Identification and management of prisoners with severe psychiatric illness by specialist mental health services

J. Senior[1]*, L. Birmingham[2], M. A. Harty[3], L. Hassan[1], A. J. Hayes[1], K. Kendall[2], C. King[1], J. Lathlean[2], C. Lowthian[1], A. Mills[4], R. Webb[1], G. Thornicroft[3] and J. Shaw[1]

[1] *The University of Manchester, UK*
[2] *The University of Southampton, UK*
[3] *Institute of Psychiatry, King's College London, UK*
[4] *The University of Auckland, New Zealand*

Background. The prevalence of mental disorders among prisoners is considerably higher than in the general population. This is an important public health issue as the vast majority of prisoners stay in custody for less than 9 months and, when not in prison, offenders' lifestyles are frequently chaotic, characterized by social exclusion, instability and unemployment. Multi-disciplinary mental health inreach services were introduced to target care towards prisoners with severe mental illness (SMI) in a similar way to that provided by Community Mental Health Teams outside prison. The aim was to establish the proportion of prisoners with SMI who were assessed and managed by prison mental health inreach services.

Method. A two-phase prevalence survey in six prisons in England measured SMI upon reception into custody. Case-note review established the proportion of those with SMI subsequently assessed and treated by inreach services.

Results. Of 3492 prisoners screened, 23% had SMI. Inreach teams assessed only 25% of these unwell prisoners, and accepted just 13% onto their caseloads.

Conclusions. Inreach teams identified and managed only a small proportion of prisoners with SMI. Prison-based services need to improve screening procedures and develop effective care pathways to ensure access to appropriate services. Improved identification of mental illness is needed in both the community and the Criminal Justice System to better engage with socially transient individuals who have chaotic lifestyles and complex needs.

Introduction

The prevalence of mental disorders among prisoners is considerably higher than in the general population (Singleton *et al.* 1998; Fazel & Danesh, 2002). Prison-based health-care services have been criticized historically as ineffective, reflective neither of current best practice nor of actual clinical need, delivered by inadequately qualified staff in unsuitable physical environments, yet at higher cost than services delivered to the wider community (HM Inspectorate of Prisons for England and Wales, 1996; Health Advisory Committee for the Prison Service, 1997; BMA, 2001;

* Address for correspondence: Dr J. Senior, Offender Health Research Network, Centre for Mental Health and Risk, 2.317, Jean McFarlane Building, The University of Manchester, Manchester M13 9PL, UK.

(Email: jane.senior@manchester.ac.uk)

Birmingham, 2003). The effectiveness of screening for health problems and suicide risk in custody has also been questioned, with routine screening practices picking up only 23–33% of prisoners with severe mental illness (SMI; Birmingham *et al.* 1996; Parsons *et al.* 2001). To address these issues, mental health inreach services were established to provide specialist input for prisoners with SMI (DH, 2001). Inreach services were envisaged as being equivalent to Community Mental Health Teams, which provide specialist mental health input to the community. Evaluation of inreach has, to date, been limited to studies into operational, rather than clinical, considerations (Armitage *et al.* 2003; Meiklejohn *et al.* 2004; Steel *et al.* 2007; Brooker & Gojkovic, 2009). Such studies have shown wide variation in models of care, poor awareness among prison discipline staff about the role of inreach leading to inappropriate referrals,

and problems implementing the Care Programme Approach (CPA; DH, 1990) in custody (Telfer, 2000; Lee, 2003; Meiklejohn *et al.* 2004). Thus far, there has been no robust large-scale assessment into inreach teams' abilities to identify or manage the needs of prisoners with SMI.

The current study used a multi-site two-phase prevalence survey to determine rates of mental illness and subsequently assess the extent to which inreach teams were identifying and managing prisoners with SMI.

Method

The study took place in six prisons, chosen to ensure representation of a range of different prisoner and prison types. Four sites were local prisons receiving both remand and convicted adult men directly from court; two of these also fulfilled a high security function, housing prisoners presenting specific security risks. One establishment was a training prison, receiving convicted adult men transferred part way into their sentence. The sixth site housed adult and young women, accepting both convicted and unconvicted women directly from court. Two prisons were in the South East of England, one in the South and three in the North West. Ethical approval for the research was obtained from the National Health Service (NHS) ethics service and research governance approval granted from the NHS Trusts and the private sector company that provided inreach services to the research prisons.

The minimum sample size was determined using an estimate of the proportion of prisoners with SMI, to a confidence level (CI) of 95% (5% error). An estimated proportion of SMI was calculated by combining rates for different disorder types from the existing research literature. Psychosis rates for male and female prisoners, both on remand and sentenced, were obtained from Singleton *et al.* (1998) and mood disorder rates from Brooke *et al.* (1996). Rates were then calculated for individual sites based on the legal status and gender of each prison's population. For the four sites dealing with both remand and sentenced prisoners, the mid-point between the two relevant rates was selected. Psychosis rates were then combined with rates of depression and bipolar disorder to yield aggregate rates of SMI across each prison population. Estimated rates of SMI and overall prison population figures were used to determine the number of participants to be recruited at each prison. In total, a sample of 1110 participants was required, comprising 189 women and 921 men; a final sample of 1181 was achieved over an 18-month period (212 women, 969 men). This represented 1.5% of adult men and 5.4% of

women in prison across England and Wales when data collection ceased in April 2007 (Ministry of Justice, 2007).

The study adopted a two-phase prevalence survey design. A random sample of prisoners newly received into custody was approached for inclusion. In the training prison, with a very low rate of receptions, prisoners were selected randomly from the prison roll. Following receipt of information about the study and informed consent being obtained, participants were asked to complete the Prison Screening Questionnaire (PriSnQuest), an eight-item screening tool validated to screen for mental illness in Criminal Justice System populations (Shaw *et al.* 2003). A score of three or more on PriSnQuest indicates the need for further detailed examination for possible mental illness. Those screened positive and 5% of those screened negative were asked to complete a longer clinical interview, incorporating: a demographic proforma designed specifically for the study; the Schedule for Affective Disorders and Schizophrenia (SADS; Endicott & Spitzer, 1978); the expanded Brief Psychiatric Rating Scale (BPRS-E; Lukoff *et al.* 1986); the Michigan Alcoholism Screening Test (MAST; Selzer *et al.* 1975); and the Drug Abuse Screening Test (DAST; Skinner, 1982). Additional questions were asked regarding past contact with mental health services in the community.

To assess the ability of inreach teams to identify SMI and any subsequent management, information about the care received by participants following health screening at reception in their first month in custody was documented from case notes including core clinical records, electronic systems and mental health inreach records.

Data were initially double entered to enable the identification and correction of data entry errors, thereby producing an accurate data set for analysis. All statistical analyses were conducted using Stata version 10 (StataCorp, 2008) to properly account for the stratified sampling design. Following screening (Phase I), screen-positive and screen-negative sampling probability weights for each prison were derived as the reciprocal of the number of subjects who received the full clinical interview (Phase II) divided by the number within each screening status stratum at Phase I. The prison-specific probability weights (Table 1) were applied to all prevalence estimates and regression analyses to derive valid point and variance estimates from the two-phase sampling design. Weighted prevalence estimates were obtained from the coefficients generated by logistic regression models, as described by Dunn *et al.* (1999). Where analyses were performed across all six prisons, sampled variance estimates were further corrected

Table 1. *Percentage of all prisoners who screened positive versus negative on the PriSnQuest (Phase I); by screening status, percentage of screened prisoners given Phase II clinical interview; sampling probability weights used for prevalence estimation*

Prison	% Screening status (at Phase I)		Transferred, released or withdrew (before Phase II interview)	% Interviewed (at Phase II)		Sampling probability weights	
	Positive[a]	Negative[a]		Positive[b]	Negative[b]	Positive[c]	Negative[c]
Adult male local, high secure (1)	26 (148)	74 (429)	2	99 (146)	5 (22)	1.014	19.500
Adult male local, high secure (2)	34 (231)	66 (452)	36	84 (195)	3 (15)	1.185	30.133
Adult male local (1)	38 (262)	62 (427)	40	85 (225)	9 (40)	1.180	10.675
Adult male local (2)	37 (228)	63 (389)	96	55 (125)	1 (4)	1.824	97.250
Adult male training	45 (180)	55 (223)	0	100 (180)	9 (20)	1.000	11.150
Adult and young women local	44 (228)	56 (285)	28	88 200	4 (12)	1.140	23.750
All prisons in sample	37 (1277)	63 (2205)	209	84 (1068)	5 (113)	[1.196]	[19.513]

PriSnQuest, Prison Screening Questionnaire.

[a] Figures in parentheses give the number of prisoners per prison by screening outcome (positive *versus* negative) at Phase I.

[b] Figures in parentheses gives the number of prisoners per prison interviewed at Phase II, according to Phase I screening status.

[c] Probability sampling weights calculated as the reciprocal of number of subjects interviewed at Phase II divided by the number within each screening status stratum at Phase I (see Dunn *et al.* 1999).

for prison clustering effects using the Huber/White sandwich estimator (Rogers, 1993). All differences reported in the text are significant at the 5% level (two-sided).

Among prisoners with SMI, log binomial regression models were used to derive risk ratios (RRs) and 95% CIs for mutually independent predictors of (*a*) assessment by inreach services and (*b*) acceptance onto caseloads. Independent variables that were significantly associated with outcome variables in univariate analyses (χ^2 tests) were selected for inclusion in multivariate models and assessed together in single blocks. Subsequently, demographic variables thought to potentially influence outcome variables were added as covariates, namely gender, age, ethnicity and legal status. Variables significant at the 5% level were retained in the final models.

Results

In the Phase I screening, an overall consent rate of 90% ($n = 3482$) was obtained from those approached for initial screening ($n = 3871$). Participants screened were representative of the prisons from which they were drawn with respect to age distribution, ethnicity and offence characteristics, based on comparisons made between study and HM Prison Service data sources. Across the six sites, 1277 (37%) participants were PriSnQuest positive, scoring three or more, indicating the need for further examination for possible mental illness. Data for those who did not consent for screening were unavailable and it was not therefore

possible to assess any potential bias due to non-consenting. In all, 84% of those who were screen positive ($n = 1068$) and 5% of screen negatives ($n = 113$ of 2215) completed the full follow-up interview schedule (Table 1). Sixteen per cent of prisoners screening positive on PriSnQuest were transferred, released or withdrew from the study before being able to undertake the full clinical interview ($n = 209$).

Prevalence of SMI

We defined SMI as a current episode of major depressive disorder (MDD), bipolar disorder and/or any form of psychosis, including schizophrenia, schizoaffective disorder and any other non-affective, non-organic psychosis, measured using the SADS. On this basis, the overall prevalence rate for SMI across all prisons was 23% (Table 2). In addition to the SADS measure of MDD, a second measure was used to calculate the rate of those with MDD accompanied by a clinically significant risk of suicide, measured by the BPRS-E. The prevalence of MDD with current, clinically significant suicide risk was 5%, with a significant gender difference (men: 4%, women: 9%; $\chi^2 = 6.3$, 1 df, $p = 0.01$).

Prevalence rates of disorder varied markedly according to prison type. Adult male prisoners in the long-stay training establishment were twice as likely to have MDD as men in local prisons. Similarly higher rates of MDD were found in women. Conversely, men in local prisons were almost twice as likely to have a psychotic illness as either men, or women, in the

Table 2. *Prevalence (%) of severe mental illness (SMI) as diagnosed by SADS, by prison type*

Type of prison	Any SMI		Schizophrenia		Any psychosis		MDD[c]		MDD+Suicidality[d]		Dual diagnosis[e]	
	n	% (95% CI)[a]	n	% (95% CI)[a]	n	% (95% CI)[a]	n	% (95% CI)[a]	n	% (95% CI)[a]	n	% (95% CI)[a]
1. Male												
Adult local	187	21 (15–29)	16	2 (1–3)	53	6 (4–9)	142	16 (11–23)	46	5 (3–8)	161	18 (13–25)
Adult local, high secure	125	16 (11–24)	10	1 (1–3)	36	3 (2–5)	95	14 (8–21)	30	4 (2–9)	107	13 (8–20)
Adult training	131	35 (26–45)	6	1 (0–2)	13	3 (2–6)	118	32 (23–42)	9	2 (1–4)	83	23 (16–32)
2. Female												
Adult/young women local	108	33 (21–47)	6	1 (1–3)	12	3 (1–5)	100	31 (20–45)	40	9 (6–13)	81	22 (14–34)
3. Male and Female												
All prisons in sample[b]	551	23 (17–29)	38	1 (1–2)	114	4 (3–6)	455	19 (14–26)	125	5 (3–7)	432	18 (15–21)

SADS, Schedule for Affective Disorders and Schizophrenia; CI, confidence interval.

[a] % and CI are probability weighted to account for two-phase sampling design.

[b] For analyses conducted across all prisons, CI also corrected for prison clustering effects.

[c] Major depressive disorders (excluding psychotic disorders).

[d] Major depressive disorders (excluding psychotic disorders) with expanded Brief Psychiatric Rating Scale (BPRS-E)-assessed suicidality.

[e] Defined as alcohol or drug disorder+any type of SMI.

Table 3. *Percentage of prisoners, by psychiatric status and diagnosis: (i) assessed by inreach services; (ii) accepted onto inreach caseloads*

	(i) Assessed by services		(ii) Accepted onto caseloads	
	n	% (95% CI)[a]	*n*	% (95% CI)[a]
All prisoners[b]	180	8 (5–11)	95	4 (2–6)
No SMI	54	3 (2–3)	22	1 (1–2)
Diagnostic group				
Any type of SMI	126	25 (17–36)	73	13 (7–23)
Schizophrenia	22	60 (41–77)	18	50 (29–71)
Any psychosis	51	47 (34–60)	38	35 (24–48)
MDD (excluding psychotic disorders)	75	20 (12–30)	35	8 (4–14)
MDD (excluding psychotic disorders) +BPRS-E suicidality	31	29 (21–38)	17	16 (11–24)
Dual diagnosis[c]	108	27 (19–37)	60	13 (7–22)

SMI, Severe mental illness; CI, confidence interval; MDD, major depressive disorder; BPRS-E, Brief Psychiatric Rating Scale – Expanded.

[a] % and CI are probability weighted to account for the two-phase sampling design; CI also corrected for prison clustering effects.

[b] All prisoners with Phase II measurements ($n = 1181$) irrespective of psychiatric status.

[c] Defined as alcohol or drug disorder+any type of SMI.

training establishment. Rates for dual diagnosis of SMI and substance misuse were high among both sexes; 78% (95% CI 67–85) of those with SMI had a co-occurring alcohol and/or substance misuse problem, as measured by MAST and/or DAST. There was no evidence of a difference in rates of dual diagnosis between male (17%) and female (22%) prisoners ($\chi^2 = 1.2$, 1 df, $p = 0.28$).

Contact with mental health inreach services in custody

Overall, 25% of those with SMI (as determined by SADS) were assessed by inreach and 13% were accepted onto inreach caseloads within a month of reception into custody (Table 3). Rates of both assessment and acceptance onto caseload varied markedly according to psychiatric diagnosis. Thus, 47% of those with a psychotic illness were assessed and 35% taken onto caseload, whereas of those with MDD, 20% were assessed by inreach and 8% accepted onto inreach caseloads. These proportions increased when accompanied by a clinically significant risk of suicide, as measured by the BPRS-E, of which 29% were assessed and 16% accepted onto caseload. The rates of assessment and acceptance onto caseload for those with psychotic illness *versus* MDD were significantly different ($\chi^2 = 23.3$, 1 df, $p < 0.001$ and $\chi^2 = 101.3$, 1 df, $p < 0.001$ respectively).

Among prisoners with a current episode of SMI, the likelihood of being either assessed by inreach services or accepted onto caseload was higher if they also reported past contact with mental health services (Table 4). Overall, 41% of those in a current episode of SMI reported having had previous contact with mental health services in the community; however, only 18% reported active service contact immediately before custody. Fifty-six per cent of those with a psychotic illness and a past history of contact with mental health services were assessed by inreach. By contrast, only 22% of those with a current psychotic illness but no previous contact with mental health services were assessed; this difference was highly significant ($\chi^2 = 38.0$, 1 df, $p < 0.001$). Similarly, 35% of those with MDD and a past history of contact with services were assessed, in comparison to 9% of those with the illness but no past contact with services ($\chi^2 = 50.8$, 1 df, $p < 0.001$).

Rates of assessment and acceptance onto caseload were highest for those with SMI who had been in contact with community-based mental health services immediately before custody. Sixty-four per cent of those in a current episode of psychotic illness and in contact with services immediately before prison were assessed by inreach services, with 52% accepted onto caseloads. Similarly, 56% of those with MDD and current service contact were assessed by inreach, yet only 20% of this group were accepted onto caseload (Table 5).

Table 4. *Percentage of prisoners with and without any history of contact with mental health services* (MHS), *by psychiatric diagnosis:* (i) *assessed by inreach services;* (ii) *accepted onto caseloads*

Diagnostic group	Any prior contact with MHS		No prior contact with MHS		
	n	% (95% CI)[a]	n	% (95% CI)[a]	Wald χ^2 (1 df)[a]
(i) Assessed by services					
Any type of SMI	94	41 (36–47)	32	10 (7–15)	134.1, $p < 0.001$
Schizophrenia	19	65 (44–82)	3	38 (16–68)	1.8, $p = 0.17$
Any psychosis	45	56 (45–66)	6	22 (11–38)	38.0, $p < 0.001$
MDD (excluding psychotic disorders)	49	35 (28–43)	26	9 (6–12)	50.8, $p < 0.001$
MDD (excluding psychotic disorders) +BPRS-E suicidality	22	34 (27–42)	9	21 (12–33)	14.4, $p < 0.001$
Dual diagnosis[b]	81	43 (38–49)	27	11 (8–15)	264.1, $p < 0.001$
(ii) Accepted onto caseloads					
Any type of SMI	60	22 (13–36)	13	4 (2–10)	19.5, $p < 0.001$
Schizophrenia	16	56 (32–78)	2	26 (15–41)	4.2, $p = 0.04$
Any psychosis	34	42 (33–52)	4	16 (5–38)	8.9, $p = 0.003$
MDD (excluding psychotic disorders)	26	14 (8–24)	9	3 (1–7)	10.0, $p = 0.002$
MDD (excluding psychotic disorders) +BPRS-E suicidality	6	18 (12–26)	6	14 (8–23)	0.8, $p = 0.37$
Dual diagnosis[b]	50	22 (12–36)	10	4 (2–8)	23.5, $p < 0.001$

SMI, Severe mental illness; MDD, major depressive disorder; BPRS-E, Brief Psychiatric Rating Scale – Expanded; CI, confidence interval; df, degrees of freedom.

[a] %, CI and the Wald χ^2 test are probability weighted to account for the two-phase sampling design; CI also corrected for prison clustering effects.

[b] Defined as alcohol or drug disorder + any type of SMI.

Table 5. *Percentage of prisoners with current mental health service contact before custody, by psychiatric diagnosis:* (i) *assessed by inreach services;* (ii) *accepted onto inreach caseloads*

Diagnostic group	(i) Assessed by services		(ii) Accepted onto caseloads	
	n	% (95% CI)[a]	n	% (95% CI)[a]
Any type of SMI	45	59 (40–75)	31	30 (12–56)
Schizophrenia	11	67 (43–84)	11	67 (43–84)
Any psychosis	22	64 (43–81)	18	52 (36–68)
MDD (excluding psychotic disorders)	23	56 (31–78)	13	20 (6–49)
MDD (excluding psychotic disorders) +BPRS-E suicidality	10	46 (33–60)	6	31 (10–63)
Dual diagnosis[b]	38	61 (42–77)	25	28 (10–57)

SMI, Severe mental illness; MDD, major depressive disorder; BPRS-E, Brief Psychiatric Rating Scale – Expanded; CI, confidence interval.

[a] % and CI are probability weighted to account for two-phase sampling design; CI also corrected for prison clustering effects.

[b] Defined as alcohol or drug disorder + any type of SMI.

In multivariate regression models, any psychosis, any prior contact with MHS and current contact with MHS before custody were significantly and independently associated with both inreach assessment and acceptance onto caseload. In the final models, predictors of acceptance onto inreach

Table 6. *Multivariate models showing mutually independent predictors of* (i) *assessment by inreach services and* (ii) *acceptance onto inreach caseloads, among prisoners diagnosed with SMI*

Variable[a]	Adjusted RR	95% CI
(i) Assessed by inreach services		
Any psychosis	1.40	1.04–1.89
Any prior contact with MHS	2.89	2.01–4.17
Current contact with MHS before custody	1.97	1.38–2.80
(ii) Accepted onto inreach caseloads		
Any psychosis	2.37	2.04–2.75
Any prior contact with MHS	3.53	1.59–7.81
Current contact with MHS before custody	1.82	1.25–2.65
Male gender	3.00	2.23–4.04

SMI, Severe mental illness; RR, risk ratio; CI, confidence interval; MHS, mental health services.

[a] The variables tested were any psychosis, major depressive disorder (MDD, excluding psychotic disorders), MDD + Suicidality (excluding psychotic disorders), dual diagnosis, any prior contact with MHS, current contact with MHS before custody, gender, age, legal status and ethnicity.

acceptance were essentially the same as those for assessment, except that male gender was also independently associated with acceptance onto caseload (Table 6).

Contact with mental health services in the community

Fifty-one per cent (*n* = 270) of prisoners in a current episode of SMI reported previous contact with community-based mental health services; however, only 18% (*n* = 98) were in recent, active contact with services immediately before reception into custody. Those with schizophrenia had the highest rate of engagement with services immediately before custody, with 45% (*n* = 17) in contact compared to 16% (*n* = 68) of those with MDD.

Discussion

Overall, the results showed that specialist mental health inreach teams had assessed only a quarter of all prisoners with SMI, and that even fewer were taken onto their caseloads for treatment. The rationale for inreach services was to manage prisoners with SMI so we suggest that they are missing the majority of people intended for their input. However, before any firm conclusions can be drawn, the limitations to this study should be considered.

First, the six prisons used were not wholly representative of the entire prison estate; open/ trainer prisons and young offender institutions were not included. However, participants screened were representative of the prisons from which they were drawn with respect to age distribution, ethnicity and offence characteristics, based on comparisons made between study and HM Prison Service data sources. This would have had a limited effect on introducing potential bias as our survey aimed to measure inreach services in terms of their success engaging with a random sample of adults with SMI. This was fully congregant with the original policy aim. Rates of contact with mental health services in the community were based on self-reports and may therefore be inaccurate, perhaps most for prisoners reporting current contact with services. This was defined to participants as recent, active engagement with services; however, it is possible that prisoners included levels or types of contact that mental health workers would not consider as active or satisfactory engagement from a clinical viewpoint. A second limitation was the study's reliance on the PriSnQuest measure to screen for SMI. Although research suggests this has good sensitivity (Shaw *et al.* 2003), analysis of the 113 'screen negatives' revealed that seven of them had an SMI, diagnosed by SADS. However, the estimation of prevalence of SMI in the prisons correctly accounted for the proportion of false positives and negatives on PriSnQuest (Rogers, 1993; Dunn *et al.* 1999). Data for assessment and treatment by inreach services were extracted from core clinical records, electronic medical note systems and mental health inreach records in prisoners' first month in custody only. It is possible that prisoners with SMI were identified, assessed and treated by inreach teams during a later point in their custody period.

Comparison of the SMI rates found here and in other research is problematic because of differences in tools and definitions. Most studies have reported the prevalence of mental illness as a whole rather than focusing on SMI (Gunn *et al.* 1991; Brooke *et al.* 1996; Singleton *et al.* 1998; Fazel & Danesh, 2002); however, rates of individual disorders can be compared. At 4%, the prevalence of psychosis among prisoners in our sample was identical to that reported by a systematic review of nearly 23000 prisoners across 12 countries (Fazel & Danesh, 2002), and similar to a study of 750 male remand prisoners using comparable methodology (i.e. semi-structured interview and case-note review), which found 5% (Brooke *et al.* 1996). However, the rate is higher than a study using non-structured clinical diagnosis, which found 2% psychosis among 1769 male prisoners on remand (Gunn *et al.* 1991). It has been suggested that studies such as ours, conducted by non-clinical researchers using standardized assessments, may overestimate the prevalence of mental illness (Anthony *et al.* 1985; Romanoski *et al.* 1992). Conversely, the psychosis rate from this study is lower than the most quoted prevalence study of prisoners in England and Wales, which found rates of 9% and 6% among remand and sentenced male prisoners respectively, and 13% for a mixed sample of females (Singleton *et al.* 1998). However, in that study, the methodology used allowed the reporting of rates of 'probable psychosis', possibly resulting in an overestimation of disorder, compared to the more narrow definition resulting from our methods.

Despite the limitations, we suggest that the data reliably show insufficient identification of SMI by inreach teams following reception into prison. An earlier study (Birmingham *et al.* 1996) reported that only 23% of those with mental disorder were detected by routine screening upon reception into prison and, if not identified at reception, mental disorder was unlikely to be detected later in a person's prison term. This study shows that the proportion of prisoners with SMI being identified in the first month of custody seems not to have changed following the introduction of these specialist services.

Detection of SMI currently relies heavily upon initial health screening on reception into custody. This is a busy and stressful time and there are several procedures requiring completion. Health-care assessment is but one of these processes, and one that may be considered less important than the legal procedures required to ensure a person's custody is lawful. In local prisons with many new receptions, prisoners invariably arrive in large numbers from courts during the late afternoon and early evening, and the imperative is to move prisoners from the reception area onto residential units as quickly as possible. Health screens may be completed in areas that are barely private and routinely noisy. This is not an environment conducive to an effective assessment of mental health needs.

The current standard health screening tool requires health-care staff to refer a person to mental health services for further assessment if they report past contact with mental health services or a past prescription of psychotropic medication. However, only 59% of those in a current episode of SMI who were in contact with mental health services immediately before custody were assessed by inreach. This suggests a fundamental problem in using past contact with services as an indicator to ensure continuity of care for a large proportion of severely mentally ill prisoners.

The original principle of the reception health screening process was that it should serve as a quick screen of urgent or significant needs, to be then followed by a later comprehensive assessment (Grubin *et al.* 2002). In many prisons, this process does not take place because of practical difficulties in health-care staff accessing all prisoners within a few days after initial reception. In our view, this principle should be revisited so that health screening upon initial reception focuses on detecting whether a prisoner has an acute physical or mental health problem requiring immediate treatment, or whether there is an acute risk of suicide. Following this, all prisoners should be 'kept safe' overnight. We would go further and suggest that comprehensive mental health assessments should be conducted on everyone the following day by trained staff in an appropriate environment. This would prevent an over-reliance on historical factors for detection of mental illness, such as past contact with services, to one that proactively seeks out current need. There then needs to be an effective triage mechanism whereby those with SMI are routed to inreach, and those with common mental disorders remain in primary care as would happen in the community.

Currently, primary care mental health services are underdeveloped generally in prisons (Bradley, 2009), and there is an urgent need to examine ways of successfully importing and adapting evidence-based best practice from the wider community to effectively meet the clinical and psychosocial needs of prisoners with mild to moderate mental health problems. Consideration also needs to be given to ways of replicating the plurality of specialist mental health-care services available to the wider community; for example, early intervention and assertive outreach services, to fully achieve equivalence of provision between prison and community. In this way, inreach services become part of a holistic, functional mental health system in prisons rather than an isolated resource expected to provide care to a

population in flux, with very diverse needs, as is currently too frequently the case.

Finally, the study findings suggest a much broader problem of engagement with this group. Although only 25% of those received into prison custody with SMI were assessed by specialist mental health inreach services and 13% accepted onto caseload, only 18% of those in a current episode of SMI were in contact with mental health services immediately before prison. Thus, community-based services, in addition to those in prison, clearly have a long way to go in effectively providing services for this difficult to engage group. This has implications for robust discharge planning upon release from prison, including the development of creative and flexible ways of providing services in the community to maximize engagement; effective treatment modalities for those with dual mental health and substance misuse problems; and efficient communication strategies to ensure appropriate and proportional sharing of clinical and risk pertinent information across both health and criminal justice agencies.

Acknowledgements

Declaration of Interest

None.

References

Anthony JC, Folstein M, Romanoski AJ, Von Korff MR, Nestadt GR, Chahal A (1985). Comparison of the lay Diagnostic Interview Schedule and a standardized psychiatric diagnosis. *Archives of General Psychiatry* **42**, 667–676.

Armitage C, Fitzgerald C, Cheong P (2003). Prison in-reach mental health nursing. *Nursing Standards* **17**, 40–42.

Birmingham L (2003). The mental health of prisoners. *Advanced Psychiatric Treatment* **9**, 191–201.

Birmingham L, Mason D, Grubin D (1996). Prevalence of mental disorder in remand prisoners: consecutive case study. *British Medical Journal* **313**, 1521–1524.

BMA (2001). *Prison Medicine: A Crisis Waiting to Break*. British Medical Association: London.

Bradley K (2009). *The Bradley Report. Lord Bradley's Review of People with Mental Health Problems or Learning Disabilities in the Criminal Justice System*. Department of Health: London.

Brooke D, Taylor C, Gunn J, Maden A (1996). Point prevalence of mental disorder in unconvicted male prisoners in England and Wales. *British Medical Journal* **313**, 1524–1527.

Brooker C, Gojkovic D (2009). The second national survey of mental health in-reach services in prisons. *Journal of Forensic Psychiatry and Psychology* **20** (Suppl. 1), 11–28.

DH (1990). *The Care Programme Approach for People with a Mental Illness, Referred to Specialist Psychiatric Services*, Health and Social Services Circular HC (90)23/LASSL (90)11. Department of Health: London.

DH (2001). *Changing the Outlook. A Strategy for Developing and Modernising Mental Health Services in Prisons*. Department of Health and HM Prison Service: London.

Dunn G, Pickles A, Tansella M, Vazquez-Barquero JL (1999). Two-phase epidemiological surveys in psychiatric research. *British Journal of Psychiatry* **174**, 95–100.

Endicott J, Spitzer RL (1978). A diagnostic interview: the schedule for affective disorders and schizophrenia. *Archives of General Psychiatry* **35**, 837–844.

Fazel S, Danesh J (2002). Serious mental disorder in 23,000 prisoners: a systematic review of 62 surveys. *Lancet* **359**, 545–550.

Grubin D, Carson D, Parsons S (2002). *Report on New Prison Reception Health Screening Arrangements: The Results of a Pilot Study in 10 Prisons*. University of Newcastle: Newcastle.

Gunn J, Maden A, Swinton M (1991). Treatment needs of prisoners with psychiatric disorders. *British Medical Journal* **303**, 338–341.

Health Advisory Committee for the Prison Service (1997). *The Provision of Mental Health Care in Prisons*. Home Office: London.

HM Inspectorate of Prisons for England and Wales (1996). *Patient or Prisoner? A New Strategy for Health Care in Prisons*. Home Office: London.

Lee S (2003). Care co-ordinators and the CPA. *Mental Health Nursing* **23**, 8–10.

Lukoff D, Nuechterlein KH, Ventura J (1986). Appendix A: Manual for Expanded Brief Psychiatric Rating Scale (BPRS). *Schizophrenia Bulletin* **12**, 594–603.

Meiklejohn C, Hodges K, Capon D (2004). In-reach work with prisoners. *Mental Health Nursing* **24**, 8–10.

Ministry of Justice (2007). *Population in Custody Monthly Tables, April 2007*. Ministry of Justice: London.

Parsons S, Walker L, Grubin D (2001). Prevalence of mental disorder in female remand prisoners. *Journal of Forensic Psychiatry* **12**, 194–202.

Rogers WH (1993). Regression standard errors in clustered samples. *Stata Technical Bulletin* **13**, 19–23.

Romanoski AJ, Folstein MF, Nestadt G, Chahal R, Merchant A, Brown CH, Gruenberg EM, McHugh PR (1992). The epidemiology of psychiatrist-ascertained depression and DSM-III depressive disorders: results from the eastern Baltimore mental health survey appraisal. *Psychological Medicine* **22**, 629–655.

Selzer ML, Vinokur A, Van Rooijen L (1975). A self-administered Short Michigan Alcoholism Screening Test. *Journal of Studies on Alcohol* **36** (Suppl. 1), 117–126.

Shaw J, Tomenson B, Creed F (2003). A screening questionnaire for the detection of serious mental illness in the criminal justice system. *Journal of Forensic Psychiatry and Psychology* **14** (Suppl. 1), 138–150.

Singleton N, Meltzer H, Gatward R, Coid J, Deasy D (1998). *Survey of Psychiatric Morbidity Among Prisoners in England and Wales*. Office for National Statistics: London.

Skinner HA (1982). The Drug Abuse Screening Test. *Addictive Behaviours* **7** (Suppl. 4), 363–371.

StataCorp (2008). *Stata Statistical Software: Release 10.0*. Stata Corporation: College Station, TX.

Steel J, Thornicroft G, Birmingham L, Brooker C, Mills A, Harty M, Shaw J (2007). Prison mental health inreach services. *British Journal of Psychiatry* **190**, 373–374.

Telfer J (2000). Balancing care and control: introducing the Care Programme Approach in a prison setting. *Mental Health Care* **41**, 93–96.