Use of the Mini International Neuropsychiatric Interview (MINI) as a Screening Tool in Prisons: Results of a Preliminary Study

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The authors describe a pilot study in which the Mini International Neuropsychiatric Interview (MINI) was used to assess a random sample of offenders newly committed to the Iowa Department of Corrections. Following sessions in which correctional personnel were trained to administer the MINI, the instrument was administered to 67 offenders. The interview took from 20 to 105 minutes (mean, 41 minutes) to administer, and all but 13 (19%) offenders were positive for a lifetime MINI disorder. Twenty-six (39%) subjects had a lifetime mood disorder, 20 (30%) a lifetime anxiety disorder, 12 (18%) a lifetime psychotic disorder, and 53 (79%) a substance use disorder. Seven (10%) subjects met criteria for a lifetime attention deficit hyperactivity disorder, while 13 (19%) had a lifetime antisocial personality disorder. Subjects had a mean of 2.8 disorders. The potential use of the MINI as a screening tool in prison settings is discussed.

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It has been estimated that up to 20 percent of adult offenders in the United States have a severe mental illness and that 75 percent have co-occurring substance use disorders.[1] Metzner[2] pooled data from several studies and estimated that from 8 percent to 19 percent of incarcerated offenders in the United States have psychiatric disorders that result in significant functional disability and that another 15 percent to 20 percent will require some form of psychiatric intervention. Of specific disorders that have been assessed, research suggests that the prevalence of schizophrenia, mood disorders, anxiety disorders, attention deficit disorder, and antisocial personality disorder is greater in correctional settings than in the general population.[2–8] Next to overcrowding, the most serious concern among correctional personnel is the presence of mentally ill offenders.[9]

Substance use disorders are also endemic among offenders. In the National Institute of Mental Health directed Epidemiologic Catchment Area survey, 72 percent of institutionalized offenders had a lifetime addictive disorder, a rate primarily attributable to alcohol abuse/dependence (56%) and drug abuse/dependence (54%).[10] The survey also found that the co-occurrence of mental and addictive disorders was highest among inmates with antisocial personality disorder, schizophrenia, or bipolar disorder.

Increasingly, correctional systems are facing court challenges involving offenders with mental disorders; these challenges often stem from inadequate identification of mental illnesses or their treatment.[2] Efforts to establish appropriate mental health systems in prisons accelerated during the 1970s as a result of successful class action lawsuits that established an offender's constitutional right to treatment by creating minimum standards of medical and mental health care within correctional facilities.[11] A survey of the mental health service programs conducted in the early 1990s within the prison systems in the

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United States reported that nearly all states provide some combination of intake mental health screening and/or mental health evaluation for newly admitted offenders.[12] Yet, the prospect of screening offenders for mental or addictive disorders and treating those in need of mental health services has become increasingly difficult because of the uncontrolled growth of the correctional population. Both the American Psychiatric Association[1] and the National Commission on Correctional Health Care (NCCHC)[13] have developed standards for the identification and assessment of mentally ill offenders. According to Metzner, screening should "identify inmates with mental illness and (be) performed as part of a comprehensive medical examination" (Ref. 14, p 576).

Screening procedures are often inadequate or cumbersome. Based on their study of 569 "remand" prisoners, Birmingham *et al.*[15] concluded that reception screening is "neither sensitive nor specific" for detecting mental disorder. This conclusion was based on a careful comparison of a structured psychiatric interview and a standard prison questionnaire used throughout the United Kingdom. The situation in the United States is more problematic because screening procedures differ from state to state and often from prison to prison. Despite existing assessment models, the lack of uniformity in the correctional system is a major hurdle to providing high-quality psychiatric care to offenders.

Attempts have been made to fill that screening gap. For example, Teplin and Swartz[16] developed the Referral Decision Scale to assess jail detainees for severe mental disorders, but subsequent studies[11,17] have shown its limitations, which include a high rate of false positives. Harris and Lovell[18] developed an assessment of a mentally ill inmate's functional status, but the battery was not designed to generate a diagnosis. It is not surprising that these investigators found inmates with severe mental illness to have the lowest functional status.

The literature suggests that efforts to develop screening instruments must continue to provide a more comprehensive approach to the offender, preferably yielding a provisional diagnosis that can be followed by referral to a mental health professional. For these reasons, the Iowa Department of Corrections (IDOC) developed a pilot project to test the utility of the Mini International Neuropsychiatric Interview (MINI) as a screening tool for Axis I (major mental) disorders and antisocial personality disorder.[17] The project was conducted at the Iowa Medical and Classification Center (IMCC), which serves as a reception facility for the IDOC. All new offenders are admitted for essential intake and reception activities, including a health screen, basic orientation to Iowa's correctional system, institutional assignment, and initiation of the IDOC's central offender record. The process lasts from four to six weeks, after which, based on a variety of personal and demographic factors, offenders are assigned to one of nine correctional facilities to serve their sentence. Between 400 and 500 offenders enter the IMCC monthly, creating an enormous screening task. To our knowledge, this pilot project describes the first use of the MINI in a prison sample.

Subjects and Methods

All interviewing was conducted at the IMCC in December 2001. Seven individuals participated in the interviewing, including the warden (RR), four corrections officers, and two psychologists. One of the authors (DWB) held two 120-minute training sessions in the use and administration of the MINI. Several meetings were held following the collection period to debrief interviewers about their experience. This study was conducted as an administrative directive by the warden (RR) to gather diagnostic information on offenders, as well as to test the potential utility of a screening instrument. For that reason, informed consent was not obtained from offenders, although University of Iowa Institutional Review Board (IRB) permission was sought and granted for the data analysis presented herein. For IRB purposes, this report is viewed as a "secondary analysis" of existing data previously collected by and stored at the IDOC.

On days designated for data collection, subjects were selected from the list of incoming offenders. To boost the number of women and minorities, on those days all women and minorities were included. Every fifth white man was interviewed. Offenders were administered the MINI-Plus, a fully structured instrument that assesses the presence of DSM-IV[20] mood disorders, anxiety disorders, somatoform disorders, substance use disorders, psychotic disorders, eating disorders, conduct disorder, and adjustment disorder. The MINI-Plus also diagnoses attention deficit hyperactivity disorder and antisocial personality disorder, both of particular concern in a correctional population. The MINI-Plus employs different time

frames for various disorders: current, past, or lifetime. For convenience, we have collapsed substance abuse and dependence disorders into a single category. Psychometric examination of the MINI shows acceptable test-retest and inter-rater reliability.[19] The MINI-Plus was selected over other screening instruments because of its ease of administration, the relatively brief training needed for its use, its broad coverage, and its reported quick administration time.

Results

The MINI-Plus was administered to 67 offenders; only one subject who was approached refused participation. Fifteen (22%) subjects were female, 43 (64%) were white, 19 (28%) were African-American, three (4%) were Hispanic-Latino, one (1%) Asian, and one (1%) Native American. The mean ± SD length of the interview was 41 ± 20 minutes (range, 20–105 minutes) in the subset of 30 subjects in whom the time for administration was recorded.

The results for prevalence of current lifetime mental and addictive disorders are presented in Tables 1 and 2. These show that 81 percent of offenders met criteria for at least one lifetime MINI disorder, 39 percent having had a mood disorder, 30 percent an anxiety disorder, 18 percent a psychotic disorder, and 79 percent a substance use disorder. Current adult attention deficit disorder had a prevalence of 10 percent, while lifetime antisocial personality disorder was identified in 19 percent. Eighteen (27%) subjects reported having attempted suicide in the past. When the MINI's scale was used to rate current suicide risk, five subjects (7%) were at high risk, and 16 (24%) were at low risk; the rest were considered not at risk. Subjects had a mean of 2.8 ± 2.8 (SD) MINI-Plus lifetime disorders, with a range from 0 to 13.

Based on the results of the interviews and other intake data, nine (13%) subjects were referred to prison psychiatrists. Only five of the nine (56%) would have been referred through the usual mechanism, according to the IDOC psychologists.

Table 1 Lifetime DSM-IV Mental and Addictive Disorders in 67 Offenders Assessed With the MINI

Disorder	*n*	%
Major depression, current (past 2 weeks)	19	(28)
Major depression, recurrent	23	(34)
Dysthymia, current (past 2 years)	8	(12)
Dysthymia, past	1	(1)
Mania, current	3	(4)
Mania, past	4	(6)
Hypomanic, current	2	(3)
Hypomanic, past	5	(7)
Panic disorder, current (past month)	8	(12)
Panic disorder, lifetime	11	(16)
Agoraphobia, current	11	(16)
Agoraphobia, lifetime	13	(19)
Social phobia, current (past month)	4	(6)
Specific phobia, current	3	(4)
Obsessive-compulsive disorder, current (past month)	1	(1)
Posttraumatic stress disorder, current (past month)	4	(6)
Generalized anxiety disorder, current	3	(4)
Generalized anxiety disorder, lifetime	3	(4)
Alcohol dependence/abuse, current (past 12 months)	23	(34)
Alcohol dependence/abuse, lifetime	29	(43)
Nonalcohol substance dependence/abuse, current (past 12 months)	35	(52)
Nonalcohol substance dependence/abuse, lifetime	38	(57)
Psychotic disorders, current	7	(10)
Psychotic disorders, lifetime	12	(18)
Schizophrenia, current	2	(3)
Schizophrenia, lifetime	2	(3)
Substance-induced psychotic disorder, current	0	(0)
Substance-induced psychotic disorder, lifetime	3	(4)
Psychotic disorder NOS, current	5	(7)
Psychotic disorder NOS, lifetime	7	(10)
Antisocial personality disorder, lifetime	13	(19)
Somatization disorder, current	0	(0)
Anorexia nervosa, current	0	(0)
Bulimia nervosa, current	0	(0)
Hypochondriasis, current	0	(0)
Attention deficit hyperactivity disorder, current	7	(10)
Antisocial personality disorder, lifetime	13	(19)
Attention deficit hyperactivity disorder, current	7	(10)
Attention deficit hyperactivity disorder, lifetime	7	(10)
Pain disorder, current	1	(1)
Pain disorder, lifetime	1	(1)
Body dysmorphic disorder, current	2	(3)
Body dysmorphic disorder, lifetime	2	(3)

NOS, not otherwise specified.

Discussion

The current screening provided at IMCC provides a basic risk assessment. Screening involves gathering mental health information, and observations made during reception procedures by trained personnel according to a standardized format. This is followed by an intake mental health screening conducted by a health care professional, usually a registered nurse, according to a standard protocol. During either the reception or intake screen, offenders may be referred for a more detailed assessment by a mental health professional. These procedures are in accordance with standards outlined by the NCCHC.[13]

As part of the reception screening, correctional counselors also review records that accompany incoming offenders, including legal documents, crim-

Table 2 Mood, Anxiety, Substance Use, and Psychotic Disorders in 67 Offenders

Disorder	*n*	%
Any mood disorder	26	(39)
Any anxiety disorder	20	(30)
Any substance use disorder	53	(79)
Any psychotic disorder	12	(18)
Any MINI disorder	54	(81)

inal histories, or hospital records for "red flags" that suggest a psychiatric need, and offenders complete the Level of Service Inventory-Revised.[21] A "positive" result from any of these sources can lead to a clinical examination by a mental health professional. Current symptoms such as psychosis, depression, severe anxiety, suicidal ideation or behavior, or ongoing psychotropic drug treatment are examples of symptoms or signs that typically lead to a psychiatric referral; past or remitted psychiatric symptoms typically do not.

The purpose of the pilot study was to see whether the use of the MINI could enhance the screening procedure. Our experience with the MINI was successful in many respects. We were able to show that this highly structured diagnostic interview could be taught to and administered by a variety of correctional personnel, including those without mental health experience. The MINI was well accepted by offenders, all but one of whom cooperated. Finally, the results of the testing generated information about mental health and substance use disorders that could be useful in individual cases, but also generated prevalence data useful to the IDOC. In several instances, the information generated by the MINI led to referrals for several offenders who might not have been referred otherwise.

Staff reported that data from the MINI combined with other screening information yielded four more referrals than would have been generated by the usual screen. In all nine cases, the MINI generated diagnoses that implied that the subject needed urgent referral, such as current major depression ($n = 8$), current psychosis ($n = 4$), or high suicide risk ($n = 4$). In the four additional cases referred, offenders had not acknowledged psychiatric symptoms during intake screening that were later uncovered by the more direct questions contained in the MINI.

The results indicate a high prevalence of lifetime mental disorders, generally consistent with reports from other correctional settings in which structured assessments were used. In this sample, 81 percent met criteria for a lifetime MINI mental disorder, a figure consistent with the results of Teplin *et al.*[7] who reported that more than 80 percent of female arrestees had one or more lifetime disorders. Seventy-nine percent of our sample had a lifetime substance use disorder; both Teplin *et al.*[7] and Motiuk and Porporino[22] reported a figure of 70 percent in their sample. In the Epidemiological Catchment Area survey,[10] 72 percent of institutionalized persons, most of whom were offenders, had a lifetime alcohol or drug use disorder. Rates of antisocial personality disorder (19%) were lower than others have reported, although this may be a function of the instrument used or the particular sample. For example, Motiuk and Porporino,[22] using the Diagnostic Interview Schedule,[23] found that 75 percent of male prison inmates were antisocial. Mood, anxiety, and psychotic disorders were also relatively common, as has been reported similarly in correctional settings elsewhere.[7,22,24]

There were several drawbacks to the use of the MINI. Although staff cooperation was excellent, the instrument took an average of 41 minutes to administer, which most staff considered too lengthy for a screener because it was added to the usual screening and did not replace it. (The developers of the MINI report that the original version, which includes fewer modules than the MINI-Plus takes a mean of 19 minutes to administer.[19]) Because the growth in the corrections population shows no signs of slowing, a screener must be quick and efficient. Another concern was that unnecessary referrals would be generated because symptom severity is not taken into account in the MINI. For example, a person having trouble adjusting to prison life might be temporarily mildly depressed, yet the diagnosis of current "major depression" found in 28 percent of offenders might generate an unnecessary referral. Whether adult attention deficit hyperactivity disorder requires treatment in a prison setting is debatable, but the diagnosis could yield a referral. Malingering is a frequent problem in correctional settings, but the MINI is not designed to separate genuine from feigned illness, nor does the MINI assess cognitive impairment, a not infrequent problem in offender populations. Finally, although the staff felt that the MINI was relatively easy to administer, several modules were considered difficult or confusing (e.g., the psychosis and major depression modules). Overall, the staff con-

cluded that current screening methods were not materially enhanced by use of the MINI, despite the fact that its use resulted in four additional referrals.

A computerized version of the MINI that can be self-administered by offenders with minimal staff supervision is now available. This could provide a mental health diagnostic screen that could augment, although not replace, other information routinely gathered by corrections staff and would not be as labor intensive as the current version.

Conclusions

The process of mental health screening is an ongoing concern. Correctional services must maintain a careful balance between overly inclusive screens that generate unacceptably high numbers of false positives, and underinclusive screens that yield too low a rate of true positives. The MINI appears to have potential in filling that role, particularly as it is relatively easy to administer and is brief compared with other structured interviews. However, its drawbacks suggest that its routine administration to offenders is premature. Efforts should continue to explore how the MINI or other diagnostic instruments could be useful to correctional services. At present, it seems unlikely that an impersonal screening tool will replace the time-honored approach currently used by the IDOC in which health care information is collected using paper-and-pencil questionnaires and through brief, targeted interviews by trained personnel.

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