found and a number of predictive factors for treatment outcomes were determined: (a) patients who experienced a higher level of anxiety on admission to the treatment programme were more likely to relapse to alcohol at three months after discharge from the hospital, (b) those who reported higher baseline AUDIT (Alcohol Use Disorder Identification Test) scores were more likely to relapse at three and six months, (c) patients with illegal drug history at baseline were more likely to return to drinking at six months, (d) those who planned their aftercare prior to discharge were more likely to maintain

abstinence from alcohol at three and six months, and (e) those who relapsed and were re-hospitalised within three months were more likely to reduce alcohol use.

A longitudinal study (Farren, Snee, Daly, & McElroy, 2013) demonstrated that the effects of prognostic factors such as anxiety level, AUDIT scores and aftercare lessened by two years. However, other factors, including early abstinence, gender, diagnosis and age had a more significant influence to long-term treatment outcomes: (a) patients who were abstinent from alcohol at three and six months were more likely to maintain abstinence at two years, (b) women reported better improvements in alcohol use outcomes compared to men, (c) those with a diagnosis of depression achieved a significantly better outcome regarding drinks per drinking day at two years than those with bipolar disorder, and (d) younger patients (18-30 years) were more likely to use alcohol at two years than older patients.

Modified therapeutic communities for dual diagnosis

The term *therapeutic community* (TC) is generic and describes various short- and long-term residential programmes, along with day treatment and ambulatory programmes for a wide range of people with substance use disorders (De Leon, 2005). Modified TCs for dual diagnosis are based on the traditional TC model. A description of the latter can be found in the literature (De Leon, 2000). The main modifications relate to programme structure and process, staffing, individual and group services, clinical management, and offsite services. Specific adjustments include increased flexibility with predictable boundaries, decreased duration of activities, fewer sanctions, more clear affirmation of achievements, less confrontation, a stronger emphasis on orientation instruction and psychoeducation, and increased focus on clients' special needs (De Leon, 2005).

According to De Leon (2005), the recommended minimum duration of the programme for those with dual diagnosis is 12 months (although hospital based modified TCs have a shorter duration). These programmes usually have four stages:

1. Engagement and orientation,
2. Primary treatment,
3. Re-entry, and
4. Graduation and separation.

The daily routine involves morning meetings, job functions, groups, seminars, and recreation. Every client has a job function which can increase in responsibility and status depending on clinical progress. The programmes have a system of privileges (e.g., affirmation and personal privileges) and sanctions (e.g., loss of privileges). A majority of staff are trained in mental health. Services provided include individual services (psychotherapy and counselling), group services (therapeutic groups and psychoeducational groups), and clinical management. The specific focus of psychotherapy or counselling is on crisis intervention and assistance for clients to adjust to the routines of the modified TCs. Group services aim to help clients to better manage issues relating to their conduct, attitudes, and emotions in the context of interpersonal, intrapersonal, and social relations. In most modified TCs, medications are prescribed in almost all clinical situations. Rehospitalisation can be offered for serious mental health episodes (e.g., psychosis) when medication and crisis intervention are not helping.

De Leon (2005) summarised several studies examining the effectiveness of modified TCs and reported increased retention and a positive effect on drug use, criminality, and psychological status. More recently, Sacks, McKendrick, Sacks, and Cleland (2010) reviewed four studies on the effectiveness of modified TCs for people with co-occurring mental health disorders (mostly serious disorders) and substance use disorders. A total of 902 clients (homeless persons, offenders, substance misusers, those with HIV/AIDS, etc.) were included from a variety of treatment settings (residential, out-patient, and prison and community corrections). The findings demonstrated a significant treatment effect on mental health, substance misuse, employment, crime, and housing, with little or no effect on HIV-risk behaviour.

KEY POINTS

- Dual diagnosis is often associated with higher levels of health, social, legal, occupational, and housing problems, thus presenting many challenges for individuals, health services, and society at large.
- Many barriers to care for people with dual diagnosis exist worldwide, including a paucity of policy and appropriate practice guidelines, limited access to services, a lack of joint working and co-ordination between services, differences in treatment philosophies, and limited capacity of practitioners to respond to the complex needs of this population.
- With regard to Ireland, a study on the management of dual diagnosis within Irish mental health and addiction services (MacGabhann et al., 2004) provided an initial picture of how dual diagnosis was being dealt with. Significant gaps in policy, service provision, education and research were identified. A later review of progress in service provision (MacGabhann et al., 2010) reported increasing awareness of dual diagnosis at policy and practice levels. Nevertheless, important remaining issues were noted, including the need for accurate prevalence rates, national policy, national management guidelines, and a more effective approach to education and practice development.
- Screening, assessment and treatment planning are three interrelated components of a process that guides the provision of services to people with dual diagnosis. During this process, both mental health and substance use disorders should be addressed, each in the context of the other.
- There are three principal approaches to the treatment of dual diagnosis: serial, parallel and integrated, each with its own advantages and disadvantages.
- Although integrated treatment has been advocated for some time, there is no standardised method for integration. A range of treatment models exists, depending on the needs of people with dual diagnosis and the treatment philosophy. Evidence-

based guidelines are needed to assist practitioners in determining best practice and delivering effective services.

- The Cochrane reviews (Cleary et al., 2008; Hunt et al., 2013; Jeffery et al., 2000) demonstrated that there is no conclusive evidence to recommend any type or model of psychosocial treatment over any other for people with co-occurring severe mental illness and substance misuse. There is also no evidence that these interventions are not helpful or that they lead to worse outcomes. As noted in the reviews, due to methodological difficulties, making comparisons between studies and reaching clear conclusions was problematic.
- While recognising the findings of the Cochrane reviews (Cleary et al., 2008; Hunt et al., 2013; Jeffery et al., 2000), there are other systematic reviews showing some support for the effectiveness of certain interventions. Motivational interviewing as a standalone intervention can be helpful in reducing substance use, and in improving mental health when provided in combination with cognitive behavioural therapy (Cleary et al., 2009). Group counselling, contingency management and long-term residential treatment appear to be effective in addressing substance use (Drake et al., 2008). Furthermore, there are models of treatment that have been researched and that demonstrate the benefit of integrated treatment for those with dual diagnosis (Farren & McElroy, 2007, 2010; Farren et al., 2013; Sacks et al., 2010; Watkins et al., 2011; Weiss et al., 2000; Weiss et al., 2007; Weiss et al., 2009).
- Although new studies have continued to emerge, more methodologically rigorous studies are needed focusing on different categories of dual diagnosis and examining areas such as service systems and delivery, individual interventions, as well as integrated treatment programmes. Furthermore, methodological standardisation is necessary to ensure the quality of future research.

SECTION 5 - CONCLUSIONS

This report set out to inform mental health and substance misuse services and the wider social care community about dual diagnosis which herein refers to co-occurring severe mental illness and substance use disorder, with the hope that this may lead to better decision making and therefore the delivery of more effective services for people with dual diagnosis. The report has reviewed terminology related to dual diagnosis, research findings on prevalence internationally and in Ireland, the policy context for health care provision in Ireland, and the management of dual diagnosis. A number of conclusions have been drawn from this review.

- There is no consensus either on the term or on the definition of dual diagnosis. In Irish and international literature, many terms have been used interchangeably to refer to people with co-occurring mental health and substance use disorders. Moreover, many forms of dual diagnosis are possible due to the wide range of patterns of substance misuse and types of mental disorders. This creates confusion for practitioners as to what exactly dual diagnosis is, with resulting difficulties as to how it should be managed. Furthermore, the heterogeneity of terms and definitions poses challenges for research, including difficulties in participant selection and the standardisation of methodologies.
- Data from epidemiological and clinical cohort studies internationally suggest that dual diagnosis is common. With regard to Ireland, there is evidence suggesting that severe mental illnesses are prevalent in those with substance use disorders, and vice versa. However, due to the small number of studies identified for this report and the limited availability of evidence, drawing conclusions about the prevalence of dual diagnosis in Ireland is not possible. Further studies are needed to develop a better understanding of the magnitude and nature of the challenges posed by dual diagnosis, in order to inform policy decisions, and to facilitate the planning and provision of effective services.
- Despite increasing awareness of dual diagnosis within Irish policy and practice circles, considerable challenges remain, including the need for a clear national policy direction and a commitment on implementation. For policies to be effective, it is essential that they are based on sound evidence. Where this is lacking, the generation of evidence should form part of policy implementation.
- Dual diagnosis is associated with a number of negative outcomes which pose significant demands for individuals, care services and society at large. At the same time, significant barriers to effective service provision for this population exist. One of these is that those with dual diagnosis often fall between the relevant services and their need for treatment remains unmet. If services are to be effective in Ireland, it is necessary to address significant issues, including the need for systematic care, access to appropriate services, co-operation and collaboration between services, and effective practice developments and implementation.

- The complex and multifaceted nature of dual diagnosis makes assessment and treatment difficult. The key to the successful delivery of services is the competence of practitioners who should be cross-trained and have the capacity to address dual diagnosis. Given its prevalence, dual diagnosis should be expected when assessing and treating people with severe mental illnesses or substance use disorders. Thus, it is important to screen those with severe mental illnesses for substance use problems and, conversely, those with substance use disorders for mental health problems to ensure early detection and treatment of dual diagnosis. To assist practitioners in determining and delivering best practice, evidence-based national guidelines on the management of dual diagnosis developed for the Irish context are needed.
- There has been a major research focus on the effectiveness of psychosocial interventions for dual diagnosis. According to Cochrane reviews (Cleary et al., 2008; Hunt et al., 2013; Jeffery et al., 2000), there is no compelling evidence to support any type of psychosocial interventions over others in reducing substance use or improving mental health. While recognising this, there is also research demonstrating the positive effects of several types of intervention (Cleary et al., 2009; De Leon, 2005; Drake et al., 2008; Farren & McElroy, 2007, 2010; Farren et al., 2013; Watkins et al., 2011; Weiss et al., 2000; Weiss et al., 2007; Weiss et al., 2009). Further methodologically rigorous studies are needed to research both individual interventions and integrated programmes. Practitioners and policy makers need to keep abreast of the latest research findings in order to ensure that evidence-based interventions are provided. It should be noted that those developed in other countries, may not be applicable in Ireland. Thus, the development of clinically effective treatments in the Irish context may be required.

GLOSSARY

Access

Ability of a potential service user to obtain a service when needed within an appropriate time (Mental Health Commission, 2007, p. 64).

Best research evidence

The empirical knowledge generated from the synthesis of quality study findings to address a practice problem (Burns & Grove, 2009, p. 3).

Cochrane Reviews

Cochrane Reviews are systematic reviews of primary research in human health care and health policy, and are internationally recognised as the highest standard in evidence-based health care (The Cochrane Collaboration, 2012).

Consensus

General agreement among a group of experts in the field about the implications of available evidence concerning practices or interventions. When evidence for the effectiveness of a specific practice is limited, the process of achieving consensus is informed by clinical experience consistent with clear theoretical underpinnings. The judgments arrived at by most of those concerned are used to identify evidence-promising and emerging practices as well as to develop practice guidelines and clinical recommendations (CSAT, 2007b, p. 1).

Consensus opinion

A determination reached collectively by more than one expert, through a process of evidence-based thinking, that a given practice should or should not be labelled “evidence based” (CSAT, 2007c, p. 1).

Epidemiology

The study of the incidence, prevalence, and distribution of a disease in a population (CSAT, 2007d, p. 1).

Evidence

Facts, theory or subject matter that support or refute the claim that a given practice produces a specific clinical outcome. Evidence may include research findings and expert or consensus opinions (CSAT, 2007c, p. 1).

Evidence-based practice

A practice which, based on research findings and expert or consensus opinion about available evidence, is expected to produce a specific clinical outcome (measurable change in client status) (CSAT, 2007c, p. 1).

Evidence-based thinking

A process by which diverse sources of information (research, theory, practice principles, practice guidelines and clinical experience) are synthesised by a clinician, expert or group of experts in order to identify or choose the optimal clinical approach for a given clinical situation (CSAT, 2007c, p. 1).

Health service providers

Providers may be seen as whole organizations, teams, or individual health workers. In each case, they will ideally be committed to the broad aims of quality policy for the whole system, but their main concern will be to ensure that the services they provide are of the highest possible standard and meet the needs of individual service users, their families, and communities (WHO, 2006, p. 10).

Incidence

The rate of occurrence or percentage of new cases (e.g., in a 6 month period) within a population (CSAT, 2007d, p. 1).

Interventions

The specific treatment strategies, therapies, or techniques that are used to treat one or more disorders (CSAT, 2005, p. 29).

Integrated interventions

Specific treatment strategies or therapeutic techniques in which interventions for both disorders are combined in a single session or interaction, or in a series of interactions or multiple sessions (CSAT, 2005, p. 29).

Practice guidelines

Practice guidelines are a set of systematically compiled and organized statements of empirically tested knowledge and procedures to help practitioners select and implement interventions that are most effective and appropriate for attaining the desired outcomes (Rosen & Proctor, 2003, p. 1).

Prevalence

Denotes the percentage of persons who have a particular disorder at a given time within a specific population (CSAT, 2007d, p. 1).

Principle

A basic generalisation that is accepted as true and that can be used as a basis for reasoning or conduct. Principles serve to guide the design of systems and implementation of service interventions (CSAT, 2007b, p. 1).

Programme

A formally organized array of services and interventions provided in a coherent manner at a specific level (or levels) of care in order to address the needs of particular target populations (CSAT, 2006, p. 6).

System

A means of organizing a number of different treatment programmes and related services to implement a specific mission and common goals (CSAT, 2005, p. 33).

Treatments

Medications or psychosocial strategies aimed at controlling or eliminating the symptoms or causes of illness or disorder (Drake et al., 2007, p. 2).

APPENDIX A

General Population-Based Studies Presenting Results on Dual Diagnosis

Reference	Sample (N, age range, setting, and location)	Diagnostic systems for MHDs and SUDs	MHDs and SUDs	Proportion of people with co-occurring SUDs or MHDs (%, n)
Grella et al. (2009)	<p>Sample size: 578 out of a total of 43,093 respondents from the 2001-2002 NESARC</p> <p>Age range: 18 and above</p> <p>Setting: the civilian, non-institutionalised population</p> <p>Location: USA</p>	<p>DSM-IV diagnoses were assessed using AUDADIS-IV</p>	<p>Lifetime opioid use disorders (abuse or dependence)</p>	<p>Lifetime prevalence of mood disorders:</p> <ul style="list-style-type: none"> • major depression: 51.5% • manic disorder: 20.1%
Mewton et al. (2011)	<p>Sample size: 1,471 out of a total of 8,841 respondents from the 2007 NSMHWB</p> <p>Age range: 16-24</p> <p>Setting: community residents</p> <p>Location: Australia</p>	<p>DSM-IV diagnoses were assessed using a modified version of the WMH-CIDI</p>	<p>11.1% of respondents met criteria for 12-month alcohol use disorder (abuse or dependence)</p>	<p>Of those with 12-month alcohol use disorder, 11.5% met criteria for an affective disorder.</p>
Sara et al. (2012)	<p>Sample size: 263 out of a total of 8,841 respondents from the 2007 NSMHWB</p> <p>Age range: 16-85</p> <p>Setting: community residents</p> <p>Location: Australia</p>	<p>DSM-IV diagnoses were assessed using a modified version of the WMH-CIDI</p>	<p>Lifetime stimulant use disorders</p> <p>Stimulant drug types: amphetamine/speed, methamphetamine/base/ice, ecstasy, and cocaine.</p>	<p>Lifetime prevalence of MHDs:</p> <ul style="list-style-type: none"> • any affective disorder: 39% • at least one symptom of psychosis: 13%
Oquendo et al. (2010)	<p>Sample size: 1,643 out of a total of 43,093 respondents from the 2001-2002 NESARC</p> <p>Age range: 18 and above</p> <p>Setting: the civilian, non-institutionalised population</p> <p>Location: USA</p>	<p>DSM-IV diagnoses were assessed using AUDADIS-IV</p>	<p>A lifetime bipolar disorder</p>	<p>Lifetime alcohol use disorders (abuse or dependence): 54% (n = 881)</p>

APPENDIX A (continued)

Reference	Sample (N, mean age (range), setting, and location)	Diagnostic systems for MHDs and SUDs	MHDs and SUDs	Proportion of people with co-occurring SUDs or MHDs (%, n)
Teesson et al. (2009)	Sample size: 8,841 respondents from the 2007 NSMHWB Age range: 16-85 Setting: community residents Location: Australia	ICD-10 diagnoses were assessed using a modified version of the WMH-CIDI	<ul style="list-style-type: none"> • 20% of respondents met criteria for at least one 12-month mental disorder • 5.1% of respondents met criteria for any 12-month SUD 	<ul style="list-style-type: none"> • Of those with at least one 12-month mental disorder, 3.5% met criteria for all three classes of mental disorder: <ul style="list-style-type: none"> ○ affective disorders: depression, dysthymia, and bipolar affective disorder; ○ anxiety disorders: agoraphobia, social phobia, panic disorder, generalised anxiety disorder, obsessive-compulsive disorder, post-traumatic stress disorder; and ○ SUDs: harmful use and dependence derived separately for alcohol, cannabis, sedatives, stimulants and opioids. • Of those with any 12-month SUD, 21.5% met criteria for an affective disorder.

Note: MHD = mental health disorder; SUD = substance use disorder; DSM-IV: *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition*; ICD-10: *International Classification of Diseases, Tenth Revision*; NESARC = National Epidemiologic Survey on Alcohol and Related Conditions; AUDADIS-IV = Alcohol Use Disorder and Associated Disabilities Interview Schedule – DSM-IV Version; NSMHWB = National Survey of Mental Health and Wellbeing; WMH-CIDI = World Mental Health Survey Initiative version of the Composite International Diagnostic Interview which is designed to assess mental disorders according to the criteria of DSM-IV and ICD-10.

APPENDIX B

Clinical Cohort Studies Presenting Prevalence Rates of Dual Diagnosis

Reference	Sample (N, mean age (range), setting, and location)	Diagnostic systems for MHDs and SUDs	MHDs or SUDs	Proportion of people with co-occurring SUDs or MHDs (%), n
Carrià et al. (2012)	<p>Sample size: 1,204</p> <p>Age range: 18-64</p> <p>Setting: secondary psychiatric services in community mental health care catchment areas</p> <p>Location: France, Germany, and UK</p>	DSM-IV	Schizophrenia	<p>Lifetime dependence on any substance:</p> <ul style="list-style-type: none"> • France: 19% • Germany: 21% • UK: 35% <p>Alcohol dependence:</p> <ul style="list-style-type: none"> • France: 14% • Germany: 18% • UK: 26% <p>Drug dependence:</p> <ul style="list-style-type: none"> • France: 7% • Germany: 8% • UK: 18%
Carpentier et al. (2009)	<p>Sample size: 193</p> <p>Mean age: 40.3</p> <p>Setting: a long-term methadone maintenance treatment</p> <p>Location: The Netherlands</p>	DSM-IV diagnoses were assessed using CIDI-SAM and MINI	Opioid dependence	<p>Current prevalence:</p> <ul style="list-style-type: none"> • mood disorder: 46.1% (n = 89) • psychotic disorder: 10% (n = 19) <p>Lifetime prevalence:</p> <ul style="list-style-type: none"> • mood disorder: 39.4% (n = 76) • psychotic disorder: 37.8% (n = 73) • hypomanic or manic episode: 27.5% (n = 53)
Devis et al. (2012)	<p>Sample size: 664</p> <p>Age range: 18-75</p> <p>Setting: out-patient (six primary care and nine psychiatric care sites)</p> <p>Location: USA</p>	DSM-IV diagnoses were assessed using PDSQ, clinical interview and a DSM-IV major depressive disorder symptom checklist	Major depressive disorder (MDD), i.e., either recurrent (one or more prior major depressive episode) or chronic (current major depressive episode for two or more years) MDD.	<p>13.1% (n = 87) had any drug and/or alcohol use disorder (excluding nicotine or caffeine) in the past 6 months.</p> <p>By type of substance:</p> <ul style="list-style-type: none"> • alcohol use disorder only: 7.8% • drug use disorder only: 3% • both drug and alcohol use disorders: 2.3%

APPENDIX B (continued)

Reference	Sample (N, mean age (range), settings, and location)	Diagnostic systems for MHDs and SUDs	MHDs or SUDs	Proportion of people with co-occurring SUDs or MHDs (%), (n)
Gao et al. (2010)	Sample size: 564 Mean age: 36.4 Setting: out-patient Location: USA	DSM-IV diagnoses were assessed using ECL, MINI, and SCID-IP substance use disorder module	Rapid-cycling bipolar I and II disorders (RCBD) with or without anxiety disorders (ADs), including general anxiety disorder, panic disorder, and obsessive-compulsive disorder.	Any SUD (abuse or dependence) in patients with RCBD: <ul style="list-style-type: none"> Without ADs (303/564): <ul style="list-style-type: none"> recent: 27.72% (84/305) Lifetime: 66.33% (201/305) With ADs (261/564): <ul style="list-style-type: none"> recent: 36.8% (96/261) Lifetime: 66.7% (174/261)
Glaser-Edwards et al. (2009)	Sample size: 526 Age range: 18 and over Setting: out-patient Location: USA	DSM-IV diagnoses were assessed using MINI	Methamphetamine dependence	Current major depressive disorder at 3-year follow-up: 15.2% (n = 80)
Glaser-Edwards et al. (2010)	Sample size: 526 Age range: 18 and over Setting: out-patient Location: USA	DSM-IV diagnoses were assessed using MINI	Methamphetamine dependence	Current diagnosis at 3-year follow-up: <ul style="list-style-type: none"> psychosis: 4.9% (n = 26) mania: 3.9% (n = 21) Lifetime diagnosis at 3-year follow up: <ul style="list-style-type: none"> psychosis: 12.7% (n = 67) mania: 8.5% (n = 45)
Iro and O'Connor (2009)	Sample size: 137 Age range: 23-50 Setting: tertiary addiction centre Location: Ireland	The authors of the study did not apply formal ICD-10 criteria to assign diagnosis. Available service users' records (electronic databases and paper charts) were used.	Substance use disorders	43% (59/137) had MHDs, including <ul style="list-style-type: none"> depression: 53% (31/59) schizophrenia spectrum disorders: 19% (11/59) unspecified psychotic disorder: 8% (5/59) bipolar disorder: 7% (4/59)

APPENDIX B (continued)

Reference	Sample (N, mean age (range), settings, and location)	Diagnostic systems for MHDs and SUDs	MHDs or SUDs	Proportion of people with co-occurring SUDs or MHDs (%; n)
Jiménez-Castro et al. (2010)	<p>Sample size: 518</p> <p>Age range: 18 and more</p> <p>Setting: in-patient and out-patient</p> <p>Location: the Latino population from the Southwest United States (Texas, California), Mexico and Central America (Guatemala and Costa Rica)</p>	DSM-IV	Schizophrenia	<p>23.4% (121/518) had SUDs (either alcohol or substance abuse or dependence).</p> <p>SUDs by geographic region:</p> <ul style="list-style-type: none"> USA: 44.1% (49/111) Mexico: 15.8% (49/310) Central America: 23.7% (23/97)
Kamali et al. (2009)	<p>Sample size: 166</p> <p>Mean age (range): 28.5 (14-70)</p> <p>Setting: in-patient and out-patient</p> <p>Location: Ireland</p>	DSM-IV diagnosis were assessed using SCID	First-episode psychosis	<p>46.4% (77/166) had lifetime history of SUDs (drug and/or alcohol abuse or dependence).</p> <p>By substances:</p> <ul style="list-style-type: none"> drug use disorders: 36.1% (60/166) alcohol use disorders: 21.1% (35/166) both drug and alcohol use disorders: 10.8% (18/166) <p>Current SUDs by disorders:</p> <ul style="list-style-type: none"> schizophrenia or schizophreniform psychosis: 22.7% (23/101) bipolar affective disorder: 28% (7/25) depression: 9% (1/11) delusional disorder: 15% (2/13) <p>Lifetime SUDs by disorders:</p> <ul style="list-style-type: none"> schizophrenia or schizophreniform psychosis: 46% (46/101) bipolar affective disorder: 48% (12/25) depression: 18% (2/11) delusional disorder: 38.5% (5/13)

APPENDIX B (continued)

Reference	Sample (N, mean age (range), settings, and location)	Diagnostic systems for MHDs and SUDs	MHDs or SUDs	Proportion of people with co-occurring SUDs or MHDs (%), (n)
Koskinen et al. (2009)	<p>Number of studies included: 60</p> <p>Sample size range: 18-34,925</p> <p>Age range: older than 16 years</p> <p>Setting: in-patient and out-patient</p> <p>Location of 60 studies: Australia, Brazil, Canada, Costa Rica, Finland, France, Germany, Greece, Ireland, Israel, Italy, Lebanon, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, Turkey, UK, USA, Taiwan, and the Netherlands.</p>	DSM or ICD classification systems criteria	Schizophrenia-spectrum disorders (schizophrenia, schizophréniform disorder, schizoaffective disorder and delusional disorder)	<p>Median rates of alcohol use disorders:</p> <ul style="list-style-type: none"> total: 17.8% (60 studies) current: 9.4% (18 studies) lifetime: 20.6 % (47 studies)
Koskinen et al. (2010)	<p>Number of studies included: 35</p> <p>Sample size range: 18-537</p> <p>Age range: older than 16 years</p> <p>Setting: mainly in-patient and out-patient</p> <p>Location of 35 studies: Australia, Canada, Finland, France, Germany, Greece, Ireland, Israel, Italy, Lebanon, Sweden, Switzerland, Turkey, UK, USA, and the Netherlands.</p>	DSM or ICD classification systems criteria	Schizophrenia-spectrum disorders (schizophrenia, schizophréniform disorder, schizoaffective disorder and delusional disorder)	<p>Median rates of cannabis use disorders:</p> <ul style="list-style-type: none"> total: 27% (35 studies) current: 16% (10 studies) lifetime: 27.1% (28 studies)
Lyne et al. (2010)	<p>Sample size: 465</p> <p>Age range: under 45 years</p> <p>Setting: in-patient addiction treatment programme</p> <p>Location: Ireland</p>	Medical records (admission notes, medical notes while in-patient, addiction programme assessments)	ICD-10 primary diagnosis of F10 (mental and behavioural disorders due to use of alcohol)	<p>45.9% of 74 alcohol dependent cocaine users had MHDs, including:</p> <ul style="list-style-type: none"> depressive disorder: 28.4% (21/74) psychotic disorder: 6.8% (5/74) bipolar affective disorder: 4.1% (3/74) <p>37.2% of 355 alcohol dependent non-cocaine users had MHDs, including:</p> <ul style="list-style-type: none"> depressive disorder: 25.4% (90/355) psychotic disorder: 1.4% (5/355) bipolar affective disorder: 2% (7/355)

APPENDIX B (continued)

Reference	Sample (N, mean age (range), setting, and location)	Diagnostic systems for MHDs and SUDs	MHDs or SUDs	Proportion of people with co-occurring SUDs or MHDs (%; n)
Lyne et al. (2011)	Sample size: 465 Age range: under 45 years Setting: in-patient addiction treatment programme Location: Ireland	Diagnoses used in the study were based on diagnoses documented in the case notes. No standardised interview such as the structured clinical interview for DSM-IV was conducted.	ICD-10 primary diagnosis of F10 (mental and behavioural disorders due to use of alcohol)	34.2% (159/465) had MHDs, including: <ul style="list-style-type: none"> depressive disorder: 25.3% (118/465) bipolar affective disorder: 2.8% (13/465) psychotic disorder: 2.2% (10/465)
Mantere et al. (2010)	Sample size: 144 Age range: 18-59 Setting: secondary care in-patient and out-patient Location: Finland	SCID-IP (w/Psychotic Screen)	Bipolar I and II disorders	Current SUDs: <ul style="list-style-type: none"> at baseline: 21.5% (n = 31) 6 months: 7.6% (n = 11) 18 months: 11.1% (n = 16)
Marenmonti et al. (2011)	Sample size: 1,090 Age range: 16-51 Setting: out-patient Location: Italy	DSM	Heroin dependence	52.7% (574/1,090) had MHDs at treatment entry, including: <ul style="list-style-type: none"> recurrent depression: 45.8% (263/574) bipolar spectrum disorders: 25.8% (148/574) chronic psychosis: 15.5% (89/574)
McKetin et al. (2011)	Sample size: 400 Age range: 16 and more Setting: 41 specialised drug and alcohol treatment agencies (15 out-patient counselling services, 15 residential rehabilitation facilities, 11 detoxification units, and two services that provided both detoxification and residential rehabilitation). Location: Australia	DSM-IV diagnoses were assessed using CIDI	Methamphetamine dependence	In the preceding 12 months: <ul style="list-style-type: none"> major depression: 40% (n = 158) substance-induced depressive symptoms that were similarly severe and disabling compared to major depression: 44% (n = 176)

APPENDIX B (continued)

Reference	Sample (N, mean age (range), setting, and location)	Diagnostic systems for MHDs and SUDs	MHDs or SUDs	Proportion of people with co-occurring SUDs or MHDs (% , n)
Niciu et al. (2009)	Sample size: 1,929 Mean age: 39.44 Setting: community recruitment through academic medical centres Location: Eastern USA	SSADDA	Alcohol and/or drug (cocaine or opioid) dependence	Participants with a lifetime history of major depressive episode (MDE): <ul style="list-style-type: none"> • Independent MDE (n = 156): <ul style="list-style-type: none"> ○ alcohol dependence: 23.08% ○ drug dependence: 26.92% ○ both alcohol and drug dependence: 50% • Substance-induced MDE (n = 539): <ul style="list-style-type: none"> ○ alcohol dependence: 8.53% ○ drug dependence: 27.46% ○ both alcohol and drug dependence: 64.01% • Both types (n = 168): <ul style="list-style-type: none"> ○ alcohol dependence: 14.29% ○ drug dependence: 22.62% ○ both alcohol and drug dependence: 63.10%

Note. MHD = mental health disorder; SUD = substance use disorder; DSM-IV: *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition*; ICD-10: *International Classification of Diseases, Tenth Revision*; CIDI = Composite International Diagnostic Interview designed to assess mental disorders according to the definitions and criteria of ICD-10 and DSM-IV; CIDI-SAM = a short version of CIDI designed to assess substance use disorders; MINI = Mini-International Neuropsychiatric Interview; PDSQ = Psychiatric Diagnostic Screening Questionnaire for DSM-IV Axis I disorders; ECI = Extensive Clinical Interview which includes questions and criteria for the diagnosis of DSM-IV Axis I disorders, as well as items to assess mental status, demographics and other variables; SCID = Structured Clinical Interview for DSM-IV Disorders; SCID-I/P = Structured Clinical Interview for DSM-IV Axis I Disorders, Patient Edition; SCID-I/P (w/Psychotic Screen) = Structured Clinical Interview for DSM-IV Axis I Disorders, Patient Edition, with psychotic screen; SSADDA = Semi-Structured Assessment for Drug Dependence and Alcoholism based upon the DSM-IV criteria.

APPENDIX C

Characteristics of Systematic Reviews

Reference	Studies included in reviews	Participants	Interventions
Cleary et al. (2008)	<p>No of studies: 25</p> <p>Design: RCTs</p> <p>Duration: 3 months-3 years</p> <p>Location: USA (18 RCTs), Australia (4 RCTs), and UK (3 RCTs).</p>	<p>N = 2,478</p> <p>Age: 18-65</p> <p>Setting: hospital (2 RCTs), community (19 RCTs), community and hospital (2 RCTs), and community and prison (2 RCTs).</p> <p>Diagnoses:</p> <ul style="list-style-type: none"> • a diagnosis of schizophrenia, bipolar disorder or depressive disorder; and • a current diagnosis of SUD or documented evidence of SM. <p>Some of the participants were homeless or had a history of unstable accommodation. Some were imprisoned at the time of the study.</p>	<p>Duration: less than 1 hour-3 years</p> <p>Types: Psychosocial interventions were offered either as one-off treatments or as an integrated or non-integrated programme to reduce substance use.</p> <p>Interventions included:</p> <ul style="list-style-type: none"> • MI (5 RCTs) • CBT (4 RCTs) • Combined MI and CBT (3 RCTs) • Skills training (2 RCTs) • Integrated models of care (4 RCTs) • Non-integrated models of care (4 RCTs)
Cleary et al. (2009)	<p>No of studies: 54</p> <p>Design: RCTs and non-randomised studies</p> <p>Duration: –</p> <p>Location: most of the studies were conducted in the USA, others in Australia, Canada, and the UK.</p>	<p>N = 11,734</p> <p>Age: –</p> <p>Setting: mainly from in-patient and out-patient settings.</p> <p>Diagnoses:</p> <ul style="list-style-type: none"> • a severe mental illness (e.g., schizophrenia, schizoaffective disorder, bipolar disorder, or major depression) and • SM. 	<p>Duration: –</p> <p>Types: Psychosocial interventions were defined as those that were non-pharmaceutical. For the review they were categorised as follows:</p> <ul style="list-style-type: none"> • MI • CBT • Combined MI and CBT • Group approaches • Integrated ACT • Intensive case management • Residential programmes • Contingency management • Treatments in forensic settings (i.e., interventions for inmates, ex-inmates or those diverted from jail or court settings, for example, intensive case management or diversion of people with a dual diagnosis to treatment programmes)

APPENDIX C (continued)

Reference	Studies included in reviews	Participants	Interventions
Drake et al. (2008)	<p>No of studies: 45</p> <p>Design: 22 RCTs and 23 quasi-experimental studies</p> <p>Duration: --</p> <p>Location: most of the studies were from the USA, others from Australia, Canada, England, and Honduras.</p>	<p>N = --</p> <p>Age: --</p> <p>Setting: in-patient and out-patient</p> <p>Diagnoses:</p> <ul style="list-style-type: none"> a severe mental illness (schizophrenia, schizoaffective disorder, bipolar disorder, or severe depression), and SUD (excluding nicotine). <p>Some of the participants were homeless. Some were imprisoned or recently released inmates.</p>	<p>Duration: --</p> <p>Types: Nearly all studies were based on the inclusion of a psychosocial intervention for SUD in standard mental health programmes. For the review interventions were categorised as follows:</p> <ul style="list-style-type: none"> Individual counselling Group counselling Family interventions Case management Residential treatment (i.e., a package of interventions offered within a full-time, monitored residential programme) Intensive out-patient rehabilitation (i.e., comprehensive programmes that provide services for several hours on several days per week) Contingency management Legal interventions (i.e., mandated treatment or monitoring such as jail diversion programmes and jail release programmes).
Hunt et al. (2013)	<p>No of studies: 32</p> <p>Design: RCTs</p> <p>Duration: 3 months-3 years</p> <p>Location: USA (19 RCTs), Australia (6 RCTs), UK (3 RCTs), Denmark (1 RCT), Germany (1 RCT), Ireland (1 RCT), and Switzerland (1 RCT).</p>	<p>N = 3,165</p> <p>Age: 18-65</p> <p>Setting: hospital (3 RCTs), community (19 RCTs), community (out-patients) and hospital (8 RCTs), and community and prison (2 RCTs).</p> <p>Diagnoses:</p> <ul style="list-style-type: none"> a severe mental illness (e.g., schizophrenia, bipolar disorder, or psychosis), and a current diagnosis of SUD or documented evidence of SM. <p>Some of the participants had a history of unstable accommodation or were homeless. Some were imprisoned at the time of the study.</p>	<p>Duration: less than 1 hour-3 years</p> <p>Types: Psychosocial interventions were offered either as one-off treatments or as an integrated or non-integrated programme to reduce substance use.</p> <p>Interventions included:</p> <ul style="list-style-type: none"> MI (8 RCTs) CBT (2 RCTs) Combined MI and CBT (7 RCTs) Contingency management (2 RCTs) Skills training (2 RCTs) Integrated models of care (4 RCTs) Non-integrated models of care (4 RCTs)

APPENDIX C (continued)

Reference	Studies included in reviews	Participants	Interventions
Jeffrey et al. (2000)	<p>No of studies: 6 Design: RCTs Duration: 8 months-3 years Location: USA</p>	<p>N = 659 Age: – Setting: people from the general community were referred by their clinicians and randomly assigned to treatment. Diagnoses:</p> <ul style="list-style-type: none"> • a severe mental illness (e.g., schizophrenia or bipolar disorder), and • a current diagnosis of SUD (DSM-III-R) or documented evidence of substance use/abuse. <p>Participants in one trial were homeless.</p>	<p>Duration: participants were provided with the interventions from the time of their enrolment in the study until its end. Types: SM treatment programmes within standard psychiatric care (i.e., the normal level of psychiatric care in the area where the trial was conducted). Interventions included:</p> <ul style="list-style-type: none"> • Group work-based intervention • Integrated programme (ACT model) • Intensive case management • Residential integrated programme • Non-residential integrated programme

Note. RCT = randomised controlled trial; SUD = substance use disorder; SM = substance misuse; CBT = cognitive behavioural therapy; MI = motivational interviewing; ACT = assertive community treatment.

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