Current and Lifetime Psychiatric Illness Among Inmates Not Identified as Acutely Mentally Ill at Intake in Connecticut's Jails

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This study presents estimates of current and lifetime psychiatric illness among inmates not identified as acutely mentally ill at intake into all five of Connecticut's adult jails (four male facilities and one female facility). Diagnoses were assessed with the Structured Clinical Interview for DSM-IV (SCID), Clinician-Administered PTSD Scale, and the Global Assessment of Functioning (GAF) and are reported by gender and race/ethnicity. The results showed that more than two of three inmates met the criteria for at least one lifetime psychiatric disorder, almost half for an anxiety disorder, and more than one-third for an affective disorder. Overall, estimates of psychiatric morbidity in the women were higher than those in the men, with the exception of antisocial personality disorder (ASPD). Of particular note, borderline personality disorder was diagnosed in 23.2 percent of women and 12.9 percent of men. An allegation of a violent offense was not associated with the presence of mental illness or with a specific diagnosis. Lifetime history of any mental illness was associated with significantly reduced scores (range, 12–15 points reduction) on the Global Assessment of Functioning. The study showed that current and lifetime psychiatric morbidity are elevated among newly incarcerated adults who do not exhibit obvious signs of severe mental illness and are associated with functional impairment. While such disorders do not necessarily require treatment, unrecognized mental illness may place offenders at greater risk while incarcerated than offenders without mental illness. This study reinforces the need for appropriate screening and referral for treatment at intake into jail.

Over the past decade, U.S. criminal justice systems have experienced an enormous increase in adjudications and incarcerations.[1–3] Between 1995 and 2004, there was a 3.4 percent annual growth in the incarcerated population.[4] By the end of 2005, 1,446,000 individuals were incarcerated in state and federal prisons; an additional 747,500 were in local jails.[5]

Data on health status and illness prevalence in adult correctional settings[6–13] are beginning to emerge and suggest that incarcerated adults are at higher risk than the general population for several psychiatric and physical illnesses. For many of those subsequently released, unsuccessful or inadequate treatment extends to the community and is associated with re-entry into prison.[14–16]

The growing number of people with mental illness in correctional facilities has been attributed to a variety of societal changes, including deinstitutionalization of care and the criminalization of substance misuse.[6,17–20] It is important to note, however, that Supreme Court decisions have affirmed the constitutional right to adequate mental health treatment of prisoners, in accordance with due process and prevention of cruel and unusual punishment.[21–23] Unfortunately, the availability of appropriate mental health services in adult correctional settings lags well behind the apparent need.[24,25] While definitive epidemiological data are not available, prevalence estimates from institutional records (e.g., 10.8% preva-

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lence of any serious mental disorder[10]) are likely to miss a substantial number of prisoners with psychiatric disorders.[26–28] In a recent large study (in 6,982 inmates from 417 jails nationwide), in which a brief modified structured interview was used, the Bureau of Justice Statistics (BJS) noted that 64 percent of inmates reported one or more symptoms of any mental illness, and 30.4 percent affirmed having five or more symptoms of major depression within the past year.[29] It is important to note that the methodology of this study neither excluded substance-induced mood disorders nor took into account symptom severity, functional impairment, or the presence or absence of any formal psychiatric diagnosis.[29] These prevalence estimates may best be thought of as an upper limit of mental health problems (not psychiatric illness *per se*).

Further, treatment resources are not distributed equally among correctional facilities. Prison systems generally have more resources for mental health assessment, treatment and programming than do jails, which are generally individual institutions run by a particular county. The 50 largest U.S jails hold about 31.5 percent of the total 747,500 jail inmates[3] and generally have substantial intake and referral resources. The remaining 3,315 jails hold almost a half million inmates, usually housing between a dozen and several hundred inmates,[3] and provide only part-time access to mental health clinicians. The combination of limited mental health resources, rapid turnover of unsentenced offenders, and the substantial stress of dislocation from community care, support, and resources, places adults detained in jails at risk of clinically significant distress and functional impairment.

In general, for intake officers in jails to recognize the severely distressed or psychotic individual is fairly straightforward. There are, however, many offenders with current or past psychiatric illnesses who do not have dramatically apparent symptoms. Nevertheless, such psychiatric illnesses may place the newly incarcerated offender at increased risk of clinical deterioration, disciplinary concerns, or suicide attempts.[29] Correctional health care providers, administrators, and policy makers need data to guide the identification of newly incarcerated adults who have undetected psychiatric morbidity. Many jails now screen for mental illness, but most do so based on non-standardized protocols that may fail to detect serious mental health problems.

The present study was conducted as part of a larger project for the development of an evidence-based screening instrument to assist in determining the need for referral to mental health evaluation for current and lifetime psychiatric morbidity among adult inmates not identified as acutely mentally ill at intake into jail.[30] The specific questions addressed in this article are: What percentage of men and women who are not known to have a psychiatric illness when newly admitted to jail in fact meet rigorous diagnostic criteria for a psychiatric illness; how pervasive is the comorbidity of multiple psychiatric diagnoses; and, is a lifetime history of psychiatric illness associated with current functional impairment?

Methods

Subjects

Connecticut has an integrated system whereby the State's Department of Correction controls both the jails and the prison system. The subject pool consisted of new admissions into all of Connecticut's jails (one facility for female offenders and four facilities for male offenders) who consented to participate in a University of Connecticut Health Center (UCHC) Institutional Review Board (IRB)–approved protocol (including review by a prisoner advocate). These new admissions include all those individuals who were unsentenced, remanded, or sentenced on misdemeanor charges. Research assessors reviewed daily intake lists for eligible inmates. Individuals not eligible for participation included youths (younger than 18 years requiring parental consent); individuals with high bonds (potential security risks requiring a custody officer with them during any interview, and therefore unable to participate with adequate confidentiality); those already admitted to the inpatient level of medical/mental health care (by mandate of the Connecticut Department of Correction [CDOC] for safety and management concerns); or those in security restricted housing (who were excluded from all routine admission procedures). These exclusions were required by the CDOC and/or the UCHC IRB. This protocol exclusion was similar to that employed by the BJS.[29]

With the above provisos, research assessors selected inmates from the remaining individuals on the intake list. Random selection was assured through use of a computerized (SPSS) random-number algorithm for each list. If selected, the inmate was es-

corted by a custody officer to a designated interview room to meet confidentially with the research assessor. The room was generally in the medical unit at each facility. The research assessor briefly described the purpose of the study and reviewed the parameters of participation. If the individual was interested in participating, the research assessor engaged the participant in the informed consent process. This process included an assessment of the participant's understanding of the purpose of the study by asking for a description, in his or her own words, of the purpose and what would be required and then obtaining a signature confirming informed consent. Individuals who participated were not compensated in any way. Consistent with federal regulations governing prisoner research (45CFR46 Subpart C), it was clearly specified during the consent process that there were neither incentives for participating nor negative consequences for refusing.

Screening Protocol

After obtaining consent, the assessor read to each participant either a multi-instrument 25-minute screening interview covering a range of Axis I and II disorders or a brief 8-item (for women) or 12-item (for men) screen derived from the lengthier interview (see Ref. 30 for a detailed description). The data presented in this article are derived from a randomly selected subsample of participants who underwent the diagnostic interview protocol, as described in the following section.

Interview Protocol

A preset numerical sequence was used for random selection of every fifth screening participant for participation in the follow-up interview protocol. Within 1 week after the screening protocol, selected participants were contacted, informed consent was again obtained, and a structured interview lasting between two and three hours was conducted to establish Axis I and Axis II psychiatric disorders and psychosocial impairment. The majority (70%) of the people contacted a second time agreed to participate. This structured interview included: Structured Clinical Interview for DSM-IV, Patient Version (SCID P[31]); Structured Clinical Interview for DSM-IV Axis II (SCID II[31]); Global Assessment of Functioning (GAF[32]); and the Clinician Administered PTSD Scale (CAPS[33]). These instruments have been shown to have acceptable internal consistency and retest re-

liability, and either convergent, criterion, or predictive validity, in prior samples. None has been tested with correctional samples.

Assessors

The five assessors were bachelors-level ($n = 2$), masters-level ($n = 2$), or physician ($n = 1$) research staff. Assessors were trained for reliability and supervised in the administration of the screening interview by a senior clinician (J.F.), including extensive role play practice with coaching and feedback and direct observation of at least three interviews *in situ* before they conducted independent assessments. Interviews were reviewed in weekly supervision wherein questions concerning protocol and unanticipated exceptions were addressed by the authors with the entire assessor team. Inter-rater reliability for the SCID I, SCID II, and GAF were assessed by an independent co-interviewer with 16 randomly selected participants. No adverse reactions by participants were observed during, or reported following, any of the interviews.

Sample

Throughout the interview period, research assessors had access to approximately 6,264 men and 2,233 women newly incarcerated in one of the five prisons. It required 20 months to reach the targeted enrollment of a minimum of 200 women and 300 men. One quarter (26%) of the available sample of 8,497 inmates (2,196 individuals) was successfully recruited for participation in the screening protocol. Nonparticipation by 74 percent was due to refusal to participate (7%), unavailability due to scheduling or rapid discharge or transfer from the facility (53%), and ineligibility due to previously noted exclusion criteria (17%: less than 18 years of age, inpatient mental health, hospitalization, medically ill, placed in restricted housing, non-English speaking, already interviewed). Of the screening protocol subjects, 508 (17.8 percent) participated in the interview protocol, and they comprised the sample discussed in this article.

As reflected in Table 1, participants in the interview sample were diverse and generally representative of the larger CDOC population of incarcerated adults. There was one exception: white inmates were overrepresented in the interview sample compared with the percentage of white inmates incarcerated in CDOC (42.9% versus 28%; $\chi^2 = 4.85$, $p < .05$).

Table 1 Demographic Information

Race/Ethnicity	Men	Women	Total	%	CDOC % (as of 01/04)
White	127	91	218	42.9	28.0*
Black	111	66	177	34.8	44.0 (ns)
Hispanic	68	42	110	21.7	27.0 (ns)
Asian	0	1	1	0.2	
American Indian	1	1	2	0.4	
Total	307	201	508	100.0	

	N	Mean	SD	Range
Age, y	508	31.6	9.3	18–64
Education, y	508	11.5	1.8	0–16

CDOC, Connecticut Department of Correction.
*$p < .05$.

No other statistically significant differences in demographics were found between the study samples and the overall CDOC population. The age of participants averaged 32 years.

Based on CDOC records, 78.8 percent of the men and 88.6 percent of the women were incarcerated for nonviolent offenses. The types of offenses and the proportions of the sample by each offense type are consistent with those in the overall CDOC population.

Results

Both lifetime and current psychiatric diagnoses are reported. Inter-rater reliability was robust for all composite diagnosis categories (93%–100% agreement; $\kappa = 0.68–1.00$) with two exceptions that reflected acceptable levels of agreement: anxiety disorders (81% agreement; $\kappa = 059$) and Axis II Cluster A disorders (88% agreement; $\kappa = 059$).

Lifetime Mental Illness

The percentages of participants who met the criteria for lifetime psychiatric disorder, categorized by gender and race/ethnicity, are presented in Table 2. Overall, more than two in three (69.7%) participants met the criteria for a lifetime psychiatric disorder. As anticipated, more women (77.0%) than men (64.9%) were diagnosed with a psychiatric disorder ($\chi^2 = 8.35, df = 1, p < .01$). Ethnic/racial differences in rates of psychiatric illness were not statistically significant for the men or for the women (Table 2). Neither was there a statistically significant interaction of race by gender for the likelihood of a psychiatric disorder.

Axis I Diagnoses

As seen in Table 2, 59.1 percent of the entire sample met the criteria for at least one lifetime Axis I disorder. As expected, due to the institutional protocol for removing individuals with known serious and acute mental illness from the general population immediately on entry, psychotic disorders were rarer than other psychiatric disorders, with an estimated rate of 1.6 percent and no difference in the rate between the men and the women.

One in four (24.3%) of the men met the criteria for a lifetime affective disorder, including major depression (21.2%), bipolar disorder (1.3%), dysthymia (2.0%), and substance-induced mood disorder (1.6%). Lifetime affective disorders were more common among the white male participants than among the black or Hispanic men ($\chi^2 = 10.21, df = 2, p < .01$). Lifetime anxiety disorders other than PTSD were present in 37.6 percent of the male participants; panic disorder was the most common (15%). PTSD was found in 20 percent of the men. Ethnic/racial differences were not statistically significant for lifetime anxiety disorders excluding PTSD or for PTSD.

More than half (56.5%) of all the female participants had a lifetime affective disorder diagnosis, with 49.3 percent meeting criteria for unipolar major depression, 2.0 percent for bipolar disorder; and 4.5 percent for substance-induced mood disorder. The ethnic/racial subgroups of women differed in affective disorder prevalence, with the white (64.8%) and Hispanic (59.5%) women more likely to report a lifetime affective disorder than the black (43.1%) women ($\chi^2 = 7.50, df = 2, p < .02$). Lifetime anxiety disorders excluding PTSD were more often reported by the women than the men (49.7% versus 37.6%; $\chi^2 = 5.97, df = 1, p < .05$). Similar to the men, the most common anxiety disorder excluding PTSD reported by the women was panic disorder (26.4%). Almost half of the female participants met the criteria for lifetime PTSD (41.8%), more than twice the percentage of PTSD cases identified among the men. Ethnic/racial differences in the estimates of lifetime PTSD or anxiety disorders excluding PTSD among the women were not statistically significant.

Axis II Diagnoses

As reflected in Table 2, 34.6 percent of the participants met the criteria for ASPD and 16.6 percent for borderline personality disorder (BPD). There were

significant gender differences: the men were more likely than the women to meet the criteria for ASPD ($\chi^2 = 8.56$, $df = 1$, $p < .01$), while the women were more likely than the men to meet the criteria for BPD ($\chi^2 = 9.05$, $df = 1$, $p < .05$). There was no statistically significant race or race by gender interaction in ASPD or BPD diagnoses.

A Cluster B diagnosis was present in 40.7 percent of the sample. The only statistically significant gender differences in the rate of Axis II disorder clusters occurred for Cluster C ($\chi^2 = 5.00$, $df = 1$, $p < .05$; female > male). No significant race by gender interactions were found for the estimates of any Cluster A, any Cluster B, or any Cluster C diagnoses.

Among the male participants, 42.8 percent met the criteria for at least one Cluster B diagnosis (Table 3). The Hispanic men (56.7%) were more likely to meet the criteria for a Cluster B diagnosis than were the white (39.7%) or black (37.3%) men ($\chi^2 = 7.18$, $df = 2$, $p < .05$). Furthermore, the Hispanic men (53.7%) were more likely to meet ASPD criteria than were the white (35.7%) or the black (35.5%) men ($\chi^2 = 7.18$, $df = 2$, $p < .05$) and to have a sole diagnosis of ASPD (13% versus 2% and 4%, respectively; $\chi^2 = 11.97$, $df = 2$, $p < .01$). Among specific Axis II diagnoses, 10 percent of the men met the criteria for paranoid personality disorder, 39.5 percent for antisocial personality disorder, and 12.9 percent for borderline personality disorder.

The estimates for Axis II disorders among the women was 37.4 percent for at least one Cluster B diagnosis, 18.1 percent for at least one Cluster C diagnosis, and 10.2 percent for at least one Cluster A diagnosis. The highest observed rates for specific Axis II disorders among the women occurred for ASPD (27.0%), borderline PD (23.2%), avoidant PD (11.2%), and paranoid PD (10.1%). No ethnic/racial differences were evident among the women in the likelihood of meeting the criteria for any Axis II Cluster or for any specific Axis II disorder (Table 2).

Comorbidity

As seen in Table 4, 39.3 percent of respondents met the criteria for multiple lifetime Axis I disorders and 23.1 percent met the criteria for multiple Axis II disorders. One (32.9%) in three participants had at least one lifetime Axis I disorder coexisting with at least one Axis II disorder. Subjects who had multiple lifetime Axis I disorders were more likely to be white

Table 2 Percent Lifetime History of One or More Psychiatric Diagnoses by Structured Interview (SCID-P and SCID-II)

	White		Black		Hispanic		Total Sample (n = 505)					
	Male (n = 127; 25.1%)	Female (n = 91; 18.0%)	Male (n = 111; 22.0%)	Female (n = 66; 13.1%)	Male (n = 68; 13.5%)	Female (n = 42; 8.3%)	Male	Female	White	Black	Hispanic	All
Psychotic	0.8	2.2	2.7	0.0	0.0	2.4	1.6	1.5	1.4	1.7	0.9	1.6
Affective	32.5	64.8	14.7	43.1	23.5	59.5	24.3	56.5	46.4	25.3	37.3	37.1
Anxiety*	47.7	58.8	29.5	41.8	32.6	44.4	37.6	49.7	53.8	35.3	37.8	43.6
PTSD	18.3	42.9	23.8	37.5	17.5	45.0	20.0	41.8	28.6	28.7	28.2	28.6
Cluster A	9.5	8.0	13.6	12.3	14.9	11.9	12.2	10.2	8.9	13.1	13.8	11.4
Cluster B	39.7	36.4	37.3	36.5	56.7	40.5	42.8	37.4	38.3	37.0	50.5	40.7
ASPD	35.7	23.6	35.5	27.0	53.7	33.3	39.5	27.0	30.7	32.4	45.9	34.6
BPD	16.0	26.4	8.2	17.5	13.4	23.8	12.9	23.2	20.3	11.6	17.4	16.9
Cluster C	11.8	18.9	11.8	16.9	9.0	19.0	11.5	18.1	14.7	13.7	12.8	14.1
Any Axis I	54.8	78.7	44.3	68.3	39.0	74.4	47.6	74.1	65.8	54.3	53.1	59.1
Axis I only	15.7	35.3	12.2	29.8	6.3	22.5	12.3	30.4	24.0	18.7	12.6	19.5
Axis II only	5.6	4.4	7.3	3.1	16.4	2.4	8.6	3.5	5.1	5.7	11.0	6.6
ASPD only	4.0	3.4	1.8	1.6	13.4	2.4	5.3	2.6	3.7	1.7	9.2	4.2
BPD only	0.8	0.0	0.0	0.0	0.0	0.0	0.3	0	0.5	0	0	0.2
Any disorder	67.5	82.4	57.7	73.8	71.6	75.0	64.9	77.0	73.7	63.6	71.6	69.7

Women: n = 199 (missing, 2: American Indian, 1; Asian-American, 1) white, 45%; black, 33%; Hispanic, 21%. Men: n = 306 (missing, 1 American Indian); white, 41%; black, 36%; Hispanic, 22%. SCID, Structured Clinical Interview for DSM-IV.
*Excluding PTSD.

Table 3 Percent Comorbid Lifetime Psychiatric Disorders

Disorder Category	Males (n = 307)	Females (n = 201)	White (n = 218)	Black (n = 177)	Hispanic (n = 110)	Total (n = 508)
Multiple Axis I	27.5	55.9	48.1	28.6	37.6	39.3
Multiple Axis II	20.7	26.6	22.2	21.1	26.6	23.1
Axis II with current Axis I	23.8	41.0	33.0	25.0	33.6	30.6
Axis II with lifetime Axis I	27.0	42.0	35.3	28.4	34.5	32.9

(48.1%) or Hispanic (37.6%) than black (28.6%) (χ^2 = 14.53, df = 2, p < 01).

More than one (27.5%) in four of the men met the criteria for multiple lifetime Axis I disorders. One (20.7%) in five of the men met the criteria for more than one Axis II disorder, and more than one (27.0%) in four had comorbid Axis I (lifetime) and Axis II disorders (Table 3). Among the men, the most common co-occurring disorders were lifetime Axis I depression and PTSD (10.3%), Axis II borderline personality disorder and antisocial personality disorder (9.9%), and comorbid lifetime Axis I and II (Depression and Antisocial Personality) disorders (13.5%). No ethnic/racial differences were found in the prevalence of psychiatric comorbidity in the men.

More than half (55.9%) of all the women met the criteria for multiple lifetime Axis I disorders. One (26.6%) in four of the women met the criteria for more than one Axis II disorder and almost half (42.0%) had comorbid Axis I (lifetime) and Axis II disorders (Table 4). Among the women, the most common comorbid disorders were lifetime Axis I panic disorder and depression (24.3%), Axis II borderline personality disorder and antisocial personality disorder (12.9%), and lifetime Axis I and II (depression and borderline personality) disorders (22.1%). No ethnic/racial differences were found in the prevalence of psychiatric comorbidity in the women.

Current Mental Illness

As anticipated, the percentages were consistently lower for current (Table 4) compared with lifetime (Table 2) diagnoses but otherwise were comparable in pattern to lifetime mental illnesses. Current affective disorders were diagnosed in 13.8 percent of the men. An equal difference across ethnic groups was found as with lifetime disorders (white > black = Hispanic; χ^2 = 11.76, df = 2, p < .01; Table 4). Current affective disorder prevalence was 32.2 percent for the female participants. The ethnic/racial

subgroups of the women differed in affective disorder prevalence, with the white (42.2%) women more likely to report a current affective disorder than either the black (24.6%) or Hispanic (21.4%) women (χ^2 = 8.11, df = 2, p < .05).

Current anxiety disorders excluding PTSD were present in 28.2 percent of the male participants. Current PTSD was present in 5.7 percent of the male participants. Ethnic/racial differences were not statistically significant in either group (Table 3). While current anxiety disorders excluding PTSD revealed no race/ethnicity differences, current PTSD did. The Hispanic women were more likely to meet the criteria for a current PTSD diagnosis than were either the white or black women (35%, 16.9%, and 17.9%, respectively; χ^2 = 5.86, df = 2, p = .05).

Psychiatric Disorder and Offense

No significant associations were found between diagnosis and type of offense (violent versus nonviolent) in the overall sample, or in any subsample defined by gender or ethnicity.

Global Assessment of Functioning

GAF was consistently lower in groups with a lifetime history of any mental illness (Table 5). For men, women, and for the combined group, a lifetime history of any mental illness was associated with a statistically and clinically significant reduction in function as measured by the GAF: 14.6 points lower in the men (60.2 versus 74.8; t = 8.85, df = 250, p < .001), 12.7 points lower in the women (54.0 versus 66.7; t = 5.53, df = 195, p < .001), and 14.8 points in the combined group (57.5 versus 72.3; t = 10.59, df = 498, p < .001).

Discussion

In general, the number of inmates with current and lifetime psychiatric illness who were not identified as acutely mentally ill at jail intake was high and supports the need to assess newly incarcerated indi-

viduals for mental illness. Despite the selective nature of this sample, these data are consistent with previous reports of a variety of samples of incarcerated men[11,34,35] and women.[11,26,35,36] More than two of three inmates met the criteria for at least one lifetime psychiatric disorder, almost half for an anxiety disorder, and more than one-third for an affective disorder, substantially higher levels than those reported in community prevalence studies.[37] These rates are comparable both to levels reported in clinical samples[38] and to those reported in a recent BJS study.[29] Not surprisingly, levels of lifetime PTSD and antisocial personality disorder (ASPD) were markedly higher than in community studies.[37,39] The levels of current affective and anxiety disorders and PTSD also were 5 to 10 times higher than those reported (based on past year prevalence) in community studies.[37,39]

The presence of BPD among 17 percent of the participants was approximately equivalent to psychiatric inpatient estimates of 19 percent.[40] In particular, compared with the community prevalence of BPD in men of less than 0.5 percent, the current finding of 12.9 percent is a dramatic elevation. This finding highlights the need for targeted treatment of the functional impairments associated with BPD that may logically increase the risk of illegal behavior and future recidivism: distress intolerance, impulsivity, and emotional instability.[41] Among incarcerated women, the data are consistent with the few available data sets (primarily international data in convicted felons), with a range of 22 to 29 percent meeting criteria for BPD (as reported in Refs. 11, 42). As repeat offending in violent female offenders has been noted to be substantially associated with the diagnosis of personality disorder in at least one study,[43] effective recognition and treatment are clearly warranted.

Gender Differences

In this correctional sample of inmates not identified as acutely mentally ill, women of all races were more likely than the men to have a lifetime or current Axis I diagnosis, consistent with findings from prior studies of unsentenced individuals in correctional settings[26,35,36] and community and clinical psychiatric epidemiology studies.[37–39] Elevated levels of psychiatric morbidity in the women (compared with men) were particularly evident for both current and lifetime affective, anxiety, and PTSD diagnoses (the

Table 4 Current Mental Illness

| | White | | Black | | Hispanic | | Total Sample (n = 505) | | | | | |
	Male (n = 127; 25.1%)	Female (n = 91; 18.0%)	Male (n = 111; 22.0%)	Female (n = 66; 13.1%)	Male (n = 68; 13.5%)	Female (n = 42; 8.3%)	Male	Female	White	Black	Hispanic	All
Psychotic	0.0	1.1	2.7	0.0	0.0	0.0	1.3	0.5	0.5	1.7	0.0	1.0
Affective	20.8	42.2	5.4	24.6	14.7	21.4	13.8	32.2	29.8	12.5	17.3	21.0
Anxiety*	30.9	39.7	22.2	32.7	31.1	33.3	28.2	35.9	35.6	27.1	32.1	32.0
PTSD	5.1	16.9	8.8	17.9	1.6	35.0	5.7	21.5	10.0	12.0	14.6	11.9

Women: n = 199 (missing, 2; American Indian, 1; Asian-american, 1); white, 45%; black, 33%; Hispanic, 22%. Men: n = 306 (missing, 2; American Indian, 1); white, 41%; black, 36%; Hispanic, 22%.
*Excluding PTSD.

Table 5   Global Assessment of Function Scores by Lifetime History of Mental Illness

	n	Mean	SD	Range	*t* Test (Two-Tailed)
Total group					
Total	500	62.1	16.0	10–96	*t* = 10.59, *df* = 498, *p* < 0.001
No MH diagnosis	153	72.3	13.7		
Any MH diagnosis	347	57.5	14.7		
Men					
Total	303	65.4	16.0	10–96	*t* = 8.85, *df* = 250,* *p* < 0.001
No MH diagnosis	107	74.8	12.8		
Any MH diagnosis	196	60.2	15.1		
Women					
Total	197	57.0	14.6	20–90	*t* = 5.53, *df* = 195, *p* < 0.001
No MH diagnosis	46	66.7	14.3		
Any MH diagnosis	151	54.0	13.4		

*Corrected for unequal variance.

three most frequently occurring Axis I disorders for both genders). The women were more likely than the men to meet the criteria for any lifetime psychiatric disorder, as well as for comorbidity involving multiple Axis I diagnoses or Axis I and II diagnoses.

With regard to personality disorders, men of all races were more likely than the women to have an Axis II diagnosis, an effect that appeared to be largely due to the elevated likelihood by the men of having an antisocial personality disorder (ASPD). The rate of diagnosable ASPD in the men and women was consistent with the reported ranges in previous studies of adult detainees (men: 32%–64%, mean = 46%; women: 14%–51%, mean = 20%; see Ref. 11). However, women of all races were more likely than the men to meet the criteria for BPD or a Cluster C diagnosis, consistent with previous findings.

Race and Ethnicity

In our sample, the white inmates were found to be more likely than the black or Hispanic inmates to have an affective disorder, both overall and in each gender (lifetime and current diagnoses). The white and Hispanic men were more likely than the black men to meet the criteria for an anxiety disorder, excluding PTSD. The Hispanic women were substantially more likely than the white or black women or men to meet the criteria for current PTSD. In Axis II disorders, the Hispanic men were significantly more likely than the black or white men to meet the criteria for ASPD. No other significant ethnic differences or ethnicity by gender interactions in prevalence levels were observed. While overall these data appear to be consistent with findings of some community-based studies,[44] there are specific distinctions. This sample found elevated rates of ASPD in the Hispanic men

compared with the black or white men, but this finding is not consistent in forensic samples. For example, in a population of convicted DWI offenders in New Mexico, the Hispanic men had a statistically lower rate of ASPD than did the non-Hispanic white men.[45]

Issues around racial and ethnic self-identification and diagnostic instrument bias have been raised as potential contributory factors in findings such as these.[46,47] There may be additional social, legal, and cultural factors that also contribute to these findings, as blacks and Hispanics are disproportionately incarcerated compared with whites. In mid-year 2004, 38.6 percent of jail inmates were black, 15.2 percent Hispanic, and 44.4 percent white.[3] Exposure to violence may contribute to the elevated risk in Hispanic women of having current PTSD.[48]

Comorbidity

High levels of comorbid disorders, both across lifetime Axis I and II and across genders, were observed. These findings of high comorbidity rates are consistent with those in other studies (e.g., Refs. 6, 42) and reflect the significant and often complex types of psychiatric impairment characterizing the incarcerated population.

Global Assessment of Functioning

The men with a lifetime history of mental illness had a mean score of 60.2, consistent with moderate symptoms or moderate impairment in social or occupational function. Those without such a mental health history had a mean score of 74.8, consistent with transient and expected reactions to current stressors and no more than mild impairment in social or occupational function. For the women with a his-

tory of mental illness, the mean score was 54.0; this score is consistent with moderate to serious symptoms and functional impairment. The newly incarcerated women without a lifetime history of mental illness scored 66.7, still midway in the range of mild to moderate impairment. These data are consistent with significant chronic impairment in subjects with a lifetime history of psychiatric illness, greater in women than in men. Thus, even when no psychiatric disorder exists currently, a lifetime history of mental illness may be associated with impaired functioning during incarceration and may contribute to subsequent difficulties after return to the community.[49]

Limitations

This study was limited to jail populations, inmates not adjudicated as acutely dangerous secondary to the alleged crime, volunteers willing to sign informed consent, and inmates not identified with obvious symptoms of acute and serious mental illness. However, these are the characteristics of the substantial majority of incarcerated adults, and therefore the study sample is representative of newly incarcerated detainees, with the possible exception of oversampling of whites and undersampling of men and women of color. A further limitation is that the diagnoses do not take into account symptom severity or the need for acute treatment.

To the extent that black or Hispanic inmates may have been reluctant to participate in a study or be interviewed by the primarily white interviewers, our findings may not be representative of all inmates of color. However, there is no reason to suspect that black or Hispanic inmates with psychiatric symptoms would be less willing than white inmates with psychiatric symptoms to participate, particularly in light of the finding that there were few differences in the prevalence of psychiatric disorders among the three ethnic groups. It is possible that the higher prevalence levels of affective disorders among whites are due to an undersampling of black or Hispanic inmates with affective disorders, but such a nonrandom bias in enrollment is not consistent with the bulk of our findings concerning ethnicity and prevalence.

Further, our inclusion of anxiety disorders, separate from PTSD, increased the frequency of psychiatric disorders. That these lifetime disorders appear to be associated with functional impairment (as mea-

sured by an overall decrement in GAF) in this data set arguably supports this decision.

Implications

Psychiatric disorders remain all too common and all too commonly under-recognized among newly incarcerated men and women, despite increased awareness of the need for earlier community-based treatment to prevent the criminalization of mental illness. High levels of psychiatric morbidity with associated functional impairment exist despite increases in institutional awareness of and attempts to identify inmates with past evidence of psychiatric illness. For more than half of the inmates with a lifetime history of an anxiety or affective disorder, a current disorder was evident in a structured clinical interview. Thus, there is little evidence that these jail inmates had recovered from a past illness, and a greater likelihood that they were chronically impaired by undetected psychiatric illness. This conclusion is supported by our finding of decreased GAF associated with an assessed history of lifetime mental illness.

Psychiatric monitoring and preventive or early intervention programs may be needed in jails and prisons to address the risk posed by unidentified lifetime or current disorders that are likely to be exacerbated by the stressors associated with incarceration and legal proceedings. Effective screening for inmates who have current, or are at risk for undetected, psychiatric disorders is a key priority.[50,51]

Additional research is needed to follow the longitudinal course of psychiatric disorders in previously and newly incarcerated individuals and in persons in long-term incarceration, to determine points at which screening, assessment, and preventive and treatment interventions can most effectively prevent the development or exacerbation of disorders and the imprisonment of persons with psychiatric disorders.

Acknowledgments

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