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## Probation and mental illness

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Levels of mental illness amongst prisoners are high, but little is known about the situation of those serving community sentences. More information is needed at a time when the UK Department of Health is seeking to improve mental health service access for all offenders. To estimate the prevalence of both current and lifetime mental illness, an epidemiological survey was conducted on individuals under probation supervision in Lincolnshire, England. Assessment included the Mini International Neuropsychiatric Inventory and other measures of mental health. We estimate that around 39% of individuals in this probation population are suffering from current mental illnesses, anxiety disorders being the most common. Furthermore, around 60% have substance abuse problems and around 48% have personality disorders. Lifetime mental illness, co-morbidity and dual diagnosis were also found to be high. In common with other groups of offenders, the prevalence of mental health problems in those serving community sentences is high.

**Keywords:** probation; offender; mental illness; psychiatric illness; dual diagnosis; personality disorder

The relationship between mental illness and offending is complex and arguably is not yet fully understood. However, UK criminal justice policy highlights ‘health’, including mental health, as a pathway out of offending (Social Exclusion Unit, 2002). In addition, from a practical perspective, the presence of mental illness influences recidivism and is an important aspect of risk assessment (Ansbro, 2010). In order to better understand this relationship, we first need to be able to identify individuals with mental illness in the criminal justice system. A systematic review of research on the prevalence of mental health disorders in prison has demonstrated that a wealth of studies has been conducted on this topic worldwide (Fazel & Lubbe, 2005;

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Sirdifield, Gojkovic, Brooker, & Ferriter, 2009). However, comparatively little research has examined the prevalence of mental health disorders amongst offenders in the community.

The little research that exists contains methodological weaknesses. Many of these studies focus on restricted sections of the probation population such as the mental health of offenders in probation approved premises. For example, probation staff in seven approved premises in the Greater Manchester area of the UK assessed residents with probable mental health needs and completed the General Health Questionnaire, Health of the Nation Outcome Scales and Global Assessment of Functioning Scale (Hatfield, Ryan, Pickering, Burroughs, & Crofts, 2004). Not all of these premises specifically housed offenders with mental health disorders. This study concluded that about 30% of residents were likely to have mental health needs. However, the residents of approved premises are unlikely to be representative of wider probation populations, as they would be expected to house individuals convicted of relatively serious offences. Similarly, some studies describe the caseloads of probation psychiatric services established in various areas. However, being limited to the clients of those services, the studies only provide a proxy measure of the prevalence of mental health disorders across all offenders in a given probation area (Cohen, Bishop, & Hegarty, 1999; Collins, Ball, & Costello, 1993; Huckle, Travier, & Scarf, 1996). Other research has examined the mental health of young people under probation supervision via reports of probation staff (Pritchard, Cotton, Godson, Cox, & Weeks, 1991; Pritchard, Cox, & Cotton, 1990).

Perhaps one of the most comprehensive studies of the mental health of people on probation was conducted in the USA (Lurigio et al., 2003). The study was based on a stratified random sample of 627 adults under supervision in Illinois, with the sample being stratified by region (Cook County vs. all other counties). Trained interviewers used the Mini International Neuropsychiatric Interview (MINI; Sheehan et al., 1998) to examine mental health disorders in this group. Findings showed that the most prevalent current mental health disorder was depression (major depressive episode), affecting 13.2% of the sample, whilst 11.2% of the sample had a current psychotic disorder.

All of these studies employ different approaches to measure the prevalence of mental health disorders. Some studies approximate the proportion of individuals who are likely to have a mental health disorder through measures such as previous use of mental health services or staff opinions, whilst others attempt to measure it directly using structured screening tools. Most of the above studies also estimate the extent of substance abuse problems in their samples thus shedding some light on the extent of dual diagnosis in the population. However, as has been stated recently in a number of policy papers, there is a paucity of high quality research into the prevalence of mental health disorders amongst offenders

under probation supervision (Department of Health, 2009; Department of Health and National Offender Management Service, 2011). What is needed is a methodologically rigorous survey of current and past mental illness in a large sample of individuals supervised by the probation service using reliable assessment tools.

## **Method**

The overall aim of this study was to assess the prevalence of mental illness and substance abuse in a UK probation population. To this aim, an epidemiological survey of mental health was conducted on a stratified randomised sample of all individuals supervised by one probation trust on four specific days between April 2009 and February 2010. Ethical approval was obtained from the appropriate ethics committees. In addition, the project lead signed an information sharing agreement with the probation service, and all research staff underwent enhanced Criminal Records Bureau checks.

## **Sample**

Overall, 173 individuals were interviewed in this research. The initial target had been to interview 228 individuals (we assumed mental illness would be present in about 50% of the population of about 1500 probationers in Lincolnshire; thus, a sample of 228 would have a precision of  $\pm 6\%$ ). A one in seven random sample of 228 individuals was selected from all active cases on the probation caseload in Lincolnshire (using computerised randomisation). All those held on pre-release were excluded. Attrition was, however, high with 784 exclusions from a total initial random selection of 957 clients (82%), so a further 188 cases were selected, using the same randomisation procedure. Overall, a total of 957 probation clients were selected at random to yield a final total of 173 interviews. A flowchart summarising this procedure is given in Figure 1.

Case management teams across the county received literacy screened information sheets and consent forms and a presentation about the project. Each case management team then received a list of individuals selected at random who they approached seeking consent to participate. The random sample was stratified by tier of risk and location of office. Selected individuals had the incentive of earning £10 (approximately US\$15) shopping vouchers for their participation.

## **Assessments**

Information on mental health and related concepts was recorded with a range of validated and reliable questionnaires and interview schedules.

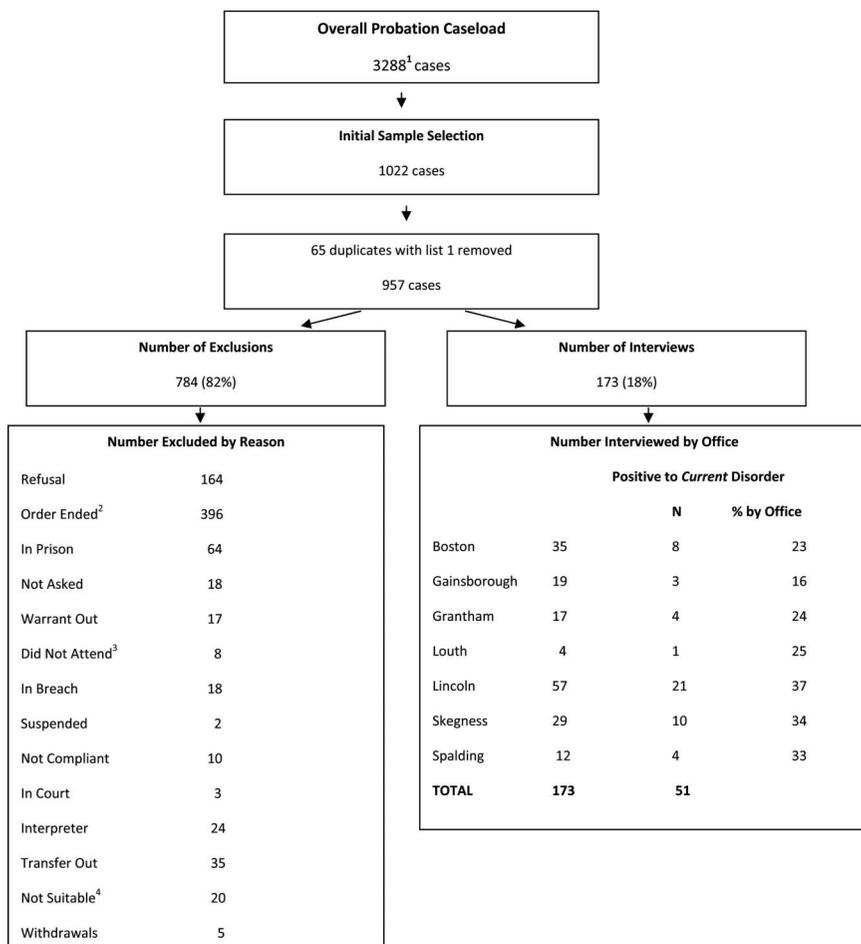


Figure 1. Flow chart showing recruitment to the study and exclusions. Notes: <sup>1</sup>Two sample selections were made from one overall caseload list, in April 2009 and August 2009, and two sample selections were made from another overall caseload list, in November 2009 and February 2010. We had interviewed our total target sample at Louth by the second stage, so the November and February selections did not contain any potential participants from Louth. <sup>2</sup>Term expired + order revoked combined. <sup>3</sup>Appointment with researcher arranged, but participant failed to attend. <sup>4</sup>Probation staff excluded due to current illness/heavy substance abuse/lack of contact with the probation service preventing participation.

To record details of alcohol abuse, we used the Alcohol Use Disorders Identification Test (AUDIT) which was developed by the World Health Organisation and contains 10 items which are scored from 0 to 4 giving a total score ranging from 0 to 40 (Saunders, Aasland, Babor, de la Fuente, &

[Grant, 1993](#)). A score of 8+ indicates that it is very likely that the participant is drinking harmful levels of alcohol. This is considered the 'gold standard' scale of alcohol abuse and has previously been used in prison and court environments ([Farrell et al., 2002](#); [McMurrin, 2005](#)). It is also currently used by the UK National Probation Service to investigate levels of alcohol consumption. We also used the Drug Abuse Screening Test – short version (DAST) which is a 20-item screen for drug abuse, including both use of illegal drugs and misuse of prescription drugs ([Skinner, 1982](#)). A score of six or more indicates a substance use problem (abuse or dependence). This has been shown to be reliable and to have good levels of sensitivity and specificity when used with criminal justice populations ([McPherson & Hersch, 2000](#)).

To estimate levels of personality disorder (PD), we used the Standardised Assessment of Personality – Abbreviated Scale (SAPAS). This is a brief screening tool that nevertheless has been shown to be a valid and reliable predictor of the presence of personality disorder ([Moran et al., 2003](#)). Indeed, in an earlier phase of the current research, the use of the SAPAS in this sample was piloted. We confirmed that it is a valid screen for personality disorder amongst probationers, and those scores of three or above predicate likely cases of personality disorder ([Pluck, Sirdifield, Brooker, & Moran, 2012](#)).

To assess mental illness, the Prison Screening Questionnaire (PriSnQuest) was used ([Shaw, Tomenson, & Creed, 2003](#)). This was chosen as it is specifically designed for screening in criminal justice settings. Individuals scoring 3+ are said to have symptoms of mental illness requiring investigation by a suitably qualified professional. This was used as an initial screen for mental illness. As a comprehensive assessment of mental illness, in general, we used the MINI. This is a structured interview schedule which can detect a wide range of current and lifetime DSM-IV and ICD-10 mental health disorders ([Sheehan et al., 1998](#)). This tool was selected for inclusion in the study, as not only it is a reliable, validated and detailed interview, but it has also been used previously in several studies in criminal justice settings ([Black, Arndt, Hale, & Rogerson, 2004](#); [Lurigio, et al., 2003](#); [Marzano, Fazel, Rivlin, & Hawton, 2010](#)). However, to our knowledge, it has not been validated specifically for use in offender populations. The research assistants who conducted the interviews were trained to use all the research instruments, including certification training in the use of the MINI by its developers.

### ***Setting***

The random sample was stratified by tier of risk and location of office (all probation offices in Lincolnshire were included). The majority of the interviews were performed on probation office premises, in private interview

rooms ( $n = 144$ ), at a time when the individual was attending an appointment with probation. In a minority of cases interviews were conducted in the offender's home ( $n = 8$ ) or by telephone ( $n = 21$ ). Signed consent was obtained in all cases irrespective of where the interview took place. To confirm the identity of participants over the telephone, date of birth information was elicited and checked with probation records.

### ***Procedure***

Individuals selected to be in the interviewed sample were initially approached by their probation officer who described the research and provided the ethics committee approved information sheets. If the individual agreed to participate, they were then contacted by one of the four researcher assistants working on the project. If they declined to participate, reasons for this were elicited. Informed consent to participate was taken by one of the research assistants at the beginning of the interview. The research assistants were employed by University of Lincoln and not otherwise involved with the probation service.

Every client selected and consented was interviewed to obtain basic demographic information. They were then assessed for personality disorder using the SAPAS and levels of substance abuse using the DAST and the AUDIT. They then completed the PriSnQuest as a screen for mental illness and were asked two additional questions: 'Have you ever seen anyone formally in any kind of mental health service?' and 'Have you ever previously been diagnosed with a mental health disorder?'

For those who scored below the cut-score of three on the PriSnQuest mental health screen and responded that they had never accessed a mental service, the interview was ended. However, the remaining individuals (those with probable present mental health concerns) were selected for further investigation. This involved being interviewed in detail for psychiatric illness with the MINI.

Thus, a two phase method was employed in which all individuals were screened for past or present mental illness, but only those positive in the screen were interviewed in detail (Dunn, Pickles, Tansella, & Vazquez-Barquero, 1999). In order to obtain estimates of the number of false-negatives, a small one in five subsample of those not screening positive ( $n = 17$ ) was also administered the MINI.

The interviews took varying times to complete, depending on the individual and whether they completed the full session or just the screening stage. A subsample ( $n = 40$ ) also participated in a personality disorder assessment, which took around 30–40 min and had been reported separately (Pluck et al., 2012). Overall, the average duration of interview was 48 min. Participants were debriefed at the end of the interview and were given a £10 shopping voucher for each hour or part-hour of their time.

### Statistical analysis

Data were entered into SPSS version 14 to derive descriptive statistics and inferential analyses. Percentages were rounded up to one decimal place. For prevalence estimates of data from the MINI, weighted analysis was conducted using STATA version 10. This allowed the team to take account of the false-negative (i.e. hidden) cases by using weights for the cases detected amongst the original PriSnQuest screened negatives (Dunn, et al., 1999). The revised estimates were estimated using the STATA logit procedure with probability weights. The probability weighting procedure used here is detailed in Dunn et al.

## Results

### Sample characteristics

Table 1 compares individuals in the study sample to those on the overall caseload for Lincolnshire Probation Trust. It reveals that there were no significant differences between the two groups in terms of gender and ethnicity. Eighty-seven per cent of both groups were male, and approximately 2% of both samples were black or of other ethnic minorities. In terms of tier of risk, those in tier one are significantly under-represented in the study sample, whilst those in tier three are over-represented ( $\chi^2(3) = 10.58; p = .014$ ). Further examination of the sample characteristics shows that the study participants had a mean age of 36 years (SD = 13.5).

Table 1. Characteristics of the sample compared to those of the overall Lincolnshire Probation Service caseload.

Variable	Overall caseload		Study sample	
	<i>N</i>	%	<i>N</i>	%
Gender				
Male	2,876	87.3	150	86.7
Ethnicity				
Asian	16	.5	1	.6
Black	34	1.0	2	1.2
Mixed	21	.6	0	0
White	3,206	97.3	170	98.3
Other	5	.2	0	0
Not stated	14	.4	0	0
Tier of risk				
One	607	18.4	16	9.3
Two	1,136	34.2	62	35.8
Three	1,383	42.0	87	50.3
Four	10	.3	0	0
Unknown	10	.3	0	0

In 2009, the overall employment rate in Lincolnshire was 73.1%, and 11% of the working age population had no qualifications. However, 60.7% of the study sample was unemployed, with just 26.6% classing themselves as in paid employment or self-employed, and 32.9% had no qualifications indicating that community offenders have a higher level of deprivation than that of the general population.

### ***The prevalence of mental health disorder***

To estimate the prevalence of mental illness amongst offenders in our sample, weighted prevalence figures were calculated for all major diagnostic categories (to account for any false-negatives on the PriSnQuest screen). These can be seen in Table 2. We will consider current status first. It was found that the proportion of offenders under supervision in Lincolnshire currently positive for any of the DSM-IV Axis 1 psychiatric disorders measured with the MINI was 38.7%. We estimated that 17.3% were currently positive for current major depressive episodes and 2.3% were in the midst of either a current manic or hypomanic episode. The overall prevalence of current psychotic disorders was 11%. Only 2.9% had a current psychotic disorder with a mood disorder, and 8.1% had a current psychotic disorder without a mood disorder. The most prevalent current mental health disorder was probable personality disorder which was present in 47.4% of the sample. The least common were anorexia nervosa (affecting no interviewees) and current panic disorder which was experienced by 1.2% of the participants.

Overall, 27.2% of the sample had a current anxiety disorder. The prevalence of agoraphobia was 15.6%, and, for current social anxiety disorder (social phobia) and generalised anxiety disorder, the rates were 6.4% and 3.5%, respectively. Current post-traumatic stress disorder affected 4.6% of the sample.

Table 2 also shows the prevalence of past/lifetime mental illness amongst offenders under supervision in Lincolnshire. Overall, 48.6% of participants were positive for at least one of the DSM-IV axis 1 psychiatric disorders measured. The most common category of disorders was mood disorders, which affected 43.9% of the sample. We estimated that 41.6% of the sample had experienced a major depressive episode in the past, and 24.3% had recurrent depression. About 11% had experienced either a manic or hypomanic episode in the past, and 18.5% had a lifetime psychotic disorder. A lifetime diagnosis of panic disorder affected 9.8%.

### ***The prevalence of substance abuse***

Alcohol abuse was defined as scoring 8+ on the AUDIT, a cut-off indicative of at least medium to high level of alcohol problems (Saunders et al., 1993).

Table 2. Estimated prevalence of current and past mental illness in the probation sample.

Disorder	Current		Past	
	% (N)	95% CI	% (N)	95% CI
<b>Mood disorders</b>				
Major depressive episode	17.3 (30)	10.8–26.7	41.6 (72)	30.5–53.7
Recurrent depressive episode	N/A	N/A	24.3 (42)	16.4–34.3
Mania (manic episode/ hypomanic episode)	2.3 (4)	.85–6.2	11.0 (19)	6.8–17.4
Any mood disorder	17.9 (31)	11.3–27.3	43.9 (76)	32.4–56.2
<b>Anxiety disorders</b>				
Panic disorder	1.2 (2)	.28–4.6	9.8 (17)	5.9–15.9
Agoraphobia	15.6 (27)	8.7–26.4	N/A	N/A
Social anxiety	6.4 (11)	3.4–11.0	N/A	N/A
Generalised anxiety	3.5 (6)	1.5–7.7	N/A	N/A
Obsessive compulsive disorder	1.7 (3)	.55–5.4	N/A	N/A
Post-traumatic stress disorder	4.6 (8)	2.3–9.3	N/A	N/A
Any anxiety disorder	27.2 (47)	18.4–38.2	N/A	N/A
<b>Psychotic disorders</b>				
With mood disorder	2.9 (5)	1.2–7.0	9.3 (16)	5.5–15.2
Without mood disorder	8.1 (14)	3.6–17.3	9.3 (16)	4.4–18.3
Any psychotic disorder	11.0 (19)	5.8–20.0	18.5 (32)	11.7–27.9
<b>Eating disorders</b>				
Anorexia nervosa (including binge eating/purging type)	0 (0)	N/A	N/A	N/A
Bulimia nervosa	5.2 (9)	1.6–15.5	N/A	N/A
Any eating disorder	5.2 (9)	1.6–15.5	N/A	N/A
Any mental illness	38.7 (67)	27.7–51.1	48.6 (84)	36.2–61.1
Likely personality disorder	47.4 (82)	N/A	N/A	N/A

Notes: For data derived from the MINI, *N* values, which are shown in parentheses, refer to the 88 participants who were interviewed with it. However, they are weighted to account for false-negative (i.e. hidden) cases. For personality disorder, the prevalence estimate (and *N*) is not weighted, as it is based on the SAPAS scores of all 173 participants. Confidence intervals shown are for the percentage prevalence estimates. N/A, not applicable (as data were not collected on symptoms in that time frame).

Drug abuse was defined as scoring 11+ on the DAST, a cut-off indicative of at least ‘substantial’ level of drug abuse (Skinner, 1982). Substance abuse was defined as either alcohol abuse or drug abuse (i.e. scores of  $\geq 8$  on the AUDIT or  $\geq 11$  on the DAST). Overall, 55.5% of the sample scored positive for alcohol abuse (95% CI [48.1, 62.9]). The mean score on the AUDIT was 11.6. The cut-off score for referral into alcohol services used by Lincolnshire Partnership NHS Foundation Trust is 10, with 44.5% of the sample meeting this criterion. Furthermore, 12.1% of the sample scored positive for drug abuse (95% CI [7.3, 17.0]). The mean score on the DAST was 3.1.

Considering substance abuse as being either alcohol or drug abuse, we estimate prevalence levels of 60% (95% CI [52.8, 67.4]).

### ***The extent of co-morbidity and dual diagnosis***

Co-morbidity between current major mental health disorders and substance abuse and personality disorder is shown in Table 3. Of the 47 participants who screened positive on the PriSnQuest and screened positive for a current mental illness on the MINI, we estimate that 72.3% also had a substance abuse (alcohol or drug) problem. Thus, dual diagnosis is a major feature of this population. This can be compared to those who screened positive on the PriSnQuest but did not have a current mental illness, in which only 17.1% were estimated to also have had substance abuse problems (95% CI [5.6, 28.6]). It is important to note that, for those identified with a mental illness, co-morbidity with likely alcohol abuse is 66%, which is much higher than co-morbidity for likely drug abuse at 21%.

The extent of co-morbidity between personality disorder and the major diagnostic groups for current disorders was considered for those who were PriSnQuest positive and is also shown in Table 3. Overall, 89.4% of those with a current mental illness also had a probable personality disorder, as compared to 36.6% of those who did not have a current mental illness (95% CI [21.8, 51.3]). All participants with an eating disorder also had a personality disorder as did 88.5% of those with a current mood disorder, 91.9% of those with a current anxiety disorder and 78.6% of those with a current psychotic disorder.

### **Discussion**

The overall aim of this study was to estimate the prevalence of mental health disorders and substance abuse in a sample of offenders serving probation orders. The random sample came from a defined geographical area with a population of 703,000 served by one probation service. It was stated at the outset that there is a relative paucity of research into the prevalence of mental health disorders in probation settings. These data are by far the most complete to be reported yet.

Our estimates suggest that, at any one time, around 39% of all individuals under the supervision of Lincolnshire Probation Service would currently fulfil criteria for at least one mental illness. The most common group of disorders was those related to anxiety; our estimates suggest that over a quarter (27%) of the population studied suffer a current anxiety disorder. In addition, about 18% suffer from a mood disorder (e.g. depression). This finding is similar to that of Lurigio et al. (2003) who also used the MINI (with a probation sample in the United States) and reported

Table 3. Frequency of co-morbidity and dual diagnosis within the probation sample.

	<i>n</i>	Alcohol abuse		Drug abuse		Substance abuse (drug or alcohol)		Probable personality disorder	
		% ( <i>n</i> )	CI	% ( <i>n</i> )	CI	% ( <i>n</i> )	CI	% ( <i>n</i> )	CI
Any current mood disorder	26	76.9 (20)	60.7–93.1	19.2 (5)	4.1–34.4	80.8 (21)	65.6–95.9	88.5 (23)	76.2–100
Any current anxiety disorder	37	67.6 (25)	52.5–82.7	16.2 (6)	4.3–28.1	70.3 (26)	55.5–85.0	91.9 (34)	83.1–100
Any current psychotic disorder	14	64.3 (9)	39.2–89.4	21.4 (3)	0–42.9	71.4 (10)	47.8–95.1	78.6 (11)	57.1–100
Any current eating disorder	4	75.0 (3)	32.6–100	0 (0)	N/A	75.0 (3)	32.6–100	100 (4)	100–100
Any current mental illness	47	66.0 (31)	52.4–79.5	21.3 (10)	9.6–33.0	72.3 (34)	59.6–85.1	89.4 (42)	80.6–98.2

that 13.2% had experienced a major depressive episode, and 3% had experienced a manic episode.

The discussion above is concerned with the typical mental health disorders (e.g. mood, anxiety and psychosis). However, we also estimated the prevalence of personality disorder in our sample. The tool that we used, the SAPAS, is for screening not diagnosis, and thus does not provide details of particular types of personality disorder. However, it gives an accurate estimate of the presence of any DSM-IV personality disorder. We estimate that almost half (47%) of the study population would fulfil criteria for at least one personality disorder. It is also notable that there was a high co-occurrence of personality disorder, mental illness and substance abuse in general.

Comparison of data from this study with the Office of National Statistics (ONS) surveys of psychiatric morbidity in prisons and the general population (Singleton, Bumpstead, O'Brien, Lee, & Meltzer, 2001; [Singleton, Meltzer, Gatward, Coid, & Deasy, 1998](#)) clearly shows that the profile of mental illness for probation in Lincolnshire allies more closely to the prison population than to the general population. For example, 45% of prisoners are reported as experiencing a neurotic disorder in the ONS study. This compares to 50% of offenders in our study, and 13.8% of the general population in the second ONS study. Similarly, overall rates for personality disorder are 66% in the prison study, 47.4% in our probation study and 5.3% for the general population. In addition to the overall prevalence of 38.7% found in the current study for all current mental illnesses, the lifetime prevalence for mental illness was 48.6% with 18.5% experiencing psychosis at some point in their lives. This can be compared to 3.5% in the general population ([Perala et al., 2007](#)).

Previous studies of the prevalence of mental health disorders in prison populations have all pointed to the complexity of presentations and comorbidity of mental illness with substance abuse and personality disorder ([Sirdifield et al., 2009](#)). Our sample exhibited many of the same features. Over half the group (55.5%) had an AUDIT score of 8+ indicating a strong likelihood for hazardous drinking. The cut-off score to access alcohol services in the local Mental Health Trust is 10 with 44.5% attaining this score. A much smaller proportion, 12%, indicated a severe level of drug abuse using a cut-off score of 11+ on the DAST. Furthermore, the data show how much more common alcohol problems are in combination with a mental illness, with alcohol about three times more likely than drugs. Nearly three quarters of this sample had a substance abuse problem in tandem with a mental illness. These figures mirror those found in prisons, with 71% for male remand, 59% for male sentenced, 87% for female remand and 77% for female sentenced ([Sirdifield et al., 2009](#)). The association between personality disorder and mental illness was similarly strong with a likely PD in 89.4% of all those with a mental illness compared to 36.6% in those without a mental illness.

The Bradley Report, commissioned by the UK Department of Health, examined shortfalls nationally in mental health service provision to all offenders across the criminal justice pathway. The report focused on the provision of liaison and diversion from courts and police stations using mental health expertise (Lord Bradely, 2009). In this regard, it echoed the findings of the Reed Review (Reed, 1992). However, the needs of offenders serving community sentences, supervised by probation staff, were not dealt with in sufficient detail. Bradley did comment on the low use of mental health treatment orders in probation. The report also noted that those serving short prison sentences, with a mental health disorder, would be better served by an appropriate community treatment order. However, the role that probation staff might play in the recognition of mental health disorder and then facilitating access to care and treatment was somewhat glossed over. There are major reasons why such recognition is important. First, the UK National Health Service has explicitly stated that the principle of 'equivalence' should operate in relation to access to healthcare for all offenders (Prison Service and NHS Executive Working Group, 1999). Second, there is an association, albeit poorly understood, between offending and mental health disorder which could be ameliorated through improved access to mental health services. The number of offenders in England and Wales serving community orders has increased by 38% over the past two decades and now stands at over 241,000 (Ministry of Justice, 2010); thus, it is likely that there has been a large increase in the absolute numbers of people in the UK probation system with a mental health disorder.

Our sample of community supervised offenders was based in a single UK county and is therefore not representative of offenders in other countries. Furthermore, our study setting was not typical of the UK, and so our results do not necessarily generalise to other areas. The county of Lincolnshire is relatively rural and is significantly deprived (leading to high unemployment, for example). In fact, according to the UK's Index of Multiple Deprivation 2010, the three local authority regions covering Lincolnshire are all within the third most socio-economically deprived in England (Department for Communities and Local Government, 2011). The probation offices are widely dispersed and, unusually, the area runs its own health support service, which has been lauded as a national model. In addition, probation staff had participated in a countywide training programme in mental health 2/3 years previously. Thus, whilst the random sampling procedure ensured that the 173 selected were reasonably representative of the Lincolnshire Probation Trust population, caution should be exercised if generalising these results beyond this region.

What is required now, building on these findings, is the national study of the prevalence of mental health disorders in probation populations in the UK and in other countries. It is likely that, without such data, access to

community-based mental health services for offenders serving supervision orders will remain variable. It seems clear that the prevalence of mental health disorders for community-based offenders is high, as high maybe as in prisons; however, there has been very little focus to date, on ensuring that services are provided for this group.

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