Defining dual diagnosis of mental illness and substance misuse: some methodological issues

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TODD J., GREEN G., HARRISON M., IKUESAN B. A., SELF C., BALDACCHINO A. & SHERWOOD S. (2004) *Journal of Psychiatric and Mental Health Nursing* **11,** 48–54
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This paper discusses methodological issues arising in the initial stages of a larger epidemiological case–control study. Practitioners from both Generic Mental Health and Substance Misuse Services ($n = 170$) were asked to identify which of their clients, from a time-limited caseload ($n = 2341$), had comorbid mental health and substance misuse problems. Although practitioners were provided with a definition of 'singly diagnosed' and 'dually diagnosed', it became apparent that these definitions were applied pragmatically, depending on the nature of the client's primary problem and the agency they were presenting to. Issues raised include the time period in which a client was considered to have a concurrent mental health problem and substance misuse, how a 'mental health problem' was defined and whether a personality disorder should be categorized as a 'mental health problem'. There was also some disagreement about whether clients who were being treated primarily by Substance Misuse Services, but were also taking prescribed antidepressants, implicitly had a 'mental health problem'. We raise these methodological issues, as they have implications for determining the prevalence of 'dual diagnosis' and the subsequent provision of services.

Keywords: definition, dual diagnosis, mental health, methodology, prevalence, substance misuse

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Introduction

The terms 'dual diagnosis' and 'comorbidity' are used commonly and interchangeably to describe the coexistence of one or more mental disorders in individuals who also satisfy diagnostic criteria for a substance use disorder, or vice versa (Wittchen *et al.* 1996). In practice, the term is specifically restricted to include severe mental illness (SMI) – psychosis, schizophrenia, bipolar affective illness and substance misuse disorder. This is not a new client group but a recently recognized one that has come to prominence in the last 20 years with the closure of large psychiatric institutions and the increasing prevalence of drug misuse in the community. Comorbidity studies are often conducted in three types of setting (Rassool 2002, p. 38):

1 high risk populations, which include clinical populations of substance misusers and/or those with SMI and socially excluded groups such as those who are homeless;
2 general practice, where records provide data on presenting symptomatology, diagnostic impressions and prescribing patterns of psychotropic medication; and
3 general populations, where large-scale surveys examine the distribution of comorbid disorders in the entire population and the detection of such individuals that have not presented to treatment services.

Despite certain methodological difficulties, there is now strong research evidence that the rate of substance misuse is substantially higher among those with a mental illness, compared with the general population. However, although the increase in the number of individuals with a dual diagnosis has attracted considerable interest in recent years, the impact of clinical and practical issues for practitioners both in the mental health and addiction field has not yet been fully recognized (Rassool 2002).

Background

Major community-based studies include the Epidemiologic Catchment Area (ECA) study (Regier *et al*. 1990) which surveyed over 19 000 individuals, across the United States and found a lifetime prevalence rate for substance misuse disorder of 16.7% (13.5% alcohol, 6.1% drug) for the general population. Rates for those with schizophrenia, affective disorders and anxiety disorders were 47%, 32% and 23.7% respectively. For those with any drug (excluding alcohol) disorder, more than half (53%) had one other mental disorder, most commonly anxiety and affective disorders. These rates are significantly higher than the base rates found in the general population. The National Comorbidity Survey (NCS) (Kessler *et al*. 1994) sampled over 8000 individuals and found even higher rates of comorbidity than the ECA. The National Longitudinal Alcohol Epidemiological Survey (NLAES) (Grant 1995) found a high level of association between alcohol and drug use disorders.

The National Psychiatric Morbidity surveys of Great Britain (Meltzer *et al*. 1995) found a clear relationship between dependence on nicotine, alcohol and drugs and other psychiatric morbidity. Most UK prevalence studies have been limited to inner city London or very select SMI populations. In London, Menezes *et al*. (1996) found a 1-year prevalence rate among those with psychotic illness for any substance misuse problem was 36.3% (31.6% alcohol, 15.8% drug). Cantwell *et al*. (1999) found a 37% 12-month prevalence of drug use or drug or alcohol misuse in a sample with first episode psychosis in Nottingham.

The National Treatment Outcome Research Study (NTORS), a prospective, multisite treatment outcome study of drug users in the UK, examined substance use, health and social problems of 1075 service users at intake to 54 agencies. Psychological problems were common with 10% receiving inpatient hospital psychiatric treatment and 14% receiving community psychiatric treatment (for a problem other than drug dependence) in the 2 years before intake (Gossop *et al*. 1998). In the UK, the Office of Population Censuses and Surveys Household Survey estimated the prevalence of alcohol and drug dependence among the general population to be 5% and 2% respectively (Farrell *et al*. 1998). Virgo *et al*. (2001) sampled clients from Adult Mental Health ($n = 708$) and Addiction Services ($n = 313$). They report comorbid SMI and substance abuse or dependence in 12% of addictions, 12% of all adult mental health patients, and 20% of adult mental health patients with SMI in Eastern Dorset.

A number of issues have a bearing on prevalence estimates and the location from which clients are sampled is of particular interest when many studies are restricted to specific clinical groups, such as those with schizophrenia (e.g. Buckley 1998) or inpatients (Dixon *et al*. 1998). Prevalence estimates also rely on the ability of practitioners to identify and classify clients with comorbid problems (and make accurate records), and on how they define 'dual diagnosis'. Another problem with defining, as well as treating this client group, is that historically, Substance Misuse and Mental Health Services have evolved separately with few services explicitly treating clients with both substance misuse and mental health problems. Different language and models underpin services; drug and alcohol services themselves having undergone separate evolutions. Potential problems are further compounded by different sources of funding and different underlying philosophies of care (Lehman & Dixon 1995).

Clearly, it is hard to assess the exact levels of substance misuse in both the general population and those with mental health problems, and there can be significant obstacles in detection because of the lack of a substance-specific assessment in mental health settings. The Department of Health has recently published a *Dual Diagnosis Good Practice Guide* (DoH 2002) aimed at those who commission and provide mental health and substance misuse services. This document states that the delivery of high quality, patient-focused and integrated care for those with a dual diagnosis should be delivered using mainstream mental health services (DoH 2002). It is therefore important that there is a clear understanding of what constitutes a client who is dually diagnosed.

However, despite recognizing that there is a fundamental problem in the lack of a clear operational definition of 'dual diagnosis', these guidelines fail to clarify the situation, asking health care providers to develop their own focused definitions of dual diagnosis, reflecting the target group for whom their service is intended.

A further contentious issue is whether or not to include personality disorder (PD) as a mental health problem. The *Good Practice Guidelines* state that 'it is not acceptable for services to automatically exclude people with personality disorder. . . . for the purposes of the model, personality disorder is seen as a separate dimension – which can coexist with a mental health problem or a substance misuse problem, or both' (DoH 2002, p. 7, section 1.2.3).

Our study suggests that, for health care practitioners, making a dual diagnosis is a grey area with much room for discussion. This paper, which is based on keyworkers' assessment of their clients, deals with some of the methodological issues which emerge when keyworkers make an assessment of clients as singly or dually diagnosed. We raise issues which all service providers will have to address and resolve when they generate their own 'local' definitions of dual diagnosis and calculate prevalence figures on which to base service provision to this client group.

Methods

We report methodological issues arising from the early stages of a larger case–control epidemiological study comparing clients with comorbid mental health and substance misuse problems with singly diagnosed control groups (data is being prepared for publication).

The study was carried out in a NHS Trust serving a community in the east of England. Ethical approval was obtained. The keyworkers constituted the sampling frame for the study reported here. They encompassed the range and diversity of health-care professionals who work across the eastern sector of this Trust. The majority comprised social workers, community psychiatric nurses (CPNs), occupational therapists, psychiatrists, art therapists, mental health nurses, clinical psychologists, and community drug and alcohol workers.

The sample of keyworkers was obtained by generating a list of all adult clients of a Mental Health Trust who were receiving interventions under a Care Programme Approach in November 2000. The Trust provides generic mental health services (Community Mental Health Teams, day services and day hospitals, inpatient units, psychotherapy services and a Criminal Justice Mental Health Team), and also a specialist drug and alcohol service for clients who may or may not have mental health problems. Clients who did not have a named keyworker were excluded. This resulted in 2341 clients on caseload with keyworkers ($n = 170$) whose average client caseload was 12 (range 1–53).

Table 1
Study definition of 'mental health problem'

A client with 'mental health problems' is defined by this research project as being:
- an individual who meets criteria 1 (although they may not have a named diagnosis)
- and who also fulfils at least one of the other factors listed below

1. are diagnosed as suffering from some sort of mental illness (or a severe affective disorder, but including dementia)
2. suffer substantial disability as a result of their illness, such as an inability to care for themselves independently or sustain relationships or work
3. (a) are currently displaying florid symptoms or
   (b) are suffering from a chronic, enduring condition
4. have suffered recurring crises leading to frequent admissions/interventions
5. occasion significant risk to their own safety or that of others

Keyworkers from Generic Mental Health Services were contacted via a confidential letter, which enclosed a list of their clients on caseload in November 2000. Keyworkers from Drug and Alcohol Services had the same letter but their list included their clients who were on caseload in both the years 2000 and 1999.

Keyworkers were asked to assess whether each of their listed clients was singly diagnosed or had comorbid mental health and substance misuse problems (at a specified point in time). We had previously undertaken a reliability study examining the accuracy of keyworker assessments of comorbidity. The level of agreement between keyworker and 'expert opinion', based on examination of the client's notes, was 0.86 (Kappa 0.7), supporting the use of this methodology in the main study.

In order to standardize the definition of 'mental health problem' used in this study, an operational definition (Table 1) was drawn up based on the *Building Bridges* document (DoH 1995, p. 10). An operational definition of 'substance misuse problem' (Table 2) was based on DSM-IV (APA 1994). Broad definitions reflected the range and diversity of mental health and substance misuse problems seen within this Trust. Clarification regarding the inclusion of PD as a 'mental health problem' was sought by a minority of keyworkers. The decision was made to include PD as a 'mental health problem' in order to provide a widely representative sample, on the basis that previous research, for example, the ECA Study (Regier *et al.* 1990) had found significant prevalence of PD in a similar population to ours.

Table 2
Study definition of 'substance misuse disorder'

A client with 'a substance misuse disorder' is defined by this research project as having:

EITHER

A combination of three or more of the following

1. A tolerance of the substance
2. Symptoms of withdrawal
3. Increasing amounts or greater frequency of use
4. Unsuccessful efforts to control use
5. Drug-seeking behaviour (e.g. travelling long distances or visiting multiple doctors to obtain drugs)
6. Curtailing of social and/or occupational activities due to substance use
7. Continued use despite knowledge of physical or psychological problems caused

AND/OR

Substance use that results in a combination of one or more of the following

1. Failure to fulfil role obligations
2. Use of drugs in dangerous situations (e.g. whilst driving or operating machinery)
3. Recurrent legal/forensic problems
4. Continued use despite persistent social and interpersonal problems caused by substance use

Depending on their diagnosis and the agency from which they were sampled, clients were classified into one of the following four study groups:

- Drug and Alcohol Services. Clients who had concurrent substance misuse and mental health problem(s);
- Drug and Alcohol Services. Clients who had a single diagnosis of substance misuse only;
- Generic Mental Health Services. Clients (including inpatients) who had a concurrent mental health and substance misuse problem;
- Generic Mental Health Services. Clients (including inpatients) who had a diagnosed mental health problem only. In total, 131 keyworkers (77% response rate) provided data on 1314 clients.

Non-response was mainly because of keyworkers having left the Trust; being on long-term study or sick leave; being unable to recall clients; or failing to respond to the initial letter or follow up contact. The prevalence of comorbid substance misuse and mental health problems, according to keyworkers in the Drug and Alcohol Service was 29%. Prevalence of comorbid mental health problems and substance misuse was 18% in the Generic Mental Health Services. Overall prevalence of comorbidity in the combined sample was 20%.

Discussion of methodological issues raised during this stage of research

Examination of clients' records at a later stage of this research highlighted a number of inconsistencies in the ways in which keyworkers from different disciplines had initially defined 'dual diagnosis' and forms the basis for this report, supported by brief case studies drawn from clients' records.

Inconsistent diagnoses appear to rest on three issues (discussed separately).

1. The definition of a 'mental health problem' and 'substance misuse' as used by the practitioner and/or researcher, together with the time-line in which a client was deemed to have 'active' comorbidity.
2. If being on prescribed antidepressants implicitly denotes 'having a mental health problem'.
3. If a client with a PD should be classified as having a 'mental health problem'.

Definition and time-line of comorbidity

The first issue to be addressed is the time-line of the diagnosis in which substance misuse and mental health problems are 'actively comorbid'. Comorbidity can occur where a substance misuse disorder is chronologically primary and dominant, underlined by at least one psychiatric disorder. Comorbidity can also be in the form of at least one psychiatric disorder underlined by a substance misuse disorder. Individuals with a dual diagnosis are a heterogeneous group with various pathways in the development of this diagnosis (Franey & Quirk 1996). They present many challenges for clinicians, especially where both disorders have independent courses.

The brief case history below illustrates this issue.

Client abc0384

This young adult female was described by her community mental health team (CMHT)-based keyworker as dually diagnosed. There was long-standing input from CMHT for anxiety and panic attacks, together with a past history of amphetamine misuse, but no 'active' drug use documented in the 3 years prior to the research cut-off point. Prior to discharge, she had been a regular client of the drug team, receiving support to enable her to maintain a drug-free status.

The keyworker had originally defined this individual as dually diagnosed. However, the research team decided that this case was more consistent with a single diagnosis (mental health problem only) in view of the lack of any active drug misuse over the preceding 3 years.

Asking keyworkers for a diagnosis at a specific point in time seemed straightforward. However, subsequent exam-

ination of client files in later stages of the study suggested that clients were sometimes 'categorized' by their keyworker according to a more global and holistic knowledge of the client's history rather than whether they had had a mental health and/or substance misuse problem at a specific point in time.

Taking a lifetime overview of a client's comorbidity may provide artificially inflated prevalence figures. However, taking a time-limited or 'service year' overview of comorbidity (as this study did) may produce artificially low prevalence figures. This dilemma has implications when conclusions are being drawn about the prevalence of dual diagnosis in a specific population, especially if the dual diagnosis time-frame is not explicitly stated. This observation could help to explain disparities in prevalence figures across studies.

Use of prescribed antidepressants

The second issue to be addressed is with respect to the use of antidepressants and the implicit assumption that these drugs are used to treat a mental health problem – particularly in clients with a primary substance misuse problem. Practitioners with clients who have a primary mental health diagnosis are well versed in working with individuals on prescribed psychotropic medication. If such a client was also misusing drugs and/or alcohol, we noted that this would generally be regarded as a clear indication of a dual diagnosis.

Many clients of Drug and Alcohol Services are on commonly prescribed antidepressants, often via their general practitioner (GP), and this type of 'mental health problem' could be regarded as an almost inevitable effect of the client's current life circumstances – the depressive illness, in part, because of a chaotic and disruptive lifestyle which evolves out of regular substance misuse. However, a client with a primary substance misuse problem who was on GP prescribed antidepressants would not always be described as 'dually diagnosed' by a drug or alcohol worker. It is also unclear whether mental health practitioners working with clients who primarily have more serious and enduring mental health issues, would regard a client of Drug and Alcohol Services, being treated by a GP with antidepressants, as having a 'mental health problem'.

Interestingly, the NLAES (Grant 1995) published odds ratios showing a significant association between drug use and depression (7.2, current; 5.2, lifetime) and alcohol abuse and depression (3.7, current; 3.6, lifetime).

The following case histories illustrate these two points.

Client abc0164

An older male client of the substance misuse team was described as dually diagnosed by the keyworker. He had a prior note on file of having undergone a CMHT assessment for depression but did not attend any follow-up for treatment. He was on GP prescribed antidepressants and had an active history of misusing alcohol.

Client abc0166

This male client was described by his substance misuse keyworker as having a single diagnosis of 'drug misuse'. However, the file documented a previous history of depression and current use of prescribed antidepressants. In the service year, a GP had requested 'psychiatric input due to a long history of difficulties with social adjustment'. There was no recent evidence of CMHT engagement, although that is not to say that treatment wasn't sought outside the Trust.

In these cases, the research team decided that the first example was consistent with a dual diagnosis, as described by the keyworker. However, the second example, although defined as single diagnosis by the keyworker, was considered more consistent with a dual diagnosis of mental health problems and comorbid substance misuse in view of the previous and substantial history of depression and treatment with antidepressants during the research time-line.

Personality disorder

The third issue to be addressed is whether or not to include PD as a 'mental health problem'. Substance misuse and PD commonly co-occur, regardless of which disorder is viewed as primary, and the two disorders are considered to maintain each other (Trull *et al.* 2000). Epidemiological studies (e.g. ECA; Regier *et al.* 1990) have consistently found a high prevalence of comorbidity for PDs and substance use disorders.

The estimation of prevalence rates of PD vary from 44% among those misusing alcohol to 79% among opiate users, and many of these individuals may have more than one type of PD (Rasool 2002, p. 53). Often the most complex and challenging clients are those with a substance misuse disorder, an Axis 1 disorder and an associated PD. These are also the people most likely to be excluded from services.

Diagnostic uncertainty is a confounding factor in PD with 'contamination' between diagnostic categories. Borderline PD includes substance misuse as a criterion, and a significant number of those misusing substances have 'bor-

derline' features such as impulsivity and self-harm as part of their range of maladaptive coping behaviours (Rasool 2002, p. 135).

Dual Diagnosis Guidelines (DoH 2002) regards PD as a separate entity, which can coexist with a mental health or substance misuse problem, or both. Personality disorder was included in this study as indicative of a mental health problem but it was clear that not all practitioners agreed. Those who took part were drawn from a number of disciplines and their views about whether PD constituted a mental health problem appeared to differ according to their theoretical and clinical background.

The following brief case history is used to illustrate this issue.

Client abc0718

This male client in his late 30s was described as dually diagnosed by a keyworker from the substance misuse team. The file documented a diagnosis of 'abnormal personality complicated by a long history of alcohol use' but also stated that there was . . . 'no evidence of serious mental illness'.

Examination of this client's file found two assessments, undertaken by different practitioners working within the same service. One diagnosed a PD but a subsequent assessment, by a different practitioner, stated that . . . 'there was no evidence of serious mental illness'. In accordance with the keyworker's original assertion and the researcher definition of 'mental health problem', this case remained in the dual diagnosis group.

Conclusions

The issue of 'diagnosis' is important but as well as a diagnostic entity, it may be useful to regard 'dual diagnosis' as a generic index of complexity (Rasool 2002, p. 134). The term 'dual diagnosis' is more than just a label and the importance of this label is that it can and does determine service provision.

Depending on the assessing clinicians' training and theoretical standpoint (which may vary between Substance Misuse and Mental Health Teams), clients may attract a diagnostic label, which could subsequently cause them to fall outside the remit of either service – with its attendant consequences. Whilst more UK research is needed into the pattern and prevalence of comorbidity, there are still widely acknowledged methodological difficulties in assessing the prevalence of dual diagnosis, with marked variations between studies in reported prevalence rates (Franey & Quirk 1996).

Many clients of the Drug and Alcohol Services use antidepressants occasionally but service providers may not see this as indicative of mental health problems. Likewise, many clients with mental health problems may occasionally misuse drugs but this use may not always be problematic. Furthermore, diagnosis may change over time, in that the drug user may develop serious mental health problems or the mental health client may develop a serious substance misuse problem and this change can occur even between two data collection points within the same service year. The operational use of concepts of substance use and misuse rely heavily on particular cultures, ideology, aetiology and clinical practice. Whether or not studies should include PD as a 'mental health problem' looks set to be an ongoing issue, as does the issue of whether to take a lifetime overview, as opposed to a time-limited view of comorbidity.

This preliminary work suggests that making a dual diagnosis is a grey area with much room for discussion. Whilst this study has not attempted to provide the definitive definition of what constitutes a dual diagnosis, the problems and inconsistencies encountered may be comparable to those seen among other Mental Health and Community Drug and Alcohol Teams who provide a service for clients with a dual diagnosis. Each team will develop their own definition of dual diagnosis, as recommended in the *Government Guide to Dual Diagnosis* (DoH 2002), but this in itself may cause dilemmas if practitioners or clients move between different services.

This study has contributed to the ongoing debate of key issues which need to be considered when 'labelling' clients – either for the purposes of research or for ongoing service provision.

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ORIGINAL PAPER

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Social exclusion in clients with comorbid mental health and substance misuse problems

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Abstract *Background* The concept of comorbid mental health problems and substance misuse has gained prominence in the last two decades, due in part to the closure of large psychiatric hospitals and to the increasing prevalence of drug use in the community. This client group has a dual requirement for both medical and social care needs and is at risk for social exclusion. *Methods* A retrospective matched case-control study to examine aspects of social exclusion between service users who have comorbid diagnoses and those with a single diagnosis. Samples were drawn from the service users of a mental health Trust in the South-East of England, from both Adult Mental Health (n = 400) and Drug and Alcohol services (n = 190). Data were collected from Care Programme Approach assessment forms and medical records. McNemar's χ^2 and odds ratios via a conditional logit regression model are used to test for differences in the social exclusion indicators. *Results* There were significant differences in social exclusion between the comorbid and singly diagnosed clients of the Adult Mental Health service, but differences were less pronounced between the comorbid and singly diagnosed clients of the specialist Drug and Alcohol service. *Conclusions* Recent Government policy advocates treating comorbid clients within mainstream mental health services. Health care workers need to recognise the likelihood of high levels of social exclusion among clients with comorbid problems.

Key words comorbidity – community treatment settings – mental health – social exclusion – substance misuse

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Introduction

Dual diagnosis of mental illness and substance misuse has long been recognised, but the real dimensions of both the prevalence and the wider problems associated with this client group have only been acknowledged fairly recently. Usually the term 'dual diagnosis' refers to individuals with a diagnosis of severe mental illness, combined with alcohol and/or drug misuse, but 'comorbidity' (often used interchangeably with 'dual diagnosis' in the literature) more realistically reflects the variety and severity of conditions which in combination with substance misuse can have wide-ranging clinical, social and legal implications. The literature has grown out of contributions from the fields of mental health and substance misuse treatment, which traditionally have different philosophies about the responsibility of the client/patient for their condition. The general trend signals an increasing comorbidity of substance use disorder and mental illness which impacts upon the range of professionals working in mental health and substance misuse in a variety of agencies in the statutory and non-statutory sectors. This client group have problems relating to initial diagnosis, focus of intervention and general management issues, risks of violence and self-harm, risks of homelessness, and possibly poorer prognosis (Johnson 1997).

The prevalence of drug and alcohol use among those with severe mental health problems has been well documented by population studies in the US, e. g. the Epidemiological Catchment Area (ECA) adult population study (Regier et al. 1990) and the National Comorbidity

Survey (NCS) (Kendler et al. 1997). In the UK, major studies include the Office for Population Census and Survey (OPCS) national psychiatric comorbidity study (Farrell et al. 1998) which carried out three surveys sampling from private households, institutional settings and homeless populations. The National Treatment Outcome Research Study (NTORS) sampled in-patient drug and rehabilitation units (Marsden et al. 2000). In the UK, similar surveys, generally with inner-city populations, have examined comorbidity in community-based mental health and substance misuse services (e. g. Graham et al. 2001; Menezes et al. 1996). Keyworkers were used to identify comorbidity in a sample drawn from community mental health and substance misuse settings. Over half (64 %) screened positive for comorbidity, indicating that both substance misuse and mental health services are managing and treating clients with complex needs (Manning et al. 2002).

UK studies that sample community treatment settings tend to focus on those with a diagnosis of severe mental illness combined with alcohol and/or drug misuse, but these individuals may be quite different to those with primary substance misuse who do not have severe mental health problems. Researchers are beginning to recognise the often complex clinical and social needs of comorbid clients and taking a more social perspective. In the UK, patients with schizophrenia and comorbid substance misuse were younger, more likely to be male and had shorter duration of illness. They had more police contact and increased self-reported needs, but otherwise showed few differences when compared to their singly diagnosed counterparts (Cantwell 2003). Patients with functional psychosis and comorbid substance misuse had a greater number of unmet areas of need than those with psychosis only, which included accommodation, daytime activity and social life (Wright et al. 2000). Comorbid clients had more extensive and severe problems than those with a single diagnosis, posing more risks to themselves and others, and making more demands on services (in terms of crisis interventions) (Virgo et al. 2001). Individuals with comorbid psychotic illness and a substance use disorder were significantly more likely than those with psychosis only to report any history of committing an offence or recent hostile behaviour leading to the conclusion that comorbidity may be an important factor in aggression and offending behaviour in those with comorbid conditions in inner-city areas (Scott et al. 1998).

Relatively little empirical work has examined environmental factors that may influence the demographic, clinical and other characteristics of comorbidity. However, as the literature has evolved, there is now an acknowledgement that psychosocial issues are critical in attempts to understand and address this problem (e. g. Drake et al. 2002). Employment, often considered to be the cornerstone of social inclusion, is one of a number of social exclusion factors studied in relation to comorbidity. Strong links between substance misuse and unemployment have been recognised (Home Office 1998) and US studies have shown that substance misuse and mental illness are linked to unemployment (Swartz et al. 2000). Work suggests that substance misuse may also be important in assessing risk of violence among those with severe mental illness and US research has found higher rates of hostile behaviour (Bartels et al. 1991) and legal problems (Lehman et al. 1993) in this group than among those with psychosis alone. Comorbidity and homelessness have been linked (e. g. Bebout et al. 1997; Brunette et al. 1998; Drake et al. 1991). In the US, patients with comorbid mental illness and substance misuse who were living in urban areas compared to those living in rural areas had more involvement in the criminal justice system, more homelessness, lower rates of marriage, educational attainment and work (Mueser et al. 2001). However, it has been found that effective treatment of substance misuse among those with mental illness appears to reduce arrests and incarcerations, but not the frequency of non-arrest encounters. Stable housing may also reduce the likelihood and number of arrests (Clark et al. 1999). However, much of the literature continues to focus on the complicating impact of substance misuse on those who have a severe mental health problem, rather than those with primary substance misuse and comorbid mental health problems.

The extent and severity of co-existing mental illness and substance misuse have been acknowledged in the National Service Framework for Mental Health (DoH 1999) and a more recent document, 'Dual Diagnosis Good Practice Guidelines' (DoH 2002), advocates delivering integrated care using mainstream mental health services for this client group. It is, therefore, important that generic mental health teams have the requisite expertise to recognise the range of clinical and social vulnerabilities exhibited by this client group. Using a retrospective case-control study, we report social exclusion data for clients of community mental health and substance misuse services, comparing those with and without comorbidity. We discuss the implications for treating this client group within mainstream mental health services.

Subjects and methods

The study was carried out between November 2001 and December 2002 across adult community-based services provided by a NHS Trust in the South-East of England. The geographical area, in terms of social composition, is quite diverse, encompassing a mix of relatively affluent mainly rural areas and mixed urban areas, some of which have high levels of social deprivation.

We sampled from two distinct populations: (1) clients with and without comorbid substance misuse drawn from an Adult Mental Health service (drawn from Community Mental Health teams, day services and day hospitals, in-patient units plus small samples from Psychotherapy services and the Criminal Justice Mental Health Team), and (2) clients with and without comorbid mental health problems drawn from a specialist Drug and Alcohol service.

The study was undertaken in two phases. The first phase was to identify comorbid and singly diagnosed clients from a time-limited caseload and calculate point-prevalence figures by agency. This was undertaken by generating a list of all clients who were receiving in-

terventions under a Care Programme Approach in November 2000. Clients younger than 18 or older than 65 were excluded, as were those who did not have a named care co-ordinator or keyworker (hereafter referred to as 'keyworker').

Keyworkers from adult mental health services were contacted via a confidential letter, which enclosed a list of clients on caseload in November 2000. Keyworkers from drug and alcohol services had the same letter, but their list included clients on caseload in both November 1999 and 2000 in order to generate a reasonable sample. Keyworkers were asked to assess whether each client was singly diagnosed or had comorbid mental health and substance misuse problems at a specified point in time. We had previously undertaken a reliability study examining the accuracy of keyworker assessments of comorbidity and found that the level of agreement between keyworker and expert opinion based on examination of the client's notes was 0.86 (Kappa 0.7), supporting the use of this methodology in the main study (Todd et al. 2004).

In phase one, 131 from a possible 170 keyworkers provided data on 1506 clients. Lost cases were primarily due to keyworkers having left the Trust, being on long-term study or sick leave, being unable to recall clients, or failing to respond to the initial letter or follow-up contacts. In order to standardise the definition of 'mental health problem' used in this study, an operational definition (Box 1) was drawn up, based on the *Building Bridges* document (DoH 1995). An operational definition of 'substance misuse problem' (Box 2) was based on DSM-IV (APA 1994). Broad definitions reflected the range and diversity of mental health and substance misuse problems seen within the Trust. Personality disorder was included as a 'mental health problem' in order to provide a widely representative sample on the basis that previous research (Regier et al. 1990) had found a significant prevalence of personality disorder in a similar population to the one we were sampling.

Box 1 Study definition of 'mental health problem'

Clients with 'mental health problems' are defined by this research project as being:

- individuals who meet criteria 1 (although they may not have a named diagnosis)
- and who also fulfil at least one of the other factors listed below:

1. are diagnosed as suffering from some sort of mental illness (or a severe affective disorder, but including dementia)
2. suffer substantial disability as a result of their illness, such as an inability to care for themselves independently or sustain relationships or work
3. (a) are currently displaying florid symptoms or
   (b) are suffering from a chronic, enduring condition
4. have suffered recurring crises leading to frequent admissions/interventions
5. occasion significant risk to their own safety or that of others

Box 2 Study definition of 'substance misuse disorder'

EITHER:
A combination of **three or more** of the following:

1. a tolerance of the substance
2. symptoms of withdrawal
3. increasing amounts or greater frequency of use
4. unsuccessful efforts to control use
5. drug-seeking behaviour (e. g. travelling long distances or visiting multiple doctors to obtain drugs)
6. curtailing of social and/or occupational activities due to substance use
7. continued use despite knowledge of physical or psychological problems caused

AND/OR:
Substance use that results in a combination of **one or more** of the following:

1. failure to fulfil role obligations
2. use of drugs in dangerous situations (e. g. whilst driving or operating machinery)
3. recurrent legal/forensic problems
4. continued use despite persistent social and interpersonal problems caused by substance use

The phase one sample, used to calculate prevalence figures, comprised clients of drug and alcohol services (n = 331) together with data from clients of adult mental health services (n = 1175). The prevalence of comorbid mental health problems in the drug and alcohol clients was 29 %. The prevalence of comorbid substance misuse in the adult mental health service clients was 18 %.

Clients were further classified into one of the following four study groups, depending on diagnosis and agency from which they were sampled:

- Drug and Alcohol Services: clients who had concurrent substance misuse and mental health problem(s). (DAS study group)
- Drug and Alcohol Services: clients who had a single diagnosis of substance misuse only (DAS control group)
- Adult Mental Health Services: clients (including in-patients) who had a concurrent mental health and substance misuse problem (AMH study group)
- Adult Mental Health Services: clients (including in-patients) who had a diagnosed mental health problem only (AMH control group).

For the second phase of the study, we drew a sample from these 1506 clients. Comorbid (cases) and singly diagnosed (controls) were matched on gender and age (± 10 years for DAS clients and ± 6 years for AMH clients). DAS clients were also matched on whether they were drug, alcohol or polysubstance users. Data were then collected from case notes, Care Programme Approach Assessment forms and computer records. The final sample for each group was: DAS study group n = 89; DAS control group n = 101; AMH study group n = 188; and AMH control group n = 212.

The case-control matching for analysis was done in two ways: (1) 1:1 matching, and (2) K:K matching. This resulted in DAS (n = 80) pairs matched 1:1. AMH (n = 188) pairs matched 1:1. K-to-K (K:K) matching involves any number of cases being matched with any number of controls. One-to-one (1:1) matching was required to calculate McNemar's χ^2 statistic. The advantage of K:K matching is that all cases and controls are used in the analyses and, therefore, all data are used to estimate the odds ratios via a conditional logit model.

Results

The socio-demographic characteristics, mental health problems and substance misuse of the study groups are shown in Table 1. As the matching was done within each agency, only comparisons between the comorbid and singly diagnosed within each agency are appropriate. The overall sample was predominantly male (almost 2:1) and almost exclusively white, with a mean age between 36 and 39.

Not surprisingly, alcohol and drug misuse were the dominant problems in the DAS groups and mood and/or anxiety problems were common in the AMH groups.

In Table 2, comparisons are made between the DAS comorbid (cases) and the singly diagnosed (controls). Percentages, McNemar's χ^2 from 1:1 matching, and odds ratios with 95 % CI from K:K matching are reported.

In this study, we operationalise 'social exclusion' using variables relating to employment, homelessness, education, isolation and contact with the criminal justice system. The comorbid group has higher levels of exclusion on all of the measures reported in Table 2. However, while many of the differences are quite marked only two

Table 1 Comparison of comorbid and singly diagnosed cases, by agency, on socio-demographics, problem(s) treated, substance(s) misused (1-year)

% (except age)	Drug and Alcohol Services		Adult Mental Health Services	
	Comorbid n = 89	Singly dx n = 101	Comorbid n = 188	Singly dx n = 212
Gender				
Male	61	63	66	62
Female	39	37	34	38
Mean age (sd)	37 (9.5)	36 (10.9)	37 (11.2)	39 (11.5)
Ethnicity				
White	100	98	99	98
Non-White	–	2	1	2
Problem[1,2] (1 year)				
Alcohol misuse	51	48	12	–
Drug misuse	35	47	2	–
Polysubstance misuse	15	5	2	–
Schizophrenia/psychotic	1	–	36	32
Mood/anxiety disorder	40	–	56	68
Personality disorder	18	–	23	11
Other disorders[3]	–	–	6	7
Substance(s)[1] (1-year)				
Alcohol	62	52	70	–
Heroin	30	48	3	–
Cocaine/crack cocaine	–	7	3	–
Amphetamines	6	3	10	–
Cannabis	10	4	33	–
Polysubstance use	8	1	4	–
Other substances[4]	10	5	8	–

[1] Categories of substance misuse and mental health problem were not mutually exclusive
[2] Not always formally assessed
[3] Somatoform; dissociative; sexual; gender; identity; impulse control; adjustment; eating
[4] Methadone (illicit); ecstasy, benzodiazepines, solvents and gases; DF118; hallucinogens/LSD/mushrooms

Table 2 Comparison of comorbid and singly diagnosed cases on social exclusion variables for Drug and Alcohol Services

	Comorbid	Singly dx	χ^2	OR	95% CI
No fixed address (1 year)	17%	13%	0.3	1.61	0.59–4.36
No fixed address (5 years)	29%	26%	0.0	0.99	0.43–2.30
Employed	16%	27%	1.9	0.57	0.26–1.23
Completed secondary education[a]	89%	99%	–	–	–
Living alone	39%	29%	0.1	1.46	0.75–2.86
Engaged with legal system (1 year)	28%	20%	4.5*	1.90	0.89–4.09
Arrested (5 years)	42%	27%	4.5*	1.74	0.92–3.31
Any offence (5 years)	48%	36%	2.5	1.57	0.86–2.88
In prison (5 years)	28%	21%	1.0	1.43	0.66–3.10

* $p < 0.05$; [a] Majority had completed secondary education

reach statistical significance and then only in the 1:1 matched analysis.

Table 3 shows the results for the comparisons between the AMH groups in a similar fashion to Table 2. These results stand in marked contrast to those shown in Table 2 in that there are significant differences on all except one of the social exclusion measures. The AMH comorbid group was significantly more likely to be socially excluded than the singly diagnosed control group.

Discussion

Using a case-control design, clients from adult mental health and substance misuse services, who had a range of comorbid mental health and substance misuse problems were compared with singly diagnosed control groups. We identified the extent to which indicators of social exclusion, using variables relating to employment, homelessness, education, isolation and contact with the criminal justice system, differed between the groups. The comorbid groups were more likely to be dis-

Table 3 Comparison of comorbid and singly diagnosed cases on social exclusion variables for Adult Mental Health Services

	Comorbid	Singly dx	χ^2	OR	95% CI
No fixed address (1 year)	15%	5%	9.5*	3.40	1.53–7.54
No fixed address (5 years)	28%	8%	20.5*	4.51	2.25–9.04
Employed	14%	34%	15.2*	0.36	0.21–0.59
Completed secondary education	89%	93%	0.9	0.60	0.27–1.28
Living alone	51%	37%	9.3*	1.85	1.20–2.83
Engaged with legal system (1 year)	15%	3%	15.1*	4.73	1.94–11.5
Arrested (5 years)	33%	7%	38.4*	9.41	4.04–21.9
Any offence (5 years)	35%	7%	41.3*	10.05	4.32–23.4
In prison (5 years)	13%	5%	7.0*	3.17	1.34–7.49

* $p < 0.05$

advantaged in terms of social exclusion than their singly diagnosed counterparts, but differences were far more pronounced and statistically significant in the AMH groups. We support previous UK studies using similar populations (Cantwell 2003; Wright et al. 2000; Virgo et al. 2001; Scott et al. 1998) and add to this literature through the inclusion of Drug and Alcohol service clients in our study.

Limitations of the study

The sample was only representative of adults (aged 18–65) who were in contact with mental health or substance misuse services at a specific point in time. We report aspects of social exclusion which focus on the history of contact with the criminal justice system, homelessness, living alone and employment data. This study could be broadened by taking a wider view of 'social exclusion' perhaps through the examination of social networks in this client group. Although we conducted the study using the best available information at the time, we do recognise the potential unreliability of data collected in routine practice, which in some cases was incomplete.

Other UK studies have used keyworkers to identity comorbidity (e. g. Manning et al. 2002), but probably the most important limitation of our study was that the presence of comorbidity was dependent on retrospective diagnosis, verification and determination of caseness via keyworker assessment. The majority of clients in the comorbid groups had undergone formal assessment of both their substance misuse and mental health problems; however, it is common for these agencies to define the dominance of a disorder in terms of the first treatment episode or the agency of first presentation and our client composition was influenced by the criteria the respective services were operating at the time. In addition to these limitations, a sizeable minority of clients had not had a formal assessment of their 'secondary problem' and it is important to be aware that mental health and substance misuse agencies may be referring to different individuals when they discuss 'comorbidity' (Todd et al. 2004).

Strengths of the study

A major strength is the inclusion of clients, from both agencies, with a broad and inclusive range of conditions, using a wide and inclusive range of substances – in other words, the typical clients of a UK mental health Trust.

In the UK literature, there are few empirical studies which systematically examine and compare the social characteristics of both singly diagnosed and comorbid individuals. We examine the data from clients of substance misuse services who have less severe mental health problems – those generally under-represented in the comorbidity literature.

Interpretation of findings

The main analysis suggests that those with comorbid mental health and substance misuse – significantly so within adult mental health services – are more likely to be socially excluded (defined by this study as being homeless, unemployed, having a lower educational level, and isolated, i. e. living alone). This could be due to a lack of stable housing, reflecting a chaotic lifestyle due to substance misuse in addition to mental health problems. Access to appropriate housing is a critical component of social care for this client group. Epidemiological studies have revealed that roughly 10–20% of homeless people suffer from severe mental illness and comorbid substance misuse and, as a group, are disproportionately at risk of housing instability and homelessness (Drake et al. 1991) which can exacerbate substance misuse and mental health problems creating a deleterious cycle of increased symptomatology, disability and exposure to harsh living environments.

The comorbid groups were more likely to have been in contact with the legal system than the control groups, but, again, differences were only significant for Adult Mental Health groups. Whilst treatment options in the UK are now increasingly linked to the criminal justice system (e. g. the compulsory treatment for drug problems via Drug Treatment and Testing Orders), this was not so at the time of this study. Clients with comorbid problems can face the additional burden of homeless-

ness or a transient lifestyle and the ensuing unstable environment can lead to contact with the criminal justice system, both as an offender and as a victim. In some towns and cities, there are laws that prohibit the homeless from begging, loitering or sleeping in parks or on the streets and, as a result, the homeless individual can face arrest or harassment for simply trying to survive on the streets.

Conclusions

This study suggests that substance misuse service users with and without comorbid mental health problems seem to be rather more similar to one another than mental health service users with and without substance misuse problems. We have found significant differences in a number of social exclusion measures between the comorbid and control group drawn from the Adult Mental Health service, which supports previous research and leads us to tentatively conclude that a comorbid diagnosis may be less of an added burden to a client with a primary substance misuse problem. It also suggests that the association between substance misuse and social exclusion is greater than that between mental health and social exclusion. The somewhat less marked differences in social exclusion between comorbid and control groups drawn from the Drug and Alcohol service are a new source of information. This knowledge may be useful to clinicians as the combination of substance misuse and mental health problems is a significant public health problem.

Government guidelines (DoH 2002) advocate treating clients with comorbid mental health and substance misuse within mainstream mental health services. It is, therefore, important that adult mental health teams have the requisite expertise to treat clients who misuse substances and, in the long term, for regulatory bodies to ensure that both mental health and substance misuse are core components in the education of tomorrow's generic mental health workers. This study suggests that healthcare workers need to recognise the likelihood of high levels of social exclusion among clients with comorbid problems. It is likely that problems related to social exclusion (e. g. a prison sentence) may have more impact upon the client than their mental health problem per se.

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DATA COLLECTION SHEET

SECTION 1
DEMOGRAPHIC INFORMATION

Study ID code ☐
abc prefix denotes year 2000 clients, xyz prefix denotes 1999 clients

Study Group
- ☐ Drug & Alcohol Service (DAS) comorbid
- ☐ Drug & Alcohol Service (DAS) singly diagnosed
- ☐ Adult Mental Health (AMH) comorbid
- ☐ Adult Mental Health (AMH) singly diagnosed

Service Year
- ☐ 1999
- ☐ 2000

Gender
- ☐ Male
- ☐ Female

Age (5Y bands)
- ☐ 18-22
- ☐ 23-27
- ☐ 28-32
- ☐ 33-37
- ☐ 38-42
- ☐ 43-47
- ☐ 48-52
- ☐ 53-57
- ☐ 58 and older

Referral source (for events in service year)
- ☐ GP
- ☐ Self-referral
- ☐ Drug and Alcohol Services
- ☐ Justice System (including probation or Criminal Justice Mental Health Team)
- ☐ Relative/friend
- ☐ Adult Mental Health
- ☐ Hospital (general or psychiatric)
- ☐ Social services

- ☐ Unknown
- ☐ Other (describe) _____

Ethnic Group

- ☐ White (European)
- ☐ White (non-European)
- ☐ Black British
- ☐ Afro Caribbean
- ☐ Black Caribbean
- ☐ Black Other
- ☐ Chinese
- ☐ Indian
- ☐ Pakistani
- ☐ Bangladeshi
- ☐ Other ethnic group
- ☐ Unknown

Number of addresses (service year)

- ☐ One
- ☐ Two
- ☐ Three or more

Homeless/risk of no fixed address (NFA) (service year)
Any temporary accommodation e.g. Bed & Breakfast, squat, hostel, night shelter or 'vulnerable address'

- ☐ Yes
- ☐ No
- ☐ Unknown

Vulnerably housed/homeless (last 5 years)
Any temporary accommodation e.g. Bed & Breakfast, squat, hostel, night shelter or 'vulnerable address'

- ☐ Yes
- ☐ No
- ☐ Unknown

Marital Status (service year)

- ☐ Single
- ☐ Married
- ☐ Separated

- ☐ Divorced
- ☐ Widowed
- ☐ Other (describe) _____
- ☐ Unknown

Housing (service year)

- ☐ Multiple occupancy
- ☐ Owner-occupier
- ☐ Supported housing
- ☐ Private rented
- ☐ Council/HA
- ☐ Prison
- ☐ In-patient
- ☐ Parent/relative/carer
- ☐ Temporary
- ☐ Caravan
- ☐ Bedsit/lodgings
- ☐ NFA
- ☐ Partner's house
- ☐ Job-related accommodation
- ☐ Unknown
- ☐ Other (describe) _____

Household

- ☐ Multiple occupancy
- ☐ Partner and child(ren)
- ☐ Partner
- ☐ Child(ren)
- ☐ Parent/relative/carer
- ☐ House share
- ☐ Prison
- ☐ In-patient
- ☐ Living alone
- ☐ NFA
- ☐ Other (describe) _____
- ☐ Unknown

Children

- ☐ No children
- ☐ One
- ☐ Two
- ☐ Three or more
- ☐ Unknown

Living arrangement for any children

- ☐ No children
- ☐ In care/adopted/fostered
- ☐ Grown up
- ☐ Co-resident
- ☐ With ex-partner
- ☐ Split residency
- ☐ Unknown
- ☐ Deceased
- ☐ Other (describe) _____

Qualifications (highest level)

- ☐ No qualifications
- ☐ Apprenticeship/trade
- ☐ Vocational (NVQ etc)
- ☐ CSE
- ☐ GCSE/O Levels
- ☐ A Levels (equivalent)
- ☐ Degree
- ☐ Unknown

Educational level

- ☐ Left education system early
- ☐ Completed formal education (age 15-16)
- ☐ Higher Education (age 16+)
- ☐ Unknown

Employment (service year)

- ☐ Full time employment
- ☐ Self employed
- ☐ Temporary/casual/part time
- ☐ Full time housewife/parent

- ☐ Voluntary work
- ☐ Retired
- ☐ Unemployed
- ☐ Never worked
- ☐ Not working on medical grounds
- ☐ Full time carer
- ☐ Unknown
- ☐ Student
- ☐ Other (describe) _____

Pattern of employment (last 5Y)

- ☐ Continuous employment
- ☐ Some sustained employment
- ☐ In and out of work
- ☐ No paid employment
- ☐ Unknown

Main source of income (service year)

- ☐ Employment
- ☐ Part-time employment
- ☐ Benefits
- ☐ Pension/private income
- ☐ Supported by partner/parents
- ☐ Unknown
- ☐ Crime
- ☐ Other (describe) _____

Social class

(Description of present or last known occupation) _____

- ☐ Never worked
- ☐ Class I (professional/managerial)
- ☐ Class II (skilled/white-collar skilled)
- ☐ Class III (clerical – unskilled non-manual)
- ☐ Class IVa (skilled manual)
- ☐ Class V (unskilled manual)
- ☐ Army /ex-army
- ☐ Unknown

SECTION 2
PERSONAL AND FAMILY INFORMATION

Family history of mental illness (blood relative/partner)

☐ No
☐ Yes
☐ Unknown

Family history of substance misuse (blood relative/partner)

☐ No
☐ Yes
☐ Unknown

Childhood experience(s)

ADHD/dyslexia/learning difficulties	☐Yes	☐No	☐Unknown
In care/fostered/adopted	☐Yes	☐No	☐Unknown
Disrupted/disturbed childhood	☐Yes	☐No	☐Unknown
Persistent truancy/conduct /expelled	☐Yes	☐No	☐Unknown
Psychiatric dx/intervention in childhood	☐Yes	☐No	☐Unknown

At risk (service year)

Harm to self (deliberate self harm/suicide/overdose)	☐Yes	☐No	☐Unknown
Self neglect	☐Yes	☐No	☐Unknown
Harm to others	☐Yes	☐No	☐Unknown

Lifetime history of sexual/physical/emotional abuse

☐Yes ☐No ☐Unknown

SECTION 3
MEDICAL/PSYCHIATRIC HISTORY AND SUBSTANCE MISUSE

PRIMARY Diagnosis – service year
(describe if unable to classify) _____

- ☐ Alcohol dependence/misuse
- ☐ Drug dependence/misuse
- ☐ Polysubstance dependence/misuse
- ☐ Substance related disorder (organic)
- ☐ Schizophrenia/other psychotic disorders
- ☐ Mood disorders *(depressive, bipolar)*
- ☐ Anxiety/phobia/panic disorder/OCD
- ☐ Somatoform/Dissociative Disorders (e.g. pain, body dysmorphic, hypochondriasis)
- ☐ Sexual and gender identity disorders
- ☐ Eating disorders
- ☐ Impulse control disorders
- ☐ Adjustment disorders
- ☐ Personality disorders

(paranoid, schizoid, schizotypal, antisocial, borderline, histrionic, narcissistic, avoidant, dependent, obsessive-compulsive)

SECONDARY Diagnosis - service year

Clinician Diagnosis – service year
(describe if unable to classify) _____

- ☐ NO SECONDARY DIAGNOSIS
- ☐ Alcohol dependence/misuse
- ☐ Drug dependence/misuse
- ☐ Polysubstance dependence/misuse
- ☐ Substance related disorder (organic)
- ☐ Schizophrenia/other psychotic disorders
- ☐ Mood disorders *(depressive, bipolar)*
- ☐ Anxiety/phobia/panic disorder/OCD
- ☐ Somatoform/Dissociative Disorders (e.g. pain, body dysmorphic, hypochondriasis)
- ☐ Sexual and gender identity disorders
- ☐ Eating disorders
- ☐ Impulse control disorders

☐ Adjustment disorders

☐ Personality disorders

(paranoid, schizoid, schizotypal, antisocial, borderline, histrionic, narcissistic, avoidant, dependent, obsessive-compulsive)

Physical health (previous 5 years) Describe _____

☐ Nothing of note

☐ One chronic condition

☐ More than one chronic condition

☐ Unknown

Prescribed medication (service year)

☐ Nothing of note

☐ Anti-depressants/anti-anxiety drugs

☐ Anti-psychotics

☐ Medication for acute/chronic physical health

☐ Other (describe) _____

☐ Unknown

Main substance used or misused (service year)

☐ NO SUBSTANCE(S) USED

☐ Alcohol

☐ Heroin

☐ Methadone (illicit)

☐ Methadone (prescribed)

☐ Opiates (unspec)

☐ Stimulants (unspec)

☐ Cocaine/crack

☐ Amphetamines

☐ Ecstasy

☐ Cannabis

☐ Benzodiazepines

☐ Barbiturates

☐ Solvents/gases

☐ DF118 (Dihydrocod)

☐ Hallucinogens

☐ LSD

☐ Magic Mushrooms

☐ Prescribed Methadone

- ☐ Prescription drugs
- ☐ Polydrugs
- ☐ Unknown
- ☐ Other (describe) _____

Secondary substance used or misused (service year)

- ☐ NO SECONDARY SUBSTANCE(S) USED
- ☐ Alcohol
- ☐ Heroin
- ☐ Methadone (illicit)
- ☐ Methadone (prescribed)
- ☐ Opiates (unspec)
- ☐ Stimulants (unspec)
- ☐ Cocaine/crack
- ☐ Amphetamines
- ☐ Ecstasy
- ☐ Cannabis
- ☐ Benzodiazepines
- ☐ Barbiturates
- ☐ Solvents/gases
- ☐ DF118 (Dihydrocod)
- ☐ Hallucinogens
- ☐ LSD
- ☐ Magic Mushrooms
- ☐ Prescribed Methadone
- ☐ Prescription drugs
- ☐ Polydrugs
- ☐ Unknown
- ☐ Other (describe) _____

Substance use / misuse (lifetime history)

- ☐ Nothing of note
- ☐ Alcohol
- ☐ Drugs
- ☐ Polysubstances
- ☐ Unknown

SECTION 4
FORENSIC HISTORY

Legal Status (service year)

- ☐ Nothing of note
- ☐ In Police custody
- ☐ In court
- ☐ On probation
- ☐ On bail
- ☐ Out on License
- ☐ In Prison
- ☐ Unknown

Arrested (service year/last 5 years)

- ☐ Nothing of note
- ☐ Arrested once or twice
- ☐ Multiple arrests
- ☐ Unknown

Main category of offence (service year/last 5 years)

- ☐ Nothing of note
- ☐ Theft/robbery/shoplifting
- ☐ Drug/alcohol related offence(s)
- ☐ Assault/threatening
- ☐ Domestic violence
- ☐ Sexual offence
- ☐ Motoring offence/drink driving
- ☐ Weapon possession
- ☐ Arson
- ☐ Other (describe) _____

Secondary offence (service year/last 5 years)

- ☐ Nothing of note
- ☐ Theft/robbery/shoplifting
- ☐ Drug/alcohol related offence(s)
- ☐ Assault/threatening
- ☐ Domestic violence
- ☐ Sexual offence
- ☐ Motoring offence/drink driving
- ☐ Weapon possession
- ☐ Arson
- ☐ Other (describe) _____

In prison (service year/last 5 years)

- ☐ No
- ☐ Once or twice
- ☐ Multiple custodial sentences
- ☐ Unknown

Assessed by Forensic Psychiatrist (service year/last 5 years)

- ☐ No
- ☐ Yes
- ☐ Unknown

Family forensic history (service year/last 5 years)

- ☐ No
- ☐ Yes
- ☐ Unknown

SECTION 5
ENGAGEMENT WITH SERVICES

PRIMARY CARE

Registered with GP

- ☐ Yes
- ☐ No

COMMUNITY EVENTS

(I.e seen by keyworker or care co-coordinator)

- **Substance Misuse Services - Alcohol Team** (service year)

- ☐ No engagement recorded
- ☐ Engagement
- ☐ Engagement (not quantified in records)
- ☐ Number of events attended
  DNA's
- ☐ Engagement in previous 5 years
- ☐ Yes
- ☐ Nothing on file

- **Substance Misuse Service - Drug Team** (service year)

- ☐ No engagement recorded
- ☐ Engagement
- ☐ Engagement (not quantified in records)
- ☐ Number of events attended
  DNA's
- ☐ Engagement in previous 5 years
- ☐ Yes
- ☐ Nothing on file

- **Needle/syringe exchange services used** (service year/previous 5Y)

  ☐ Yes
  ☐ No/not applicable

- **Substance Misuse Services or GP Methadone Programme** (service year/previous 5 years)

  ☐ Yes
  ☐ No/not applicable

- **On prescribed methadone (from one of above)** (service year)
  ☐ Yes
  ☐ No/not applicable

- **Community/prison detox** (service year/previous 5Y)

  ☐ Nothing on file
  ☐ GP/home detox
  ☐ Prison detox
  ☐ Self detox
  ☐ Combination of detox's
  ☐ Other (describe) _____

- **Adult Mental Health Service events** (service year)

  ☐ No engagement recorded
  ☐ Engagement
  ☐ Engagement (not quantified in records)
  ☐ Number of events attended
  ☐ DNA's

  Engagement in previous 5 years
  ☐ Yes
  ☐ Nothing on file

- **In-patient detox events**

Drug/alcohol detox (service year)	☐	Yes	☐	Nothing on file
Drug/alcohol detox (last 5 years)	☐	Yes	☐	Nothing on file

- **In-patient mental health events**

Mental health (service year)	☐	Yes	☐	Nothing on file
Mental health (last 5 years)	☐	Yes	☐	Nothing on file

MENTAL HEALTH ACT DETENTIONS

- **Detained under Section of Mental Health Act** (service year)

☐Nothing on file ☐detained once ☐detained more than once

- **Detained under Section of Mental Health Act** (previous 5 years)

☐Nothing on file ☐detained once ☐detained more than once

OUT-PATIENT CARE EVENTS

- **Out patient events for substance misuse and/or mental health problems** (service year)

☐ No engagement recorded
☐ Engagement
☐ Engagement (not quantified in records)
☐ Number of events attended
☐ DNA's

Engagement in previous 5 years
☐ Yes
☐ Nothing on file

DAY HOSPITAL (service year)

☐ No engagement recorded
☐ Engagement

☐ Engagement (not quantified in records)
☐ Number of events attended
☐ DNA's

Engagement in previous 5 years
☐ Yes
☐ Nothing on file

OTHER EVENTS

- **Residential Rehab facilities – substance misuse**

Attended (service year or previous 5 years) ☐Yes ☐Nothing on file

Details _____

- **Residential Rehab facilities – mental health**

Attended (service year or previous 5 years) ☐Yes ☐Nothing on file

Details _____

- **Emergency Events**

  'Out of hours' (unscheduled/weekend or crisis stabilization)
  Events (service year or previous 5 years)
  ☐ No
  ☐ Yes
  ☐ Unknown
  Details _____

NON-STATUTORY SERVICES (engagement in service yr or previous 5Y)

- **Alcohol Project** ☐Yes ☐Nothing on file
- **MIND** (mental health) ☐Yes ☐Nothing on file
- **Substance Misuse drop-in** ☐Yes ☐Nothing on file
- **Counselling** (not through Trust) ☐Yes ☐Nothing on file
- **Youth Enquiry Service** (local) ☐Yes ☐Nothing on file
- **Church-based Health Project** ☐Yes ☐Nothing on file

- **Vocational** (partnership with DAS) ☐Yes ☐Nothing on file
- **Housing / drop-in for substance misusers** ☐Yes ☐Nothing on file
- **Day-centre / support for sub misusers** ☐Yes ☐Nothing on file
- **Alcoholics Anonymous / Narcotics Anonymous** (self help groups) ☐Yes ☐Nothing on file

Other non-stat services attended (describe) _____

Work / vocational service (run by Trust) for mental health clients
☐Yes ☐Nothing on file

Client Status (service year)

☐ Alive

☐ Deceased

DATA CODEBOOK

```
-------------------------------------------------------------------------------
id                                                                      id code
-------------------------------------------------------------------------------

                 type:  string (str7)

        unique values:  590                     missing "":  0/590

             examples:  "abc0582"
                        "abc1031"
                        "abc1607"
                        "abc2314"

-------------------------------------------------------------------------------
studygp                                                           study group
-------------------------------------------------------------------------------

                 type:  numeric (byte)

                range:  [1,4]                       units:  1
        unique values:  4                       missing .:  0/590

           tabulation:  Freq.   Numeric  Label
                           89         1  DAS comorbid
                          101         2  DAS singly dx
                          188         3  AMH comorbid
                          212         4  AMH singly dx

-------------------------------------------------------------------------------
refso                  referral source for documented events in service year
-------------------------------------------------------------------------------

                 type:  numeric (byte)

                range:  [1,99]                      units:  1
        unique values:  7                       missing .:  0/590

           tabulation:  Freq.   Numeric  Label
                          376         1  GP
                           40         2  self/relative/friend
                           57         3  inter agency
                           34         4  Justice system
                           17         5  hospital
                           13         6  social services
                           53        99  unknown

-------------------------------------------------------------------------------
gender                                                              gender
-------------------------------------------------------------------------------

                 type:  numeric (byte)

                range:  [1,2]                       units:  1
        unique values:  2                       missing .:  0/590

           tabulation:  Freq.   Numeric  Label
                          374         1  male
                          216         2  female
```

```
-------------------------------------------------------------------------------
age                                                      age in 5-year bands
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [1,9]                        units:  1
         unique values:  9                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                            41         1  18 to 22
                            76         2  23 to 27
                           118         3  28 to 32
                            92         4  33 to 37
                            74         5  38 to 42
                            65         6  43 to 47
                            56         7  48 to 52
                            40         8  53 to 57
                            28         9  58 and over

-------------------------------------------------------------------------------
ethgp                                                ethnic groups (collapsed)
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [1,2]                        units:  1
         unique values:  2                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           582         1  white
                             8         2  non-white

-------------------------------------------------------------------------------
maritst                                                        marital status
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [1,3]                        units:  1
         unique values:  3                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           320         1  single
                           124         2  married
                           146         3  sep/div/wid

-------------------------------------------------------------------------------
housing                                                      housing status
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [1,99]                       units:  1
         unique values:  6                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                            93         1  owner occupier
                           237         2  council/rented
                            57         3  prison/in-patient/sup
                            99         4  others house
```

```
                            33          5  vulnerable/nfa
                            71         99  unknown

-------------------------------------------------------------------------------
numaddr                                    number of addresses in service year
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [1,2]                        units:  1
         unique values:  2                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           484         1  one address
                           106         2  two or more

-------------------------------------------------------------------------------
nfanow                                                 homeless/risk nfa (service yr)
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [0,99]                       units:  1
         unique values:  3                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           511         0  no
                            64         1  yes
                            15        99  unknown

-------------------------------------------------------------------------------
nfa5y                                              vulnerably hsed/homeless (5 yr)
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [0,99]                       units:  1
         unique values:  3                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           430         0  no
                           108         1  yes
                            52        99  unknown

-------------------------------------------------------------------------------
numbch                                                   number of children ever
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [1,5]                        units:  1
         unique values:  5                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           109         1  one
                           104         2  two
                           102         3  three or more
                           273         4  none
                             2         5  unknown
```

```
-------------------------------------------------------------------------------
childliv                        living arrangements for children (service year)
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [1,8]                        units:  1
         unique values:  8                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                            32         1  in care/adopted/fostered
                            85         2  grown up
                            78         3  with ex-partner
                           100         4  co-resident
                            13         5  split residency
                             7         6  deceased
                           271         7  no children
                             4         8  unknown

-------------------------------------------------------------------------------
qualif                                                qualification (highest)
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [1,8]                        units:  1
         unique values:  8                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                            18         1  apprenticeship/trade
                             5         2  vocational
                            20         3  cse
                           112         4  gcse/o level
                            47         5  a level or equivalent
                            27         6  degree
                           261         7  none
                           100         8  unknown

-------------------------------------------------------------------------------
educlev                                                     educational level
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [0,3]                        units:  1
         unique values:  4                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                            41         0  did not complete secondary
                                          education
                           403         1  secondary education  completed
                            80         2  higher education completed
                            66         3  unknown

-------------------------------------------------------------------------------
employst                                                   employment status
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [1,13]                       units:  1
```

```
         unique values:  9                       missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           328         1  unemployed
                            91         2  employed
                            48         3  part time/temporary/casual work
                            47         5  parent/carer
                             6         7  never worked
                            21         8  retired
                            37         9  not working on medical grounds
                             5        11  unknown
                             7        13  student

-------------------------------------------------------------------------------
employpa                                      pattern of employment (last 5y)
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [2,6]                        units:  1
         unique values:  5                       missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           382         2  no recent paid employment
                            31         3  in and out of work
                            82         4  some sustained employment
                            86         5  continuous employment
                             9         6  unknown

-------------------------------------------------------------------------------
income                                                  main source of income
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [1,9]                        units:  1
         unique values:  4                       missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           124         1  employment
                           363         2  benefits
                            65         3  other
                            38         9  unknown

-------------------------------------------------------------------------------
mhfam                                       hx of mental illness in family
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [1,99]                       units:  1
         unique values:  2                       missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           137         1  yes
                           453        99  unknown
```

```
-------------------------------------------------------------------------------
sudfam                                          hx of substance misuse in family
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [1,99]                       units:  1
         unique values:  2                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           105         1  yes
                           485        99  unknown

-------------------------------------------------------------------------------
learning                                        childhood exp - adhd/dyslexia/ld
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [1,99]                       units:  1
         unique values:  2                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                            37         1  yes
                           553        99  unknown

-------------------------------------------------------------------------------
carefost                                  childhood exp - in care/fostered/adopted
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [1,99]                       units:  1
         unique values:  2                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                            65         1  yes
                           525        99  unknown

-------------------------------------------------------------------------------
disrchil                               childhood exp - disrupted/behavioural probs
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [1,99]                       units:  1
         unique values:  2                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                            92         1  yes
                           498        99  unknown

-------------------------------------------------------------------------------
truancy                                    childhood exp - truancy/conduct/expel
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [1,99]                       units:  1
         unique values:  2                        missing .:  0/590
```

```
            tabulation:  Freq.   Numeric  Label
                           95         1  yes
                          495        99  unknown

------------------------------------------------------------------------------
psychild                              childhood exp - psychiatric dx/intervention
------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [1,99]                       units:  1
          unique values:  2                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           66         1  yes
                          524        99  unknown

------------------------------------------------------------------------------
selfharm                            at risk of dsh/overdose taken (service year)
------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [1,99]                       units:  1
          unique values:  2                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                          172         1  yes
                          418        99  unknown

------------------------------------------------------------------------------
selfnegl                                  at risk of self neglect (service year)
------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [1,99]                       units:  1
          unique values:  2                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           61         1  yes
                          529        99  unknown

------------------------------------------------------------------------------
violence                              at risk of endangering others (service year)
------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [1,99]                       units:  1
          unique values:  2                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           60         1  yes
                          530        99  unknown
```

```
-------------------------------------------------------------------------------
hxabuse                                history of sexual/physical/mental abuse
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [1,99]                       units:  1
         unique values:  2                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           156         1  yes
                           434        99  unknown

-------------------------------------------------------------------------------
dx1                             index problem being treated for in service year
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [1,20]                       units:  1
         unique values:  9                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                            95         1  alcohol dependence/misuse
                            80         2  drug dependence/misuse
                            19         3  polysubstance dependence/misuse
                           134         5  schizophrenia/other psychotic
                                          disorders
                           171         6  mood disorder(s)
                            51         7  anxiety disorders (incl ptsd)
                             8        11  eating disorders
                            19        15  personality disorders
                            13        20  other

-------------------------------------------------------------------------------
dx2                       additional problem being treated for in service year
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [1,20]                       units:  1
         unique values:  9                        missing .:  429/590

            tabulation:  Freq.   Numeric  Label
                            21         1  alcohol dependence/misuse
                             3         2  drug dependence/misuse
                             3         3  polysubstance dependence/misuse
                             2         5  schizophrenia/other psychotic
                                          disorders
                            42         6  mood disorder(s)
                            22         7  anxiety disorders (incl ptsd)
                             2        11  eating disorders
                            64        15  personality disorders
                             2        20  other
                           429         .
```

```
-------------------------------------------------------------------------------
physhlth                                                  physical health (5y)
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [1,99]                       units:  1
         unique values:  2                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           139         1  chronic condition
                           451        99  unknown

-------------------------------------------------------------------------------
presmed                                  prescribed medications (service year))
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [1,6]                        units:  1
         unique values:  5                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                            83         1  no
                           320         2  anti-depressants/anti-anxiety
                           164         3  anti-psychotic/anti manic drugs
                            22         4  medication for acute/chronic
                                          physical health
                             1         6  unknown

-------------------------------------------------------------------------------
mainsub                                     main substance used (service year)
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [1,22]                       units:  1
         unique values:  9                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           217         1  alcohol
                            83         2  heroin/opiates
                             4         6  cocaine/crack
                            10         7  amphetamines
                            45         9  cannabis
                           214        18  no substances used
                             4        19  polysubstance
                             7        21  misuse prescription drugs
                             6        22  other

-------------------------------------------------------------------------------
additsub                                  additional substance used (service year)
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [1,22]                       units:  1
         unique values:  9                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                            26         1  alcohol
```

```
                            6         2  heroin/opiates
                            8         6  cocaine/crack
                           16         7  amphetamines
                           30         9  cannabis
                          474        18  no additional substances used
                           13        19  polysubstance
                            5        21  misuse prescription drugs
                           12        22  other

-------------------------------------------------------------------------------
sublife                                      substance use (lifetime history)
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [1,4]                        units:  1
         unique values:  4                          missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           181         1  alcohol
                           123         2  drugs
                           114         3  polysubstance
                           172         4  nothing recorded

-------------------------------------------------------------------------------
legalsys                                       legal status (service year)
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [1,6]                        units:  1
         unique values:  5                          missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           505         1  none
                            31         2  case pending/bail
                            30         3  on probation
                            20         5  in custody
                             4         6  unknown

-------------------------------------------------------------------------------
arrested                                   arrested (service year/previous 5y)
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [1,4]                        units:  1
         unique values:  3                          missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           429         1  no
                           155         2  yes
                             6         4  unknown

-------------------------------------------------------------------------------
offence1                                 main offence (serviceyear/previous 5y)
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [1,99]                       units:  1
```

```
         unique values:  8                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                            52         1  theft/shoplifting/robbery
                            30         2  drug/alcohol related
                            42         3  assault/threatening
                            15         7  motoring offence/drink driving
                             3         8  weapon possession
                            10         9  other
                           432        10  none
                             6        99  unknown

-------------------------------------------------------------------------------
offence2                          secondary offence (service year/previous 5y)
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [1,99]                       units:  1
         unique values:  8                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                            20         1  theft/shoplifting/robbery
                            16         2  drug/alcohol related
                            22         3  assault/threatening
                             7         7  motoring offence/drink driving
                             6         8  weapon possession
                             8         9  other
                           505        10  none
                             6        99  unknown

-------------------------------------------------------------------------------
prison                              prison sentences (service year/previous 5y)
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [1,4]                        units:  1
         unique values:  4                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           506         1  no
                            54         2  one or two
                            24         3  more than two
                             6         4  unknown

-------------------------------------------------------------------------------
forenpsy            assessed by forensic psychiatrist(service year/previous 5y)
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [1,99]                       units:  1
         unique values:  2                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                            22         1  yes
                           568        99  unknown
```

```
-------------------------------------------------------------------------------
forenfam                                                family forensic history
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [1,99]                       units:  1
         unique values:  2                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                            17         1  yes
                           573        99  unknown

-------------------------------------------------------------------------------
gp                                              registered with GP (service yr)
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [1,1]                        units:  1
         unique values:  1                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           590         1  yes

-------------------------------------------------------------------------------
dasa1                                          DAS alcohol (service year) events
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [0,1]                        units:  1
         unique values:  2                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           466         0  no
                           124         1  yes

-------------------------------------------------------------------------------
dasa2                                  events attended DAS alcohol (service year)
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [0,22]                       units:  1
         unique values:  21                       missing .:  13/590

                  mean:    .97747
             std. dev:   3.03873

           percentiles:        10%       25%       50%       75%       90%
                                 0         0         0         0         3

-------------------------------------------------------------------------------
dasa3                                    events DNA'd DAS alcohol (service year)
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [0,6]                        units:  1
         unique values:  7                        missing .:  13/590
```

```
            tabulation:  Freq.  Value
                           525  0
                            32  1
                             6  2
                             6  3
                             4  4
                             3  5
                             1  6
                            13  .

-------------------------------------------------------------------------------
dasa4                                       engagement DAS alcohol (previous 5y)
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [0,1]                        units:  1
         unique values:  2                          missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           516         0  no
                            74         1  yes

-------------------------------------------------------------------------------
dasd1                                              DAS drug (service year) events
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [0,1]                        units:  1
         unique values:  2                          missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           490         0  no
                           100         1  yes

-------------------------------------------------------------------------------
dasd2                                       events attended DAS drug (service year)
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [0,25]                       units:  1
         unique values:  20                         missing .:  9/590

                  mean:   .827883
             std. dev:    2.8632

           percentiles:        10%       25%       50%       75%       90%
                                 0         0         0         0         2

-------------------------------------------------------------------------------
dasd3                                       events DNA'd DAS drug (service year)
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [0,12]                       units:  1
         unique values:  9                          missing .:  9/590
```

```
            tabulation:  Freq.  Value
                           533  0
                            29  1
                             4  2
                             9  3
                             2  4
                             1  5
                             1  6
                             1  8
                             1  12
                             9  .
------------------------------------------------------------------------------
dasd4                                          engagement DAS drug (previous 5y)
------------------------------------------------------------------------------

                    type:  numeric (byte)

                   range:  [0,1]                        units:  1
           unique values:  2                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           510         0  no
                            80         1  yes

------------------------------------------------------------------------------
needle          local needle/syringe exchange services used (now or last 5y)
------------------------------------------------------------------------------

                    type:  numeric (byte)

                   range:  [0,1]                        units:  1
           unique values:  2                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           561         0  no
                            29         1  yes

------------------------------------------------------------------------------
methprog        local drug service methadone programme attended (now or last 5y)
------------------------------------------------------------------------------

                    type:  numeric (byte)

                   range:  [0,1]                        units:  1

           unique values:  2                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           511         0  no
                            79         1  yes

------------------------------------------------------------------------------
onmeth                        on prescribed methadone from local drug service/GP
------------------------------------------------------------------------------

                    type:  numeric (byte)

                   range:  [1,2]                        units:  1
           unique values:  2                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
```

```
                          69         1  yes
                         521         2  no

-------------------------------------------------------------------------------
detox                community and/or other detox (service year/ last 5y)
-------------------------------------------------------------------------------

                 type:  numeric (byte)

                range:  [0,5]                        units:  1
        unique values:  5                    missing .:  0/590

           tabulation:  Freq.   Numeric  Label
                          506         0  no
                           53         1  gp/home detox
                           13         3  prison detox
                           10         4  self detox
                            8         5  various detox

-------------------------------------------------------------------------------
amh1                                                  AMH (service year) events
-------------------------------------------------------------------------------

                 type:  numeric (byte)

                range:  [0,1]                        units:  1
        unique values:  2                    missing .:  0/590

           tabulation:  Freq.   Numeric  Label
                          230         0  no
                          360         1  yes

-------------------------------------------------------------------------------
amh2                                     events attended AMH (service year)
-------------------------------------------------------------------------------

                 type:  numeric (int)

                range:  [0,101]                      units:  1
        unique values:  57                   missing .:  8/590

                 mean:   9.13402
            std. dev:   14.1498

          percentiles:        10%       25%       50%       75%       90%
                               0         0         2        14        26

-------------------------------------------------------------------------------
amh3                                          events DNA'd AMH (service year)
-------------------------------------------------------------------------------

                 type:  numeric (byte)

                range:  [0,23]                       units:  1
        unique values:  18                   missing .:  8/590

                 mean:   .986254
            std. dev:   2.55672

          percentiles:        10%       25%       50%       75%       90%
                               0         0         0         1         3
```

```
-------------------------------------------------------------------------------
amh4                                                 engagement AMH (previous 5y)
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [0,1]                        units:  1
         unique values:  2                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           271         0  no
                           319         1  yes

-------------------------------------------------------------------------------
inpsub1                             in-patient drug/alcohol detox in service year
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [0,1]                        units:  1
         unique values:  2                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           557         0  no
                            33         1  yes

-------------------------------------------------------------------------------
inpsub2                             in-patient drug/alcohol detox in previous 5y
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [0,1]                        units:  1
         unique values:  2                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           543         0  no
                            47         1  yes

-------------------------------------------------------------------------------
inpmh1                             in-patient for mental health in service year
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [0,1]                        units:  1
         unique values:  2                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           497         0  no
                            93         1  yes
```

```
-------------------------------------------------------------------------------
inpmh2                              in-patient for mental health in previous 5y
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [0,1]                        units:  1
         unique values:  2                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           402         0  no
                           188         1  yes

-------------------------------------------------------------------------------
mhdetai1                         detentions under mental health act (service year)
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [0,2]                        units:  1
         unique values:  3                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           547         0  no
                            30         1  detained once
                            13         2  detained more than once

-------------------------------------------------------------------------------
mhdetai2                         detentions under mental health act (previous 5y)
-------------------------------------------------------------------------------

                  type:  numeric (byte)


                 range:  [0,2]                        units:  1
         unique values:  3                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           499         0  no
                            28         1  detained once
                            63         2  detained more than once

-------------------------------------------------------------------------------
outp1                                          outpatient events (service year)
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [0,1]                        units:  1
         unique values:  2                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           333         0  no
                           257         1  yes
```

```
-------------------------------------------------------------------------------
outp2                              events attended as outpatient (service year)
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [0,16]                       units:  1
         unique values:  12                       missing .:  2/590

                  mean:    1.2415
             std. dev:   2.01937

           percentiles:        10%       25%       50%       75%       90%
                                 0         0         0         2         4

-------------------------------------------------------------------------------
outp3                                    events dna'd as outpatient (service year)
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [0,4]                        units:  1
         unique values:  5                        missing .:  1/590

            tabulation:  Freq.  Value
                           475  0
                            62  1
                            37  2
                            14  3
                             1  4
                             1  .

-------------------------------------------------------------------------------
outp4                                          events as out-patient (previous 5y)
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [0,1]                        units:  1
         unique values:  2                        missing .:  1/590

            tabulation:  Freq.   Numeric  Label
                           330         0  no
                           259         1  yes
                             1         .

-------------------------------------------------------------------------------
dayhosp1                                       day hospital events (service year)
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [0,1]                        units:  1
         unique values:  2                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           517         0  no
                            73         1  yes
```

```
-------------------------------------------------------------------------------
dayhosp2                              day hospital events attended (service year)
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [0,83]                       units:  1
         unique values:  22                       missing .:  6/590

                  mean:   1.08219
             std. dev:   6.47068

           percentiles:        10%       25%       50%       75%       90%
                                 0         0         0         0         0

-------------------------------------------------------------------------------
dayhosp3                                          events dna'd at day hospital
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [0,17]                       units:  1
         unique values:  10                       missing .:  6/590

                  mean:   .181507
             std. dev:   1.07263

           percentiles:        10%       25%       50%       75%       90%
                                 0         0         0         0         0

-------------------------------------------------------------------------------
dayhosp4                                        day hospital events (previous 5y)
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [0,1]                        units:  1
         unique values:  2                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           530         0  no
                            60         1  yes

-------------------------------------------------------------------------------
rehab                               residential rehab attended (now and last 5y)
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [0,2]                        units:  1
         unique values:  3                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           520         0  no
                            37         1  drug/alcohol rehab
                            33         2  mental health rehab
```

```
-------------------------------------------------------------------------------
emerg                   hospital A&E or out of hours or crisis stabilisation
-------------------------------------------------------------------------------

                 type:  numeric (byte)

                range:  [0,1]                       units:  1
        unique values:  2                        missing .:  0/590

           tabulation:  Freq.   Numeric  Label
                          460         0  no
                          130         1  yes

-------------------------------------------------------------------------------
localcpro             attend voluntary local alcohol project(now and last 5y)
-------------------------------------------------------------------------------

                 type:  numeric (byte)

                range:  [0,1]                       units:  1
        unique values:  2                        missing .:  0/590


           tabulation:  Freq.   Numeric  Label
                          551         0  no
                           39         1  yes

-------------------------------------------------------------------------------
mind                      attend voluntary local MIND centre (now and last 5y)
-------------------------------------------------------------------------------

                 type:  numeric (byte)

                range:  [0,1]                       units:  1
        unique values:  2                        missing .:  0/590

           tabulation:  Freq.   Numeric  Label
                          541         0  no
                           49         1  yes

-------------------------------------------------------------------------------
locsubcon   attend voluntary sub. misuse, drop in, counselling/alternative (now
            and last 5y)
-------------------------------------------------------------------------------

                 type:  numeric (byte)

                range:  [0,1]                       units:  1
        unique values:  2                        missing .:  0/590

           tabulation:  Freq.   Numeric  Label
                          521         0  no
                           69         1  yes
```

```
-------------------------------------------------------------------------------
counsel        attend local counselling services not provided by AMH (now and
               last 5y)
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [0,1]                        units:  1
          unique values:  2                    missing .:  0/590

             tabulation:  Freq.   Numeric  Label
                            530         0  no
                             60         1  yes

-------------------------------------------------------------------------------
ythcouns       attend voluntary support/counselling 16-25 year olds (now and
               last 5y)
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [0,1]                        units:  1
          unique values:  2                    missing .:  0/590

             tabulation:  Freq.   Numeric  Label
                            581         0  no
                              9         1  yes

-------------------------------------------------------------------------------
dichrh                         church-based drop-in projects (now and last 5y)
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [0,1]                        units:  1
          unique values:  2                    missing .:  0/590

             tabulation:  Freq.   Numeric  Label
                            582         0  no
                              8         1  yes

-------------------------------------------------------------------------------
vocstatser                                              AMH vocational service
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [0,1]                        units:  1
          unique values:  2                    missing .:  0/590

             tabulation:  Freq.   Numeric  Label
                            562         0  no
                             28         1  yes
```

```
-------------------------------------------------------------------------------
traingd                                        training & employment guidance
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [0,1]                        units:  1
         unique values:  2                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           575         0  no
                            15         1  yes

-------------------------------------------------------------------------------
commassoc             community organisation for sub. misuse, housing, social
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [0,1]                        units:  1
         unique values:  2                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           589         0  no
                             1         1  yes

-------------------------------------------------------------------------------
gendaycen                                    general/housing/support day centre
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [0,1]                        units:  1
         unique values:  2                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           589         0  no
                             1         1  yes

-------------------------------------------------------------------------------
aana                                  self help support groups (now and last 5y)
-------------------------------------------------------------------------------

                  type:  numeric (byte)

                 range:  [0,1]                        units:  1
         unique values:  2                        missing .:  0/590

            tabulation:  Freq.   Numeric  Label
                           571         0  no
                            19         1  yes
```

```
-------------------------------------------------------------------------------
other                          other voluntary organisations (now and last 5y)
-------------------------------------------------------------------------------

                 type:  numeric (byte)

                range:  [0,1]                        units:  1
        unique values:  2                    missing .:  0/590

           tabulation:  Freq.   Numeric  Label
                          565         0  no
                           25         1  yes

-------------------------------------------------------------------------------
status                                      alive or deceased in the service yr
-------------------------------------------------------------------------------

                 type:  numeric (byte)

                range:  [1,2]                        units:  1
        unique values:  2                    missing .:  0/590

           tabulation:  Freq.   Numeric  Label
                          576         1  alive
                           14         2  deceased

-------------------------------------------------------------------------------
case                       Case/control identifier for DD:SD matching - DD=case
-------------------------------------------------------------------------------

                 type:  numeric (byte)

                range:  [0,1]                        units:  1
        unique values:  2                    missing .:  0/590

           tabulation:  Freq.  Value
                          313  0
                          277  1

-------------------------------------------------------------------------------
gpid1                                    Group identifier for DD:SD 1:1 matching
-------------------------------------------------------------------------------

                 type:  numeric (int)

                range:  [10001,21124]                units:  1
        unique values:  268                  missing .:  54/590

                 mean:   17699.8
            std. dev:   4647.79

          percentiles:        10%       25%       50%       75%       90%
                            10027   11035.5   20054.5   21057.5     21098
```

```
-------------------------------------------------------------------------------
gpid2                                  Group identifier for DD:SD K:K matching
-------------------------------------------------------------------------------

                  type:  numeric (int)

                 range:  [10001,21124]                units:  1
         unique values:  268                      missing .:  0/590

                  mean:   17456.7
             std. dev:   4724.99

           percentiles:        10%       25%       50%       75%       90%
                            10027.5     11033     20049     21055     21096
```