Brief Report:
Criminal Justice Co-occurring Disorders
Screening Instrument
(CJ-CODSI)

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Background

Offenders who have co-occurring mental and substance use disorders (known as co-occurring disorders, or COD) are a population of significant interest, and one that presents considerable challenges. In practical terms, their special needs place exceptional management demands on the system (e.g., segregated programming, multi-agency discharge planning), and their treatment needs are complex. An understanding of the presence and extent of co-occurring disorders is essential, both to inform program planning and to increase treatment opportunities for offenders with co-occurring disorders. Current screening instruments are inadequate in that they **(1)** typically focus on mental disorders or substance abuse disorders separately; and **(2)** have been developed for use in community-based programs and have been inadequately validated in the criminal justice system. The overall aim of this project was to develop an instrument to screen for co-occurring disorders in criminal justice settings, beginning with prison substance abuse program settings.

Sample

The full study employed a geographically diverse sample of 280 male and female, consecutive new admissions to prison substance abuse treatment programs from both the pilot (N=100) and validation phases (N=180). Four CJDATS Research Centers participated in the data collection and 13 different prison substance abuse treatment programs were used. The collaborating Centers and the numbers of subjects drawn from each were: *NDRI Rocky Mountain* in Colorado (N=117), *Lifespan* at Brown University in Rhode Island (N=75), the *Institute for Behavioral Research* at Texas Christian University in Texas (N=60), and the *Integrated Substance Abuse Programs* at UCLA in California (N=28).

Pilot Study (Sacks et al., 2007a)

Aim — to develop and pilot test an instrument to screen individuals for co-occurring disorders, which can be administered by treatment or correctional staff without specialized mental health skills after some brief training (N=100).

Instruments — Considering the advice of the expert panel, a previous review of available substance disorder instruments (Peters et al., 2000), and current usage in CJDATS (*Criminal Justice Drug Abuse Treatment Studies*) studies, the *TCU Drug Screen* (TCUDS; Knight, Simpson, & Hiller, 2002) was accepted as the drug component of the overall co-occurring disorders screening instrument for the pilot study. Three mental disorder instruments, which met evaluation criteria and which received the expert panels' endorsements, were chosen for the pilot study — the *Modified MINI Screen* (MMS; Brandau, Alexander, & Haugland, 2005), The *Mental Health Screening Form* (MHSF; Carroll, & McGinley, 2000) and the *Global Appraisal of Individual Needs Short Screener* version 1.0 (GSS; Dennis, Chan, & Funk, 2006). This phase also developed and pilot tested (n=100) the CJDATS *Co-occurring Disorders Screening Instrument for Mental Disorders* (CODSI-MD), a 6-item instrument, and the CJDATS *Co-occurring Disorders Screening Instrument for Severe Mental Disorders* (CODSI-SMD) a 3-item instrument, both derived from the three standard mental health screeners. The *Structured Clinical Interview for DSM-IV* (SCID; First, Spitzer, Gibbon & Williams, 2002) was used as the criterion measure for mental disorders. A screening instrument is accurate if it concurs with the SCID on the presence (or absence) of a mental disorder.

Results of the pilot study— The overall accuracy of the CODSI-MD (81%) compared favorably with the three standard instruments; the CODSI-SMD had the highest overall accuracy of 82%.

Validation Study (Sacks et al., 2007b)

Aim — to validate the CODSI instruments and cut-off scores in relation to the three standardized instruments (N=180).

Results— *Any Mental Disorder.* Table 1 shows the sensitivity, specificity and overall accuracy for the four instruments in screening for any mental disorder after weighting the results to adjust for over-sampling of females in the stratified sample. The N for sensitivity reflects only those subjects with a SCID diagnosis of

mental disorder and the N for specificity includes only those subjects who do not have a SCID diagnosis of mental disorder. Overall accuracy includes all of the subjects. As shown in Table 1, the overall accuracy was similar (within 4 percentage points) for all of the instruments. With reference to sensitivity, the CODSI-MD, MHSF and GSS all produced higher scores than the MMS, with the MHSF and the GSS performing significantly better then the MMS (p<0.05 and p<.005, respectively). No statistically significant differences were apparent between any of the instruments for specificity, although the MMS produced the highest score and the GSS the lowest.

Table 1— *Comparison of Precision of Screening Battery Instruments, Any Mental Disorder, Validation Sample*

		Any Mental Disorder Weighted		
Instrument	Cut-off score	Sensitivity N=141	Specificity N=39	Overall Accuracy N=180
CODSI-MD	3	75.1%	54.1%	69.6%
MHSF	3	80.9%	47.5%	72.1%
MMS	5	71.3%	60.7%	68.5%
GSS	2	81.6%	47.1%	72.6%

Results — *Severe Mental Disorder.* Table 2 shows the sensitivity, specificity and overall accuracy for the four instruments in screening for severe mental disorders (schizophrenia, major depression, bi-polar disorder, and suicide potential). For these analyses, the *Internal Disorder Screener* (IDS) subscale of the GSS, designated as the GSS-IDS, was used as the most appropriate screen for severe mental disorder. The CODSI-SMD produced the highest overall accuracy across the entire sample. The GSS-IDS was the second highest scoring instrument, coming within 2 percentage points of the CODSI-SMD. The CODSI-SMD produced a significantly higher sensitivity score than the MHSF (p<0.05) or the GSS-IDS (p<0.10). The difference between the CODSI-SMD and the MMS was not significant. All of the instruments produced a significantly higher specificity score than the MMS (p<0.05).

Table 2— *Comparison of Precision of Screening Battery Instruments, Severe Mental Disorder, Validation Sample*

		Severe Mental Disorder Weighted		
Instrument	Cut-point	Sensitivity N=75	Specificity N=105	Overall Accuracy N=180
CODSI-SMD	2	50.8%	91.2%	78.1%
MHSF	11	35.4%	93.3%	74.5%
MMS	10	41.8%	83.9%	70.3%
GSS-IDS	5	37.5%	95.9%	76.7%

Conclusion

This study provides evidence for the overall accuracy of the 6-item CODSI-MD in determining the presence of any mental disorder and demonstrates the particular strength of the 3-item CODSI-SMD in determining the presence of a severe mental disorder. In addition, this study validates the use of three standardized instruments (MHSF, the MMS and GSS) in prison substance abuse settings and recommends cut-off scores for this

purpose. These screening instruments can be used to identify prisoners in need of further assessment and to collect mental health data in prison substance abuse treatment programs. Overall, the two CODSI instruments show sufficient value in terms of brevity and efficiency to serve, in conjunction with the TCUDS, as a screening device for co-occurring disorders in prison substance abuse treatment programs, and to warrant future validation studies in other criminal justice populations and settings.

Future Directions

The investigators are continuing to study the CJ-DATS CODSI in other populations (e.g., minority) and in other settings (e.g., on entry into prison). Subsequent plans include a study of the use of the CODSI on a larger sample of criminal justice programs and a study of the adoption process.

References

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