Background
Although male prisoners are five times more likely to die by
suicide than men of a similar age in the general population,
the contribution of psychiatric disorders is not known.

Aims
To investigate the association of psychiatric disorders with
near-lethal suicide attempts in male prisoners.

Method
A matched case–control study of 60 male prisoners who
made near-lethal suicide attempts (cases) and 60 prisoners
who had never carried out near-lethal suicide attempts in
prison (controls) was conducted. Psychiatric disorders were
identified with the Mini International Neuropsychiatric
Interview (MINI), and information on sociodemographic
characteristics and criminal history was gathered using a
semi-structured interview.

Results
Psychiatric disorders were present in all cases and 62% of
controls. Most current psychiatric disorders were associated
with near-lethal suicide attempts, including major depression
(OR = 42.0, 95% CI 5.8–305), psychosis (OR = 15.0,
95% CI 2.0–113), anxiety disorders (OR = 6.0, 95% CI 2.3–15.5)
and drug misuse (OR = 2.9, 95% CI 1.3–6.4). Lifetime
psychiatric disorders associated with near-lethal attempts
included recurrent depression and psychoses. Although
cases were more likely than controls to meet criteria for
antisocial personality disorder, the difference was not
statistically significant. Comorbidity was also significantly
more common among cases than controls for both current
and lifetime disorders.

Conclusions
In male prisoners, psychiatric disorders, especially
depression, psychosis, anxiety and drug misuse, are
associated with near-lethal suicide attempts, and hence
probably with suicide.

Declaration of interest
None.

Reducing the incidence of suicide by prisoners is part of national
strategies for suicide prevention in the USA,1 UK,2 Ireland3 and
other countries,4 and is highlighted in a recent World Health
Organization statement on mental health in prisons.5 Relative to
age-adjusted rates in the general population, suicide rates in male
prisoners are five times higher in England and Wales,6 and large
proportionate excesses have been found in the USA7 and some
mainland European countries.8 Potentially modifiable factors have
been the focus of suicide prevention guidelines in prisons,9,10
although there has been little attention to specific psychiatric
disorders. A recent systematic review showed that clinical factors
have strong associations with suicide in prison, but which
diagnoses and their relative contributions were uncertain.11 Part
of the reason for this is that investigating risk factors for prison
suicide has principally been based on examination of official
records, or use of the psychological autopsy approach, which aims
to build a retrospective picture of the deceased's mental state at the
time of death in order to develop a profile of the prisoner.12 As
this method relies primarily on medical records for information
on clinical factors, it is limited by the quality of these.13-15

In this study, we addressed this limitation by assessing
psychiatric disorders in male prisoners who made near-lethal
suicide attempts and comparing them with those of a matched
control group of prisoners who had never made a similar attempt
in prison.16 The validity of the near-lethal method is supported by
two pieces of evidence. First, survivors of medically serious suicide
attempts are epidemiologically similar to individuals who die by
suicide.17,18 Second, individuals who have made a medically
serious suicide attempt are twice as likely as other people who
have attempted suicide to subsequently complete suicide.19
Furthermore, the near-lethal method has been piloted in
prisons.20 However, the pilot study only included 15 male
prisoners, there was no control group and psychiatric morbidity
was not investigated.

Method
Participating prisons
We requested information from the Ministry of Justice Safer
Custody and Offender Policy Group on prisons within 100 miles
of Oxford that had relatively high rates of serious suicide attempts
and completed suicides. Nineteen prisons were identified, including
three young offenders’ institutes (prisoners aged 18–21), three
category A (maximum security) prisons, 12 category B prisons
(establishments for those who do not require maximum security
but for whom escape must be made difficult) and one category
C prison (for prisoners who cannot be housed in open conditions
but who are unlikely to try to escape).

Participant identification
Near-lethal suicide attempts were defined as acts that could have
been lethal had it not been for intervention or chance, and/or
involved methods that are associated with a reasonably high
chance of death.21 Detailed criteria were developed to aid prison
officers refer suitable cases to the study (Appendix). The criteria
are based on the physical danger and consequences of the
act, an approach that is in line with that used in previous
investigations of near-lethal suicide attempts in the community.21
They intentionally do not include suicidal intent. This is because
basing the criteria only on the lethality of the act includes in the
study both those with high suicidal intent and those whose actions
may have very nearly caused death but may not have been
motivated by suicidal intentions. Such cases would be recognised
by most researchers as being within a broad conceptualisation of suicide.

Cases were interviewed within 4 weeks of the suicide attempt. Controls were prisoners who had not made a near-lethal suicide attempt while in prison. They were matched with cases by age (5 years older or younger) and by type/category of prison. Identification of controls was done randomly from the Ministry of Justice's daily list of prisoners using these two matching criteria. All participants were aged 18 years and over.

Prisoners making a near-lethal suicide attempt were excluded from the study if they declined to take part (15 individuals), could not speak English (8), were considered too dangerous (4) or too seriously mentally ill (1), or because staff shortages or absences meant that the 4-week time limit within which an interview had to be conducted had been missed (6). A further eight prisoners were released from prison or transferred to a non-participating prison before an interview could be arranged. Those included in the case group were significantly more likely than those excluded to be White (52/60 (87%) v. 25/42 (60%), odds ratio (OR) = 4.4, 95% CI 1.7–11.6) and to be on a life sentence (13/39 (33%) v. 2/23 (9%) OR = 5.1, 95% CI 1.0–24.9). Other recorded socio-demographic and criminological characteristics did not differ significantly between the included and excluded prisoners.

Interviews

Following training in use of the instruments and questionnaires employed in the research, and piloting at a large adult male local prison, one of the authors (A.R.) conducted semi-structured face-to-face interviews with 60 cases and 60 controls. A total sample size of 120 was calculated to provide sufficient power to determine important differences in psychiatric characteristics. After participants' written consent had been obtained, the interviews took place in private in the prison and lasted for 90–120 min. Participants were offered support both before and after the interviews from a prison officer, chaplain, Samaritan, Listener (trained peer support) or psychologist.

Sociodemographic and criminal history information was gathered using an adapted version of a structured questionnaire used in the Oxford Monitoring System for Attempted Suicide.22 The following information regarding a participant's medical and psychiatric history was collected: history of in-patient or out-patient psychiatric treatment, current psychotropic medication, current contact with a mental health professional (including a psychiatrist, psychologist, counsellor or community psychiatric nurse), and previous self-harm (with and without suicidal intent). For cases, we also administered the Beck Suicide Intent Scale (SIS) to assess severity of suicidal intent associated with near-lethal acts.23 Psychiatric morbidity was assessed with the Mini International Neuropsychiatric Interview (MINI),24 which includes Axis I (psychiatric) and II (personality) disorders for DSM–IV25 and ICD–1026 diagnoses. The MINI has been demonstrated to have good to very good validity, reliability (interrater and test–retest), and sensitivity and specificity indices.7–22 When compared with the Structured Clinical Interview for DSM–III–R (SCID),26 the MINI had good to very good kappa values (apart from current drug dependence, which was the only diagnosis with a κ < 0.5). Except for dysthymia, obsessive–compulsive disorder, and current drug dependence, sensitivity was 0.70 or above for all disorders. For major depression, lifetime mania, current and lifetime panic disorder, lifetime agoraphobia, lifetime psychotic disorder, anorexia and post-traumatic stress disorder (PTSD), positive predictive values have been found to be above 0.75. Other advantages of the MINI include its relatively brief administration time (15–20 min) and ease of use.26,29 The MINI has also been used in prisons.31–33 However, previous research in prisoners33 and our pilot work suggested that the MINI may overdiagnose certain disorders. We therefore made the following modifications: a diagnosis of mania (current or lifetime) was only made when prisoners met criteria for elation/expansiveness (i.e. irritable mood alone was insufficient to reach a diagnosis); and a diagnosis of obsessive–compulsive disorder was dependent on meeting criteria for both obsessions and compulsions.

Ethical approval

The study had ethical approval from the Central Office for Research Ethics Committees (Ethics number 06/MRE12/83), and the Prison Service (Reference PG 2006 063).

Statistical analyses

All analyses were conducted using the Statistical Package for the Social Sciences (SPSS, Version 15.0 for Windows) and STATA (Version 9.0 for Windows). A 95% (P < 0.05) significance level was adopted. In the results, unless otherwise specified, denominators for both cases and controls are 60. Odds ratios, 95% confidence intervals and associated P-values for analyses of categorical factors were calculated using McNemar's test to account for matching of cases and controls. For continuous data, paired sample t-tests and Wilcoxon signed ranks tests (for non-normally distributed data) were used.

Possible confounders (ethnicity, marital status, prior employment, educational qualifications, index offence, remand status, previous prison spells, and sentence length greater than 18 months) were assessed using conditional logistic regression. We examined whether confounders were each independently associated with having made a near-lethal attempt in prison and with specific psychiatric disorders. Confounders were then introduced and left in the model if they altered the odds ratio by more than 10%.14,15 No confounder fulfilled both these criteria.

We looked at risk of near-lethal suicide attempts according to diagnostic subgroups using conditional logistic regression (as the data were matched on age and prison type/category). Where the number of discordant pairs of cases and controls was less than 10, we do not report odds ratios.

Results

Near-lethal suicide attempts

Hanging or ligaturing accounted for two-thirds (n = 40, 67%) of the near-lethal suicide attempts. There were also 12 (20%) incidents of severe cutting, 3 (5%) self-asphyxiations, 3 (5%) overdoses of paracetamol and/or ibuprofen, 1 (2%) ingestion of foreign objects (plastic knives) and 1 (2%) self-immolation.

All but one incident (59, 98%) took place in the prisoners' own cells. Most of these were in the prisoners' normal location (46, 77%), ten (17%) were in segregation units and four (7%) were in the prison healthcare centre. The majority of prisoners in the case group were not identified as 'at risk' at the time of the incident. Only 24 (40%) were on an open ACCT (Assessment, Care in Custody and Teamwork) document, which is the formal system for registering and monitoring prisoners thought to be at risk of suicide and self-harm in prisons in England and Wales.16,17

Over one-third (18/49, 37%) of individuals in the case group were withdrawing from drugs or alcohol at the time of the incident. The mean Beck Suicide Intent score was 19.0 (s.d. = 5.4, range 2–29). By comparison, the mean score for males assessed at a general hospital in England following an incident of self-harm or self-poisoning has been reported to be 10.6.37
Sociodemographic and criminological variables
Near-lethal suicide attempts were associated with being White, having no educational qualifications, having been in prison previously, having been imprisoned for less than 30 days and having been in the current prison for less than 30 days (Table 1).

Psychiatric history
Near-lethal suicide attempts were associated with a history of psychiatric treatment and self-harm (Table 1).

Current psychiatric disorder
Psychiatric disorders were present in all cases and 62% of controls (Table 2). Excluding substance use disorders, 58 (97%) cases and 21 (35%) controls had a psychiatric disorder (OR = 38.0, 95% CI 5.2–277). Comorbidity of disorders was particularly prevalent in cases. Most psychiatric diagnoses were associated with near-lethal suicide attempts, especially depression, psychosis, panic disorder and any anxiety disorder. Alcohol misuse was related to near-lethal suicide attempts but this association did not reach statistical significance.

Lifetime psychiatric disorders
Recurrent depression and all psychoses were associated with near-lethal suicide attempts (Table 3). Although cases were more likely than controls to meet criteria for antisocial personality disorder, this difference was not statistically significant.

Psychiatric treatment at the time of the interview
Significantly more cases than controls were receiving psychiatric treatment and psychotropic medication at the time of the interview (Table 4). However, there was a discrepancy between the number of cases diagnosed using the MINI with a current episode of major depression (52, 87%) and those being prescribed antidepressants (22, 37%).

Discussion
We used a standardised diagnostic instrument in an interview study of 120 male prisoners in 19 prisons in England to investigate associations with near-lethal suicide attempts. We found that clinical factors were strongly associated with near-lethal suicide attempts, particularly current and recurrent depression, current and lifetime psychosis, current anxiety disorders and previous self-harm.

Current psychiatric disorders
Cases were significantly more likely to be suffering from any mood disorder (particularly major depression) than controls, anxiety (notably panic, PTSD and social anxiety), psychotic disorders, and to have comorbid disorders. In the general population, completed suicide is also associated with these disorders.16 However, although alcohol misuse is a risk factor for suicide in the general population,16 it was not strongly associated with near-lethal suicide attempts in this prisoner population. In previous research on suicide by prisoners, similar associations were identified with any psychiatric diagnosis in an Austrian case–control study13 and with psychosis in a recent US investigation.40 However, the findings on the role of comorbidity and anxiety disorders have not, to our knowledge, been previously reported.11

After depression, alcohol and drug disorders, PTSD was the most prevalent disorder in the cases, and was also associated with a near-lethal suicide attempt. Post-traumatic stress disorder has received little attention in suicide research in prisons41 and, considering its potential treatability, further research investigating its role in suicide risk is warranted.

Lifetime psychiatric disorders
Apart from hypomania, all lifetime Axis I diagnoses, and comorbidity, were associated with near-lethal suicide attempts in

Table 1 Sociodemographic, criminological and psychiatric history characteristics of male prisoners who made near-lethal suicide attempts (cases) and those who had not (controls)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cases n = 60</th>
<th>Controls n = 60</th>
<th>χ²</th>
<th>OR (95% CI)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sociodemographic</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age (years)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18–21</td>
<td>11 (18)</td>
<td>10 (17)</td>
<td></td>
<td>2.7 (1.0–6.8)</td>
<td>0.040</td>
</tr>
<tr>
<td>22–29</td>
<td>20 (33)</td>
<td>21 (35)</td>
<td></td>
<td>0.7 (0.3–1.5)</td>
<td>0.321</td>
</tr>
<tr>
<td>30–39</td>
<td>22 (37)</td>
<td>17 (28)</td>
<td></td>
<td>1.3 (0.6–2.8)</td>
<td>0.451</td>
</tr>
<tr>
<td>40–49</td>
<td>5 (8)</td>
<td>11 (19)</td>
<td></td>
<td>2.4 (1.0–5.9)</td>
<td>0.048</td>
</tr>
<tr>
<td>50+</td>
<td>2 (3)</td>
<td>1 (2)</td>
<td></td>
<td>1.6 (0.7–3.3)</td>
<td>0.261</td>
</tr>
<tr>
<td>White ethnicity v. Black and minority ethnic</td>
<td>52 (87)</td>
<td>42 (70)</td>
<td>2.7 (1.0–6.8)</td>
<td>0.040</td>
<td></td>
</tr>
<tr>
<td>Singlea</td>
<td>41 (68)</td>
<td>46 (77)</td>
<td></td>
<td>0.7 (0.3–1.5)</td>
<td>0.321</td>
</tr>
<tr>
<td>Parent or guardian of children</td>
<td>35 (58)</td>
<td>31 (52)</td>
<td></td>
<td>1.3 (0.6–2.8)</td>
<td>0.451</td>
</tr>
<tr>
<td>Educational qualifications (none v. any)</td>
<td>21 (33)</td>
<td>11 (19)</td>
<td>2.4 (1.0–5.9)</td>
<td>0.048</td>
<td></td>
</tr>
<tr>
<td>Unemployedb</td>
<td>35 (58)</td>
<td>29 (48)</td>
<td></td>
<td>1.6 (0.7–3.3)</td>
<td>0.261</td>
</tr>
<tr>
<td><strong>Criminological</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Previous prison spell(s)</td>
<td>54 (90)</td>
<td>40 (67)</td>
<td>4.5 (1.5–13.3)</td>
<td>0.007</td>
<td></td>
</tr>
<tr>
<td>Remand status</td>
<td>21 (35)</td>
<td>12 (20)</td>
<td>2.3 (0.9–5.6)</td>
<td>0.068</td>
<td></td>
</tr>
<tr>
<td>Less than 30 days since being imprisoned</td>
<td>17 (28)</td>
<td>1 (2)</td>
<td>17.0 (2.3–127)</td>
<td>0.006</td>
<td></td>
</tr>
<tr>
<td>Less than 30 days in current prison</td>
<td>25 (42)</td>
<td>1 (2)</td>
<td>25.0 (3.4–185)</td>
<td>0.002</td>
<td></td>
</tr>
<tr>
<td><strong>Psychiatric history</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Previous psychiatric in-patient treatment</td>
<td>20 (33)</td>
<td>3 (5)</td>
<td>9.5 (2.2–40.8)</td>
<td>0.002</td>
<td></td>
</tr>
<tr>
<td>Previous psychiatric out-patient treatment</td>
<td>21 (35)</td>
<td>5 (8)</td>
<td>5.0 (1.7–14.6)</td>
<td>0.003</td>
<td></td>
</tr>
<tr>
<td>Previous self-harm in prisond</td>
<td>41 (68)</td>
<td>5 (8)</td>
<td>36.0</td>
<td>&lt;0.0001</td>
<td></td>
</tr>
<tr>
<td>Previous self-harm outside prison</td>
<td>38 (63)</td>
<td>20 (33)</td>
<td>3.3 (1.5–7.2)</td>
<td>0.004</td>
<td></td>
</tr>
</tbody>
</table>

a. including divorced, widowed and separated.
b. including sick/disabled.
c. Any self-inflicted act, regardless of method, severity or intent.
d. Odds ratios (ORs) undefined because there is a 0 in one or more cells. McNemar’s chi-squared and associated P reported when observed values are equal to or greater than 10.
prison. Antisocial personality disorder is a risk factor for suicide in the general population, and we found a non-significant trend to this effect in prisoners who had made near-lethal suicide attempts. This is in line with previous research findings regarding the association between antisocial personality disorder and suicidal behaviour in prisoners and probably reflects the high frequency of this disorder in the general prison population.

**Table 3** Comparisons of lifetime psychiatric disorders between male prisoners who made near-lethal suicide attempts (cases) and those who had not (controls)

<table>
<thead>
<tr>
<th>Disorder</th>
<th>Cases n = 60</th>
<th>Controls n = 60</th>
<th>OR (95% CI)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mood disorders</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Major depression</td>
<td>30 (50)</td>
<td>6 (10)</td>
<td>9.0 (2.7–29.7)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Mania</td>
<td>16 (27)</td>
<td>5 (8)</td>
<td>3.8 (1.2–11.3)</td>
<td>0.019</td>
</tr>
<tr>
<td>Hypomania</td>
<td>8 (13)</td>
<td>4 (7)</td>
<td>2.0 (0.6–6.6)</td>
<td>0.258</td>
</tr>
<tr>
<td>Any</td>
<td>41 (68)</td>
<td>13 (22)</td>
<td>5.0 (2.2–11.3)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Psychotic disorders</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With mood disorder*</td>
<td>4 (7)</td>
<td>0 (0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Without mood disorder</td>
<td>52 (87)</td>
<td>20 (33)</td>
<td>17.0 (4.1–70)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Any</td>
<td>60 (100)</td>
<td>37 (62)</td>
<td>9.0 (2.7–29.7)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>2+ current disorders</td>
<td>52 (87)</td>
<td>20 (33)</td>
<td>17.0 (4.1–70)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>3+ current disorders</td>
<td>40 (67)</td>
<td>8 (13)</td>
<td>9.0 (3.2–25.3)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>4+ current disorders</td>
<td>27 (45)</td>
<td>3 (5)</td>
<td>9.0 (2.7–29.7)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Eating disorders</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anorexia*</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anorexia (binge eating/purging type)*</td>
<td>1 (2)</td>
<td>0 (0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bulimia*</td>
<td>1 (2)</td>
<td>0 (0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any*</td>
<td>2 (3)</td>
<td>0 (0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any current disorder*</td>
<td>60 (100)</td>
<td>37 (62)</td>
<td>9.0 (2.7–29.7)</td>
<td>&lt;0.0001</td>
</tr>
</tbody>
</table>

a. Odds ratios undefined when there is a 0 in one or more cells.

b. Odds ratios not calculated for disorders where number of discordant pairs is less than 10.
Psychiatric treatment at the time of the interview

There was a discrepancy between the number of cases experiencing a current episode of major depression (52, 87%) and those being prescribed antidepressants (22, 37%). Research in the general population has also shown inconsistencies between the prevalence and treatment of depression, which is equally marked in people who have died by suicide. Nevertheless, unmet needs in relation to psychiatric illness in prison are considerable. The reasons for this may include inadequate methods of detection, scarce resources and limited staff training.

Only 14 (23%) cases were currently being seen by a mental health professional (psychiatrist, mental health nurse or psychologist), despite having made a serious suicide attempt less than 4 weeks previously. In addition to treatment for depression, unmet treatment needs for anxiety disorders, especially PTSD, social anxiety and panic disorder appear substantial.

Strengths and limitations of the study

Previous research investigating risk factors for suicide in prison has had a number of methodological limitations. These include the use of routinely collected cross-sectional data from variable quality prison and medical records, which contain limited information on specific psychiatric diagnoses, particularly for controls. An advantage of this study was the ability to assess clinically the individual who undertook the act. Although our sample size allowed predicting those most likely to take their own lives may be difficult. Nevertheless, the finding that only 24 (40%) of the cases were identified as being ‘at-risk’ for suicide at the time of their attempt indicates that there may be scope for improving detection of those at risk of suicide, perhaps with a structured suicide screening tool.

Our findings suggest that such an instrument should include questions regarding prisoners’ history of psychiatric contact, previous self-harming and suicidal behaviour (especially if this occurred while in prison), and current

Table 4 Comparisons of current psychiatric treatment and current medication between male prisoners who made near-lethal suicide attempts (cases) and those who had not (controls)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cases n = 60</th>
<th>Controls n = 60</th>
<th>χ²</th>
<th>OR (95% CI)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current psychiatric treatmentb,c</td>
<td>14 (23)</td>
<td>1 (2)</td>
<td>13.0</td>
<td>&lt;0.001</td>
<td></td>
</tr>
<tr>
<td>Psychiatrist onlyb</td>
<td>3 (5)</td>
<td>1 (2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mental health nurse onlyc</td>
<td>6 (10)</td>
<td>0 (0)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychiatric and mental health nurse</td>
<td>4 (7)</td>
<td>0 (0)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychologist onlyc</td>
<td>1 (2)</td>
<td>0 (0)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>On medication</td>
<td>40 (67)</td>
<td>13 (22)</td>
<td>28.0 (3.8–206)</td>
<td>0.001</td>
<td></td>
</tr>
<tr>
<td>Psychotropic medicationb</td>
<td>33 (53)</td>
<td>4 (7)</td>
<td>29.0</td>
<td>&lt;0.001</td>
<td></td>
</tr>
<tr>
<td>Antidepressantsb</td>
<td>22 (37)</td>
<td>4 (7)</td>
<td>18.0</td>
<td>&lt;0.001</td>
<td></td>
</tr>
<tr>
<td>Mood stabilisersb</td>
<td>4 (7)</td>
<td>0 (0)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Major tranquillisersb</td>
<td>11 (18)</td>
<td>0 (0)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benzodiazepines and other sedatives</td>
<td>17 (28)</td>
<td>2 (3)</td>
<td>16.0 (2.1–121)</td>
<td>0.007</td>
<td></td>
</tr>
<tr>
<td>Medication for physical disorders</td>
<td>12 (20)</td>
<td>4 (7)</td>
<td>5.0 (1.1–22.8)</td>
<td>0.038</td>
<td></td>
</tr>
<tr>
<td>Opiatesb</td>
<td>6 (10)</td>
<td>6 (10)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Otherb</td>
<td>4 (7)</td>
<td>2 (3)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Odds ratios undefined when there is a 0 in one or more cells; McNemar’s chi-squared and associated P reported when observed values are equal to or greater than 10.
c. Odds ratios not calculated for disorders where number of discordant pairs is less than 10.
psychiatric disorders. However, further research is needed to test the predictive value of such a tool and, in particular, to what extent false positives are identified. Furthermore, detection should be considered an ongoing process occurring at various stages of custody, rather than only at reception. This may be important if a prisoner’s circumstances change, for example, if he is transferred or about to be released, since there is evidence of increased psychological distress before release and elevated risk of suicide shortly after release.

Third, the discrepancy between the proportion of prisoners with psychiatric problems and those receiving pharmacological and/or psychological interventions suggests that in addition to better risk assessment, reviewing the treatment and management of common psychiatric disorders in at-risk prisoners should be considered. In the UK, responsibility for prison healthcare has recently been devolved to NHS primary care trusts (since April 2006). One possible area that may warrant further research is the efficacy and cost-effectiveness of interventions incorporating either pharmacological and psychosocial interventions or both. Any such research will be relevant to mental healthcare in prisons in other countries.

Although suicide and severe self-harming behaviours in prisoners are major problems in many countries, potentially modifiable risk factors have been little researched. We have attempted to assess the potential role of psychiatric disorders using a novel method, that of interviewing survivors of near-lethal suicide attempts, the findings of which should have relevance outside the UK.

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