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Psychiatric Needs of Detained Youth Before and After Detention

Highlights

This bulletin presents results of a study of the prevalence of psychiatric disorders among youth transferred to adult criminal court compared with those processed in juvenile court. Key observations, findings, and recommendations include:

- Many youth are being transferred to adult criminal court, with males, African Americans, Hispanics, and older youth significantly more likely to be processed in adult criminal court than females, non-Hispanic whites, and younger youth (even after controlling for the current charge).
- The prevalence of one or more disorders among youth transferred to adult criminal court does not significantly differ from that among youth processed in juvenile court.
- Among youth processed in adult criminal court, those sentenced to prison had significantly greater odds than those who received a less severe sentence of having a disruptive behavior disorder, a substance use disorder, or co-occurring affective and anxiety disorders.
- Community and correctional systems must collaborate to identify and treat youth with psychiatric disorders who are transferred to adult criminal court. Youth who are transferred to adult criminal court and receive prison sentences should be considered a particularly high-risk group who are likely to require additional services.

Detained Youth Processed in Juvenile and Adult Court: Psychiatric Disorders and Mental Health Needs

All 50 states and the District of Columbia have legal mechanisms for trying juveniles as adults in criminal court (General Accounting Office, 1995; Griffin, 2003; OJJDP, 2012; Puzzanchera et al., 2003). Historically, most states transferred juveniles to adult criminal court primarily through judicial waiver. Juvenile court judges waived youth to criminal court on a case-by-case basis, considering both the charge and the characteristics of the individual youth (Griffin, 2003; Salekin, 2002; Snyder, Sickmund, and Poe-Yamagata, 2000). The number of youth transferred to the adult court through a judicial waiver nearly doubled from 1985 to 1994 (Puzzanchera and Kang, 2012), contributing to the 128-percent increase in the number of juveniles held in adult jails during that time period (Adams and Addie, 2010).

Today, more juveniles are transferred to the adult criminal court, using automatic transfers and prosecutorial direct-file procedures, than by judicial waiver (Griffin et al., 2011). Automatic transfers exclude juveniles from the jurisdiction of the juvenile court solely on the basis of the type of offense, criminal history, and age of the youth. Prosecutorial direct-file mechanisms allow prosecutors

ABOUT THIS SERIES

Studies in this series describe the results of statistical analyses of the Northwestern Juvenile Project, a longitudinal study of youth detained at the Cook County Juvenile Temporary Detention Center in Chicago, IL, between 1995 and 1998. The sample included 1,829 male and female detainees between ages 10 and 18. The data come from structured interviews with the youth.

Topics covered in the series include the prevalence of suicidal thoughts and behaviors among juvenile detainees, posttraumatic stress disorder and trauma within this population, functional impairment after detention (at work, at school, at home, or in the community), psychiatric disorders in youth processed in juvenile or adult court, barriers to mental health services, violent death among delinquent youth, and the prevalence of psychiatric disorders in youth after detention. The bulletins can be accessed from the Office of Juvenile Justice and Delinquency Prevention's (OJJDP's) website, ojjdp.gov.

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to determine when to file certain juvenile cases directly in criminal court. Juvenile court judges are precluded from exercising their discretion in both of these forms of transfer. By 2011, automatic transfers were available in 29 states and prosecutorial direct-file procedures were available in 15 states, accounting for 78.4 percent of transfers to adult criminal court (Griffin et al., 2011). The expansion of automatic transfers and prosecutorial direct-file mechanisms likely contributed to the 39-percent decline in the proportion of youth transferred to the adult court through the use of judicial waiver since its peak in 1994 (Adams and Addie, 2012). Given the substantial number of youth whose cases are filed in adult criminal court annually, accurate information on the prevalence of psychiatric disorders in this population is critical because youth with serious psychiatric disorders who are processed in adult criminal court have the right to receive treatment.

Recent studies indicate that a substantial proportion of juvenile detainees need mental health services (Cauffman, 2004) and that between one-half and two-thirds of these juveniles have one or more psychiatric disorders (Teplin et al., 2002; Wasserman et al., 2002). Another study using a screening instrument for mental health problems indicates that youth who are transferred to adult prison have higher rates of psychiatric symptoms than youth housed in juvenile facilities (Murrie et al., 2009). Yet, no study has examined how prevalent psychiatric disorders are among youth transferred to adult criminal court (referred to in this bulletin as "transferred youth"). Data on this topic is needed for several reasons.

Historically, transferred youth have disproportionately come from underserved sociodemographic groups, and numerous studies indicate that they are disproportionately male and from racial/ethnic minority groups (Austin, Johnson, and Gregoriou, 2000; Barnes and Franz, 1989; Bishop, 2000; Fagan, Forst, and Vivona, 1987; Hamparian et al., 1982; Kinder et al., 1995; Olson, 2005; Snyder, Sickmund, and Poe-Yamagata, 2000). Although these disparities have declined in the past decade, they persist (Adams and Addie, 2010). They are a significant concern because young men and adolescent youth from racial/ethnic minority groups are significantly less likely than female and non-Hispanic white youth to receive the mental health treatment they need, once they are detained (Teplin et al., 2005). Little is known, however, about racial/ethnic disparities in mental health needs among transferred youth.

A further disadvantage for transferred youth is that they often wait substantially longer for their cases to be adjudicated (that is, to receive a finding of guilt or innocence) than youth who remain in the juvenile system (Fagan, 1996; Myers, 2003; Rudman et al., 1986). They are also less likely to be released before adjudication than adults in the criminal court system (Rainville and Smith, 2003). Because they are incarcerated longer, transferred youth may be at greater risk for developing psychiatric problems than those held in juvenile detention for shorter periods. In particular, the conditions often associated with extended detention—separation from loved ones, crowding, and solitary confinement—may increase the risk of suicidal behavior among transferred youth (Gallagher and Dobrin, 2006; Marcus and Alcabes, 1993; Parent et al., 1994; Pogrebin, 1985).

In addition, findings from an experimental study suggest that, once in court, transferred youth face jurors who may be biased against them simply because they are being tried in an adult court. Where it exists, this bias increases the likelihood of a guilty verdict, boosts the jurors' confidence in the youth's guilt, and lowers the standard of proof for guilt (Tang and Nunez, 2003). Transferred youth are more likely to be convicted and to receive more stringent sentences than those processed in juvenile court (Myers, 2003; Podkopacz and Feld, 1996; Rainville and Smith, 2003; Strom, Smith, and Snyder, 1998). They are also more likely to receive more severe punishments than young adults facing similar charges in adult criminal court (Kurlychek and Johnson, 2004, 2010). Nearly 60 percent of all transferred youth charged with violent offenses are adjudicated to prison, compared with 26 percent of similarly charged young adults (Rainville and Smith, 2003). As a result, approximately 2,639 youth are housed in adult state prison facilities (Sabol and Couture, 2008), where they may not receive age-appropriate interventions (Woolard et al., 2005). Before age-appropriate interventions for youth in the adult correctional system can be developed and implemented, corrections personnel and treatment providers need to know which psychiatric disorders are most prevalent among these youth.

Despite the importance of this issue, the authors found only one study that examined psychiatric problems among transferred youth (Beyer, 2006). That study investigated only posttraumatic stress disorder (PTSD) and learning disorders, and it was based on one clinician's coding of diagnoses from 50 of his case records.

Therefore, the Northwestern Juvenile Project study reported here is the first large-scale investigation of psychiatric disorders among transferred youth. Using data from the Northwestern Juvenile Project (Teplin et al., 2002), the authors compared transferred youth with those processed in juvenile court, addressing the following questions:

- Do the demographic characteristics of transferred youth differ from those of youth processed in juvenile court?

- Do the psychiatric needs of transferred youth differ from those of youth processed in juvenile court?
- Do the psychiatric needs of transferred youth who were sentenced to prison differ from those of transferred youth who received less severe sentences?

Methods

This section provides a brief overview of the authors' methods. Additional detailed information on the methodology can be found in Abram et al. (2003) and Teplin et al. (2002).

Participants and Sampling Procedures

Participants were part of the Northwestern Juvenile Project (NJP), a longitudinal study of 1,829 youth (ages 10–18) arrested and detained between November 20, 1995, and June 14, 1998, at the Cook County Juvenile Temporary Detention Center (CCJTDC) in Chicago, IL. The random sample was stratified by gender, race/ethnicity (African American, non-Hispanic white, Hispanic, or other), age (10–13 years or 14 years and older), and legal status (processed in juvenile or adult court) to obtain enough participants to examine key subgroups (e.g., females, Hispanics, younger children).

The gender, age, and offense distributions of the CCJTDC detainees are similar to detained juveniles nationwide (Snyder and Sickmund, 2006). As in other urban facilities, most youth detained in the center belong to racial/ethnic minority groups. The CCJTDC population is 77.9 percent African American, 5.6 percent non-Hispanic white, 16 percent Hispanic, and 0.5 percent other racial/ethnic groups.

The authors chose the detention center in Cook County, which includes Chicago and surrounding suburbs, for three reasons:

- Nationwide, most juvenile detainees live in and are detained in urban areas (Pastore and Maguire, 2000).
- Cook County is ethnically diverse and has the third largest Hispanic population in the United States (U.S. Census Bureau, 2001). Studying this population is important because Hispanics are the largest minority group in the United States (U.S. Census Bureau, 2000).
- The detention center's size (daily census of approximately 650 youth and intake of 20 youth per day) ensured that a large enough pool of participants would be available.

Detainees were eligible to be sampled regardless of any psychiatric diagnoses, their state of drug or alcohol intoxication, or their fitness to stand trial. The youth were interviewed in a private area, almost always within 2 days of intake. Most interviews lasted 2 to 3 hours, depending on how many symptoms were reported.

Transfer to Adult Criminal Court in Illinois

In Illinois, the minimum age at which a juvenile can be transferred to adult criminal court is 13 years. At the time the data were collected, the juvenile court had jurisdiction over all youth 16 years and younger, unless they were transferred to an adult criminal court (Illinois Juvenile Justice Commission, 2010). The Illinois statute at that time specified six felony offenses for which youth were automatically transferred to adult criminal court for processing. Four of these offenses are violent offenses (first-degree murder, aggravated criminal sexual assault, armed robbery with a firearm, or aggravated vehicular hijacking with a firearm); the other two offenses are not (unlawful use of a weapon on or within 1,000 feet of school property, and delivery of a controlled substance in or within 1,000 feet of a school or public housing).

Measures

To determine diagnoses, the authors used the English- and Spanish-language versions of the Diagnostic Interview Schedule for Children Version 2.3 (DISC–2.3) (Schwab-Stone et al., 1996), which was the most recent version available at the time of the study. The DISC–2.3 assesses the presence of disorders from the *Diagnostic and Statistical Manual of Mental Disorders, Third Edition, Revised* (DSM–III–R) in interviewees within the past 6 months. Data collection for PTSD began 13 months

after the study began because PTSD was not included in the DISC–2.3. PTSD was measured with the DISC–4.0 (Shaffer et al., 2000), which provided 12-month rates using *DSM–IV* criteria for PTSD. Data on PTSD diagnoses were examined by using a subsample of 898 participants. The subsample was composed of 532 males (59 percent) and 366 females (41 percent). It included 490 African American youth (55 percent), 154 non-Hispanic white youth (17 percent), 252 Hispanic youth (28 percent), and 2 youth of other racial/ethnic groups (less than 1 percent).

The authors included the following disorders:

- Affective disorders (major depression, dysthymia, mania, and hypomania).
- Anxiety disorders (generalized anxiety disorder, separation anxiety disorder, obsessive-compulsive disorder, overanxious disorder, PTSD, and panic disorder).
- Psychotic disorders.
- Disruptive behavior disorders (conduct disorder, attention-deficit/hyperactivity disorder [ADHD], and oppositional defiant disorder).
- Substance use disorders (alcohol, marijuana, and drugs other than marijuana).

Details of the special procedures implemented for determining psychotic disorders and ADHD have been reported previously (Teplin et al., 2002).

Data on arrest charges were obtained from intake records at the Cook County Juvenile Temporary Detention Center.

Final Sample for Analyses

The final sample was restricted to participants 13 years and older (N = 1,715) because juveniles younger than 13 are not eligible for processing in adult criminal court in Illinois (see "Transfer to Adult Criminal Court in Illinois"). The PTSD subsample consisted of 840 participants 13 years and older. The final sample of transferred youth totaled 275; it included 21 females and 254 males, 199 African Americans, 69 Hispanics, and 7 non-Hispanic whites. The sample of youth processed in juvenile court totaled 1,440, including 616 females and 824 males, 727 African Americans, 429 Hispanics, 280 non-Hispanic whites, and 4 participants who self-identified as an "other" race or ethnicity. The unweighted $M\pm SD$ (mean±standard deviation) age was 15.7±0.5 years for transferred youth and 15.0±1.2 years for youth processed in juvenile court.

Findings

Criminal Characteristics

Among the 275 transferred youth, 117 (43 percent) were charged with a violent felony, 213 (78 percent) were found guilty, and 139 (51 percent) were sentenced to prison. Among the 1,440 youth processed in the juvenile court, 281 (20 percent) were charged with a violent felony, 945 (65 percent) were "adjudicated delinquent" (the juvenile justice equivalent to being found guilty), and 8 (1 percent) were sentenced to prison. Compared with youth processed in juvenile court, significantly more transferred youth were charged with a violent felony, found guilty, and sentenced to prison.

Likelihood of Transfer to Criminal Court by Gender, Age, and Racial/Ethnic Subgroup

Table 1 (page 6) presents the unweighted demographic characteristics of the sample and the weighted proportions of transferred youth compared with youth processed in juvenile court by gender, racial/ethnic subgroup, and specific age group. As shown in table 1, males, youth from

Table 1. Demographic Characteristics of Arrested and Detained Youth and Their Likelihood of Transfer to Adult Criminal Court[a]

Characteristic	Total *N*	Youth Transferred to Adult Court (%)	Significant Comparisons ($p < .05$)
Gender			Male > female
Female	637	3	
Male	1,078	7	
Race/ethnicity			African American > non-Hispanic white
African American	926	7	African American > Hispanic
Hispanic	498	5	Hispanic > non-Hispanic white
Non-Hispanic white	287	2	
Other	4	0	
Age, y[b]			Older > younger
13	258	0	
14	217	<1	
15	498	8	
16	644	10	
17[c]	89	1	
18[c]	9	0	

[a] Percentages are weighted to reflect the demographic characteristics of the Cook County Juvenile Temporary Detention Center (CCJTDC). *N*s are unweighted.

[b] Each additional year of age (after age 13) corresponds to a 52-percent increase in the odds of being transferred to adult criminal court.

[c] In Illinois, detainees 17 years and older are housed in adult detention facilities. Detainees ages 17 and 18 were in CCJTDC only if they committed the index crime before age 17 or misrepresented their age.

Table 2. Psychiatric Disorders Among Arrested and Detained Youth Processed in Adult or Juvenile Court[a]

Disorder	Court Where Processed[b]	
	Adult (*N* = 275) %	Juvenile (*N* = 1,440) %
Any disorder	66	68
Any disorder except conduct disorder	64	62
Any affective disorder	22	20
Major depression	16	14
Dysthymia	12	13
Mania	3	2
Hypomania	1	2
Any anxiety disorder	24	22
Panic disorder	0	<1
Separation anxiety disorder	16	13
Overanxious disorder	9	7
Generalized anxiety disorder	8	7
Obsessive-compulsive disorder	10	8
Posttraumatic stress disorder[c]	8	12
Psychotic disorder	2	1
Any disruptive behavior disorder	41	44
Attention-deficit/hyperactivity disorder	9	8
Oppositional defiant disorder	15	15
Conduct disorder	37	38
Any substance use disorder	55	51
Alcohol use disorder	29	26
Marijuana use disorder	49	45
Other substance use disorder	2	3
Alcohol and drug use disorder	24	21

[a] Percentages are weighted to reflect the demographic characteristics of the Cook County Juvenile Temporary Detention Center. *N*s are unweighted.

[b] There were no significant differences between groups in prevalence rates of any of the listed disorders.

[c] Estimates for posttraumatic stress disorder were based on a subsample (*n* = 840).

racial/ethnic minority groups, and older youth had greater odds of being transferred to adult court than females, non-Hispanic whites, and younger youth. Furthermore, African American youth had greater odds of being transferred than Hispanic youth. When examining whether the results changed when the sample was controlled for those charged with a violent felony, the results did not change. Males, youth from racial/ethnic minority groups, and older youth still had significantly greater odds of being transferred to adult court than females, non-Hispanic whites, and younger youth.

Table 3. Co-occurring Psychiatric Disorders Among Arrested and Detained Youth Processed in Adult or Juvenile Court[a]

Co-occurring Disorder	Court Where Processed[b]	
	Adult (*N* = 275) %	Juvenile (*N* = 1,440) %
Affective disorder[c] and indicated co-occurring disorder		
Anxiety disorder[c]	15	12
Disruptive behavior disorder[c]	17	15
Substance use disorder[c]	19	13
Anxiety and disruptive behavior disorders[c]	11	10
Anxiety and substance use disorders	13	8
Disruptive behavior and substance use disorders	15	11
Anxiety disorder and indicated co-occurring disorder		
Disruptive behavior disorder	17	15
Substance use disorder	19	15
Disruptive behavior and substance use disorders	14	12
Disruptive behavior and substance use disorders	32	32
Total number of types of disorder		
≥2	43	43
≥3	22	19
4	10	7

[a] Percentages are weighted to reflect the demographic characteristics of the Cook County Juvenile Temporary Detention Center. *N*s are unweighted.

[b] There were no significant differences in prevalence rates of any of the listed co-occurring disorders between youth processed in juvenile court and youth transferred to adult court.

[c] Affective disorders include major depression, dysthymia, mania, and hypomania. Anxiety disorders include generalized anxiety disorder, separation anxiety disorder, obsessive-compulsive disorder, overanxious disorder, panic disorder, and posttraumatic stress disorder. Disruptive behavior disorders include conduct disorder, attention-deficit/hyperactivity disorder, and oppositional defiant disorder. Substance use disorders include alcohol use disorder, marijuana use disorder, and drug use disorders other than marijuana.

Psychiatric Disorders Among Youth Processed in Juvenile Versus Criminal Court

Next, the study compared the prevalence of specific psychiatric disorders (table 2) and co-occurring psychiatric disorders (table 3) among transferred youth and youth processed in juvenile court. No significant differences in the prevalence of specific disorders were found between the two groups; both had high rates of disorders.

As shown in table 3, no differences were found for any combination of co-occurring psychiatric disorders. Furthermore, the authors found no differences between transferred youth and youth processed in juvenile court in the number of specific disorders or the number of types of psychiatric disorders.

Table 4. Psychiatric Disorders Among Youth Processed in Adult Court Receiving a Prison Sentence or a Sentence Other Than Prison[a]

Disorder	Sentence		Significant Comparisons ($p < .05$)
	Prison (*N* = 139) %	Other (*N* = 132) %	
Any disorder	74	57	Prison > Other
Any disorder except conduct disorder	74	55	Prison > Other
Any affective disorder	26	17	
Major depression	18	14	
Dysthymia	15	8	
Mania	4	2	
Hypomania	2	0	
Any anxiety disorder[b]	28	19	
Separation anxiety disorder	19	13	
Overanxious disorder	10	9	
Generalized anxiety disorder	8	8	
Obsessive-compulsive disorder	14	6	
Posttraumatic stress disorder[c]	3	14	
Psychotic disorder	3	1	
Any disruptive behavior disorder	50	32	Prison > Other
Attention-deficit/ hyperactivity disorder	8	10	
Oppositional defiant disorder	20	9	Prison > Other
Conduct disorder	46	28	Prison > Other
Any substance use disorder	65	45	Prison > Other
Alcohol use disorder	39	19	Prison > Other
Marijuana use disorder	60	39	Prison > Other
Other substance use disorder	2	2	
Alcohol and drug use disorders	34	14	Prison > Other

[a] Percentages are weighted to reflect the demographic characteristics of the Cook County Juvenile Temporary Detention Center. *N*s are unweighted. Sentencing data were missing for four participants, and they were excluded from these analyses.

[b] Panic disorder was excluded because no youth processed in adult court had this disorder.

[c] Estimates for posttraumatic stress disorder were based on a subsample ($n = 142$).

Psychiatric Disorders Among Youth Processed in Adult Court Receiving a Prison Sentence or a Sentence Other Than Prison

Prevalence rates of psychiatric disorders among those who did and did not receive a prison sentence were compared

among the 275 youth who were transferred. Table 4 shows the prevalence rates of specific psychiatric disorders. Transferred youth who received a prison sentence had significantly greater odds of having any disorder, any disorder except conduct disorder, any disruptive behavior disorder, oppositional defiant disorder, conduct disorder, any substance use disorder, alcohol use disorder, marijuana use disorder, and co-occurring alcohol and drug use disorders.

Table 5 shows the prevalence rates of co-occurring disorders among transferred youth by prison status (sentenced to prison or not). Transferred youth who received a prison sentence had significantly greater odds for having nearly all combinations of co-occurring disorders. Compared with transferred youth who did not receive a prison sentence, those who received a sentence had significantly greater odds of having two or more, three or more, and all four types of disorders. Finally, transferred youth who received a prison sentence had significantly greater numbers of specific disorders and significantly more types of disorders than those who did not receive a prison sentence.

Discussion of Findings

Diagnoses and Need for Psychiatric Treatment Among Transferred Youth Compared With Youth Processed in Juvenile Court and Adults in Detention

The study's findings indicate that the prevalence of one or more psychiatric disorders is as high for transferred youth as for youth processed in juvenile court. These findings are consistent with the clinical data reported by Beyer (2006), who found no differences on a clinical assessment between transferred youth and youth processed in juvenile court. The study reported in this bulletin provides the first systematic empirical evidence that many transferred youth, like their peers processed in juvenile court, have a substantial need for psychiatric and substance abuse services.

Table 5. Co-occurring Psychiatric Disorders Among Youth Processed in Adult Court Receiving a Prison Sentence or a Sentence Other Than Prison[a]

Co-occurring Disorder	Sentence		Significant Comparisons ($p < .05$)
	Prison ($N = 139$) %	Other ($N = 132$) %	
Affective disorder[b] and indicated comorbid disorder			
Anxiety disorder[b]	21	9	Prison > Other
Disruptive behavior disorder[b]	22	13	
Substance use disorder[b]	24	14	Prison > Other
Anxiety and disruptive behavior disorders	16	7	Prison > Other
Anxiety and substance use disorders	19	7	Prison > Other
Disruptive behavior and substance use disorders	19	11	
Anxiety disorder and indicated comorbid disorder			
Disruptive behavior disorder	21	13	
Substance use disorder	24	13	Prison > Other
Disruptive behavior and substance use disorders	17	9	
Disruptive behavior and substance use disorders	42	22	Prison > Other
Total number of types of disorder			
≥2	52	33	Prison > Other
≥3	28	16	Prison > Other
4	15	6	Prison > Other

[a] Percentages are weighted to reflect the demographic characteristics of the Cook County Juvenile Temporary Detention Center. *N*s are unweighted. Sentencing data were missing for four participants, and they were excluded from these analyses.

[b] Affective disorders include major depression, dysthymia, mania, and hypomania. Anxiety disorders include generalized anxiety disorder, separation anxiety disorder, obsessive-compulsive disorder, overanxious disorder, panic disorder, and posttraumatic stress disorder. Disruptive behavior disorders include conduct disorder, attention-deficit/hyperactivity disorder, and oppositional defiant disorder. Substance use disorders include alcohol use disorder, marijuana use disorder, and drug use disorders other than marijuana.

These findings also suggest that transferred youth may have a greater need for psychiatric services than detained adults. Previous research indicates that less than 35 percent of detained adult males have a psychiatric disorder (excluding antisocial personality disorder) (Teplin, 1994); in contrast, 64 percent of transferred youth have a psychiatric disorder, even when conduct disorder is excluded. This study found that the 6-month prevalence rate of major depression for transferred youth (16 percent) was three times greater than the rate of depression over a lifetime as reported by adult male detainees (5 percent) (Teplin, 1994).

This study replicates previous findings that transferred youth are disproportionately male, African American, Hispanic, and older. Although these findings underscore the importance of addressing disproportionate confinement of individuals from minority groups (Hsia, Bridges, and McHale, 2004), the findings also have implications for psychiatric services. The sociodemographic factors associated with greater odds of being processed in adult criminal court are the same factors associated with lower odds of receiving psychiatric services, regardless of need (Teplin et al., 2005). This finding suggests that an urgent situation exists within the prison system; that is, the largest numbers of transferred youth who need psychiatric services are also the least likely to receive them.

The study also found that the odds of having a psychiatric disorder were greater among transferred youth sentenced to prison than those who received less severe sentences. The specific disorders associated with increased odds for a prison sentence were disruptive behavior and substance use disorders. Higher rates of disruptive behavior and substance use disorders may reasonably be expected among youth with more antisocial traits, assuming that a prison sentence is a proxy for more antisocial behavior. In other words, disruptive behavior and substance use disorders may reflect underlying antisocial traits. A parallel result has been found among adult male prisoners, of whom approximately half meet criteria for antisocial personality disorder (Fazel and Danesh, 2002).

The higher prevalence of co-occurring disorders found among prison-bound youth, however, is less easily explained by underlying antisocial traits. On average, transferred youth who were sentenced to prison had more than one psychiatric disorder, and 15 percent had all four major types of psychiatric disorders. Furthermore, the types of disorders were not limited to behavioral or substance use disorders; receiving a prison sentence was also associated with greater odds of having co-occurring affective and anxiety disorders. These findings suggest that transferred youth sentenced to prison have not only greater needs for behavioral rehabilitation to address disruptive behavior and substance use disorders than transferred youth who receive less severe sentences but also greater needs for psychiatric treatment of major affective and anxiety disorders.

Study Limitations

This study has several limitations. Because the findings are drawn from a single site, they may pertain only to detention centers with a demographic composition and legal mechanisms for transfer to adult criminal court that are similar to those at CCJTDC. For example, these findings may be generalized only to states that limit the juvenile court's jurisdiction to youth ages 16 and younger; most states extend their juvenile court's jurisdiction to age 18. Differences in the prevalence of disorders by transfer status may vary if diagnoses are based on later editions of the *DSM* than the *DSM–III–R*. Because it was not feasible to interview caretakers (few would have been available), the diagnostic data are also limited by the reliability and validity of youth's reports of their own behavior. This may result in underreporting of some disorders, such as disruptive behavior disorders. In addition, the sample size for specific sociodemographic groups, such as non-Hispanic white females, may be too small for reliable

comparisons with other states. The findings may apply less to areas with different mechanisms for transferring juveniles to adult criminal court.

Directions for Future Research

The following directions are suggested for future research.

Conduct Studies of Long-Term Functioning and Outcomes for Transferred Youth

Although several studies have examined recidivism among transferred youth (Bishop et al., 1996; Fagan, 1996; Myers, 2001; Podkopacz and Feld, 1996; Redding, 2010; Winner et al., 1997), little is known about the long-term effects for broader indications of functioning on individuals who have been processed in adult criminal court. Findings from this study suggest that youth processed in adult criminal court may experience worse long-term psychiatric outcomes than youth processed in juvenile court; however, few empirical studies are available. Longer stays in preadjudication detention and the stressors associated with processing in adult criminal court may increase the risk of psychiatric disorders and other adverse developmental, social, and functional consequences for transferred youth (Bishop and Frazier, 2000; Forst, Fagan, and Vivona, 1989; Penney and Moretti, 2005; Redding, 2003). Furthermore, previous studies have found that even within the juvenile court system, few youth receive the psychiatric services they need before they are adjudicated (Teplin et al., 2005), and the likelihood that transferred youth will receive the services they need after their adjudication is slim (Mulvey, Schubert, and Chung, 2007). With most transferred youth likely to complete their sentences and be released or to be returned to their communities on parole, data on the long-term psychiatric and overall functioning of this population are especially needed.

Conduct Studies of Competency To Stand Trial

Future studies should investigate the influence of psychiatric disorders on competency to stand trial among youth transferred to adult criminal court. Some states are beginning to recognize cognitive and developmental immaturity as a basis for incompetence similar to mental illness and mental retardation (Poythress et al., 2006). Although research indicates that adolescents as young as 16 years have, on average, abilities for judicial competency that are similar to those of adults (Bishop and Frazier, 2000; Poythress et al., 2006), more research is needed to understand how psychiatric disorders interact with the developmental stages that youth progress through and how they affect a youth's ability to participate in adult legal proceedings.

Implications for the Juvenile Justice System

Provide Diagnosis and Treatment for Transferred Youth

Psychiatric services within correctional systems must address the needs and characteristics of transferred youth; however, correctional systems are not yet prepared to identify and treat transferred youth who have psychiatric disorders (Woolard et al., 2005). Assessment and treatment approaches developed for use with adults cannot be applied automatically to transferred youth (Woolard et al., 2005), so correctional psychiatric systems must use developmentally, culturally, and contextually appropriate assessment and treatment approaches (Penney and Moretti, 2005). Because little is known about the effectiveness of treatments delivered to youth in correctional facilities (Grisso, 2004), correctional systems cannot assume that assessment and treatment approaches used with youth in the general population will be effective with transferred youth (Woolard et al., 2005). It is essential to correctly identify and treat psychiatric disorders in correctional settings to better serve not only the transferred youth themselves but also the communities to which they will return after serving their sentences.

Determine Whether Psychiatric Disorders Should Play a Mitigating Role in Transfer Decisions

Judicial processing, particularly the decision to process youth as adults or juveniles, provides a critical opportunity to intervene in a juvenile's life (Skowyra and Cocozza, 2007). Clinicians can advise the court about which youth may benefit from alternative sentencing options and which youth may be more likely or less likely to benefit from rehabilitation (Grisso, 2000). If alternative sentencing options are made available, prison sentences may become less common (Steiner, 2005). Clinicians and researchers must continue to refine juvenile assessment technology to help courts weigh mitigating psychiatric factors in transfer decisions (Brannen et al., 2006; Penney and Moretti, 2005). Unfortunately, although public opinion generally supports considering mitigating factors when making transfer decisions (Nunez et al., 2007), jurisdictions that have automatic transfer systems make this impossible.

Address Racial and Ethnic Disparities in the Transfer Process

The field must continue to address ongoing racial/ethnic disproportionality associated with the transfer process. According to the study's findings and national statistics, more than 60 percent of transferred youth with psychiatric problems are from racial/ethnic minority groups (Sickmund, Sladky, and Kang, 2008); these youth are most likely to be underserved in detention and in the community (Teplin et al., 2005). The disproportionate transfer of African American youth to adult court is of particular concern.

More locally, this study revealed metrics for CCJTDC that clearly show that minority youth in Cook County are disproportionately transferred to adult criminal court—84 percent of transferred youth were African American, but only 26 percent of Cook County's population is African American. Some states have already begun to address the influence of transfer processing on racial/ethnic disproportionality, and considerable gains have been made (Adams and Addie, 2010). For example, Illinois repealed two laws enacted in 1989 that required automatic transfer of youth older than 14 years to adult criminal court if they were charged with selling drugs within 1,000 feet of a designated "safe zone," typically schools and public housing. Because of the dense concentration of both schools and public housing in urban areas where racial/ethnic minority groups make up a large portion of the population, 99 percent of the youth transferred to adult criminal court for a drug crime were from racial/ethnic minority groups (Kooy, 2001).

Conclusion

Male, African American, Hispanic, and older youth had greater odds of being processed in adult criminal court than female, non-Hispanic white, and younger youth, even after adjusting for felony-level violent crime. Among youth processed in adult criminal court, 66 percent had at least one psychiatric disorder and 43 percent had two or more disorders. The prevalence and number of co-occurring disorders for youth processed in adult criminal court were similar to those processed in juvenile court. Among youth processed in adult criminal court, those sentenced to prison had significantly greater odds than those receiving a less severe sentence of having a disruptive behavior disorder, a substance use disorder, or co-occurring affective and anxiety disorders.

The transfer of youth to adult criminal court should be reserved for the most serious, chronic, and violent offenders (Penney and Moretti, 2005). Clinicians can help to ensure this outcome by determining when and how

mitigating psychiatric factors should be considered and which transferred youth may respond best to alternative sentencing. Correctional systems as well must provide psychiatric services to transferred youth, especially to youth sentenced to prison, and community health systems must continue services for these youth when they are released into the community. Whether part of the corrections or community systems, psychiatric service providers need to consider the disproportionate number of individuals from racial/ethnic minority groups who are transferred to adult criminal court when they are developing and implementing services.

For More Information

This bulletin was adapted from Washburn, J.J., Teplin, L.A., Voss, L.S., Simon, C.D., Abram, K.M., and McClelland, G.M. 2008. Psychiatric disorders among detained youths: A comparison of youths processed in juvenile court and adult criminal court. *Psychiatric Services* 59:965–973.

Perceived Barriers to Mental Health Services Among Detained Youth

Highlights

This bulletin is part of a series that presents the results of the Northwestern Juvenile Project—a longitudinal study of youth detained at the Cook County Juvenile Temporary Detention Center in Chicago, IL. The authors examine youth's perceptions of barriers to mental health services, focusing on youth with alcohol, drug, and mental health disorders.

Findings include the following:

- Most frequently, youth did not receive services because they believed their problems would go away without outside help (56.5 percent).
- Nearly one-third of youth (31.7 percent) were not sure whom to contact or where to get help.
- Nearly one-fifth of the sample (19.1 percent) reported difficulty in obtaining help.
- African American and Hispanic detainees received significantly fewer services in the past compared with non-Hispanic white youth. Male detainees also received significantly fewer services in the past when compared with female detainees.

Perceived Barriers to Mental Health Services Among Detained Youth

More than 2 million youth are arrested each year (Snyder, 2005), and more than 61, 000 juveniles were placed in custody on any given day in 2011 (Sickmund et al., 2013). Of the many youth involved in the juvenile justice system, most meet the criteria for psychiatric disorders that warrant mental health treatment (Teplin et al., 2002; Vermeiren, Jespers, and Moffit, 2006; Wasserman et al., 2002). Estimates indicate that nearly 70 percent of female detainees and 60 percent of male detainees have a psychiatric disorder other than a conduct disorder (Teplin et al., 2002) and that approximately half have two or more disorders (Abram et al., 2003). Rates of psychiatric disorder among youth in the juvenile justice system are substantially higher than rates in the general population (Teplin et al., 2002).

Jails are required to provide a minimum of psychiatric care to inmates (American Association of Correctional Psychology, 2000), yet reports issued by the Surgeon General (U.S. Department of Health and Human Services, 2000) and The President's New Freedom Commission on Mental Health (2004) suggest that youth in custody are profoundly underserved.

ABOUT THIS SERIES

Studies in this series describe the results of statistical analyses of the Northwestern Juvenile Project, a longitudinal study of youth detained at the Cook County Juvenile Temporary Detention Center in Chicago, IL, between 1995 and 1998. The sample included 1,829 male and female detainees between ages 10 and 18. The data come from structured interviews with the youth.

Topics covered in the series include the prevalence of suicidal thoughts and behaviors among juvenile detainees, posttraumatic stress disorder and trauma within this population, functional impairment after detention (at work, at school, at home, or in the community), psychiatric disorders in youth processed in juvenile or adult court, barriers to mental health services, violent death among delinquent youth, and the prevalence of psychiatric disorders in youth after detention. The bulletins can be accessed from the Office of Juvenile Justice and Delinquency Prevention's (OJJDP's) website, ojjdp.gov.

In addition to the funding that OJJDP provided, the research also was supported by the National Institute on Drug Abuse, the National Institute of Mental Health, the National Institute on Alcohol Abuse and Alcoholism, the Substance Abuse and Mental Health Services Administration (Center for Mental Health Services, Center for Substance Abuse Prevention, and Center for Substance Abuse Treatment), the Centers for Disease Control and Prevention (National Center for Injury Prevention and Control and National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention), the National Institutes of Health Office of Research on Women's Health, the National Institute on Minority Health and Health Disparities, the Office of Rare Diseases, the Office of Behavioral and Social Sciences Research, the U.S. Departments of Labor and Housing and Urban Development, the William T. Grant Foundation, and the Robert Wood Johnson Foundation. The John D. and Catherine T. MacArthur Foundation, the Open Society Foundations, and the Chicago Community Trust provided additional funds.

This bulletin describes the results of a study that examined youth's perceptions of barriers to mental health services. The authors interviewed 1,829 juveniles detained in Chicago to determine their need for, use of, and barriers to services.

Background

Although more than 70 percent of detention centers now screen for mental disorders (Goldstrom et al., 2000), research suggests that only 15.4 percent of detainees with major mental disorders receive treatment (Teplin et al., 2005). Males, older youth, and racial/ethnic minorities with major mental disorders are significantly less likely to receive treatment than females, younger detainees, and non-Hispanic whites with major mental disorders (Teplin et al., 2005).

Youth in the juvenile justice system have many of the characteristics associated with lower rates of service use: poverty and poor education (Buckner and Bassuk, 1997; Heflinger, Chatman, and Saunders, 2006; Pumariega et al., 1998), inadequate health insurance and ineligibility for Medicaid (Flores et al., 2002; Holl et al., 1995; Moffitt and Slade, 1997), racial/ethnic minority status (Heflinger, Chatman, and Saunders, 2006; McMiller and Weisz, 1996), a history of arrest (Rogers et al., 2001; Teplin et al., 2002), and a small social network (Harrison, McKay, and Bannon, 2004; McKay, McCadam, and Gonzales, 1996).

Although much is known about these external barriers to mental health service use, less is known about youth's perceived barriers and attitudes toward service use. How youth think about services helps determine whether they cooperate with referrals or remain in treatment. To date, three studies have examined perceived barriers to substance abuse treatment among detained youth (Johnson et al., 2001; Kim and Fendrich, 2002; Lopez, 2003). Kim and Fendrich (2002) and Lopez (2003) found that a youth's perceived need for treatment, regardless of his or her race or ethnicity, determined whether he or she sought services for substance abuse. Johnson and colleagues (2001) found that detainees who believed they could handle their own problems or that problems would simply go away had lower rates of service use. However, these studies only examined services for substance abuse. To the authors' knowledge, no study until this point had investigated perceived barriers to mental health service use among juvenile detainees. The study described in this bulletin was designed to address this omission in the literature. Because prior evidence suggests that perceptions of services may differ across sociodemographic groups, the study also examines gender and racial/ethnic differences in perceived barriers (Diala et al., 2000, 2001; Gonzalez, Alegria, and Prihoda, 2005; Ojeda and Bergstresser, 2008).

Methods

This section provides a brief overview of the authors' methods. Additional, detailed information on the methodology can be found in Abram et al. (2003) and Teplin et al. (2002).

Participants and Sampling Procedures

Participants were part of the Northwestern Juvenile Project (NJP), a longitudinal study of 1,829 youth (ages 10–18) arrested and detained between November 20, 1995, and June 14, 1998, at the Cook County Juvenile Temporary Detention Center (CCJTDC) in Chicago, IL. The random sample was stratified by gender, race/ethnicity (African American, non-Hispanic white, Hispanic), age (10–13 years, or older than 14 years), and legal status (processed as a juvenile or as an adult) to obtain enough participants to examine key subgroups (e.g., females, Hispanics, younger children).

Like juvenile detainees nationwide, the majority of CCJTDC detainees are male and most belong to racial/ethnic minority groups (77.9 percent African American, 5.6 percent non-Hispanic white, 16 percent Hispanic, and 0.5 percent other racial/ethnic groups). The age and offense distributions of the CCJTDC detainees are also similar to detained juveniles nationwide (Snyder and Sickmund, 2006).

The authors chose the detention center in Cook County (which includes Chicago and surrounding suburbs) for three reasons:

- Nationwide, most juvenile detainees live in and are detained in urban areas (Pastore and Maguire, 2000).
- Cook County is ethnically diverse and has one of the largest Hispanic populations in the United States. Studying this population is important because Hispanics are the largest minority group in the United States (U.S. Census Bureau, 2000, 2001).
- The detention center's size (daily census of approximately 650 youth, intake of 20 youth per day) ensured that a large enough pool of participants would be available.

Detainees were sampled for the study regardless of their psychiatric morbidity, state of drug or alcohol intoxication, or fitness to stand trial. Participants received a face-to-face structured interview in a private area. The interviews typically took place within 2 days of intake and lasted approximately 2 to 3 hours.

Measures

The authors identified youth's psychiatric diagnosis and measured their functional impairment to determine their need for mental health services. They used the Diagnostic Interview Schedule for Children, version 2.3 (DISC–2.3), based on the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders, Third Edition, Revised (DSM–III–R;* 1987) criteria, to measure alcohol, drug, and mental disorders (Bravo et al., 1993; Shaffer et al., 1996). These included affective disorders (major depression, dysthymia, mania, hypomania), anxiety disorders (panic, generalized anxiety, separation anxiety, obsessive-compulsive, overanxious), behavior disorders (conduct, attention-deficit/hyperactivity, oppositional), psychosis, and substance use disorders (alcohol, marijuana, and other substances). The authors then used the Children's Global Assessment Scale (Shaffer et al., 1983) to measure functional impairment. This instrument allows the interviewer to determine the lowest level of the interviewee's functioning at home, at school and/or work, and in other social environments. Scores range from 1 (most impaired) to 100 (healthiest). Scores of less than 61 indicate that children require services (Bird et al., 1990).

To assess service use and barriers to services, the authors used the Service Utilization and Risk Factors interview (Lahey et al., 1996). Interviewees were asked about services received for educational, behavioral, emotional, or substance use problems; types of services received (inpatient, outpatient, or residential); treatment providers; length of treatment; and their satisfaction with services.

The authors asked youth who were currently in treatment, or who had a history of using mental health services, why they stopped treatment or whether various factors made them think about stopping treatment. Of the youth who had been referred but had not received treatment, the authors asked why they had not gone for help. Of those who had never been referred nor received services, the authors asked which factors would impede them from getting help if they needed it. The specific barriers assessed were a belief that the problem would go away or could be solved on one's own, being unsure of the right person or place to get help, difficulty in obtaining help, concern about what others would think, and worry about cost. The authors also asked participants if there were "other" barriers beyond those specifically listed that they would like to volunteer. Barriers were not mutually exclusive; participants

Barriers to Nonschool Service Use Among Detainees With Alcohol, Drug, or Mental Disorders

Barriers	Total (*n* = 1,216)	Males (Percent)				
		Total (*n* = 752)[1]	Received Past Services (*n* = 403)	Referred, Never Received (*n* = 128)	Never Referred, Never Received (*n* = 202)	Analysis Comparing Groups, *p* value
Any barriers	84.6	84.2	84.0	92.7	81.8	0.71
Belief that problem would go away or could be solved on own	56.5	56.3	64.1	46.8	52.4	0.07
Unsure of the right person or place to get help	31.7	31.0	24.4	47.5	34.9	<0.05; referred > received
Too difficult to obtain help	19.1	19.4	19.7	15.0	20.8	0.72
Concern about what others would think	16.4	16.3	10.0	12.4	28.4	<0.01; never referred > received
Worry about cost	13.2	13.3	6.4	10.0	23.7	<0.001; never referred > received
Other[3]	26.5	25.3	37.2	27.8	6.8	<0.001; received; referred > never received

Notes: Data are weighted to reflect the actual population of the Cook County Juvenile Temporary Detention Center. Alcohol, drug, and mental disorders include major depression, mania, dysthymia, hypomania, obsessive-compulsive disorder, overanxious disorder, generalized anxiety disorder, separation anxiety disorder, panic disorder, psychosis, alcohol use disorder, marijuana use disorder, other substance use disorder, attention-deficit/hyperactivity disorder, conduct disorder, and oppositional defiant disorder.

[1] Nineteen males did not receive all or part of the services section from the Service Utilization and Risk Factors interview; they were excluded from these analyses.

[2] Five female participants were missing data from the services section of the Service Utilization and Risk Factors interview and were excluded from these analyses.

[3] Participants were asked if there were other barriers to services that were not already listed.

could choose more than one. The results are summarized below; for more detailed information, see the table.

Results

Among participants with any alcohol, drug, or mental disorder, most reported at least one barrier to services received outside school. Most commonly, youth believed that the problem would go away or that they could solve the problem without help. The second most common barrier was that youth were not sure who to contact or where to go for help. Nearly one-fifth of the sample reported difficulty obtaining help. The authors found no significant differences in these barriers in relation to race, ethnicity, or gender.

More than one-fourth (27 percent) of the sample with alcohol, drug, or mental disorders volunteered "other" barriers to services, most commonly, denial that the problem exists, disinterest in treatment, and dissatisfaction with their therapist or treatment. The prevalence of these "other" barriers varied by gender and race/ethnicity. Among all participating youth with a disorder, significantly more males than females volunteered that they did not have a problem (31.8 percent versus 19.1 percent). Significantly more females than males volunteered that they were afraid of labeling or other negative consequences of treatment (17.3 percent versus 3.8 percent). Significantly more African American and Hispanic youth than non-Hispanic white youth volunteered that they did not have a problem (31.9 percent and 35.9 percent versus 11.7 percent). Finally, significantly more non-Hispanic white youth than Hispanic youth volunteered that they feared labeling or other consequences of treatment (7.7 percent versus 1.5 percent).

The authors then examined whether a history of service use influenced detainees' perceptions of barriers to services if they had an alcohol, drug, or mental disorder. History of service use varied by gender and race/ethnicity. Significantly more females (70.0 percent) than males (49.1 percent) had received services outside school (e.g., medication, residential treatment, and professional outpatient services) before detention. Most non-Hispanic white males had received out-of-school services before detention (83.1 percent), in contrast to less than half of African American (48.4 percent) and Hispanic (40.0 percent) males. Among females, significantly more

Barriers to Nonschool Service Use Among Detainees With Alcohol, Drug, or Mental Disorders (continued)

Barriers	Females (Percent)				
	Total (n = 464)[2]	Received Past Services (n = 329)	Referred, Never Received (n = 58)	Never Referred, Never Received (n = 72)	Analysis Comparing Groups, p value
Any barriers	88.7	90.2	93.1	77.7	<0.01; received; referred > never referred
Belief that problem would go away or could be solved on own	59.3	64.4	60.2	39.3	<0.01; received; referred > never referred
Unsure of the right person or place to get help	40.4	40.8	41.7	37.5	0.86
Too difficult to obtain help	16.5	13.5	23.5	22.5	0.057
Concern about what others would think	17.8	17.2	9.2	26.0	0.054
Worry about cost	12.1	6.1	22.2	28.9	<0.001; referred; never referred > received services
Other[3]	39.5	48.3	26.8	11.0	<0.001; received; referred > never referred; received > referred

non-Hispanic whites received services outside school (87.0 percent) than African Americans (64.7 percent).

The table shows that significantly more females who had received services before detention, or who had been referred for services but had never received them, believed that their problems would go away than females who had never been referred nor received services. Compared with males who had received services, significantly more males who had never received services worried about the cost of services. Similarly, compared with females who had received services, significantly more females who had never received services or who had been referred but had not received services worried about the cost of services. Significantly more males who had never received services reported that they were concerned about what others might think of them receiving treatment compared with males who had received services. Significantly more males who had been referred but had never received services reported uncertainty about how to get help than males who had received services.

The authors also asked detainees with alcohol, drug, or mental disorders about their history of service use to examine the prevalence of other barriers to services. Among those who reported a barrier to treatment not listed in the survey, significantly more youth who had never received services before detention denied having a problem than those who had received past services (never referred, never received = 53.7 percent; referred, never received = 71.2 percent; received = 18.1 percent).

Discussion

Youth may decide not to seek services for mental health problems for many reasons. This study shows that most detained youth with alcohol, drug, or mental disorders report at least one perceived barrier to services. Most frequently, youth believe that problems will go away without outside help. This is the most common barrier regardless of gender, race/ethnicity, or (among females) previous experience with mental health services. Similarly, youth in the general population who have self-identified mental health needs (Samargia, Saewyc, and Elliott, 2006) and youth receiving substance use services (Johnson et al., 2001) often believe that their problems do not require treatment. Parents of children with mental illness also frequently report this barrier (Flisher et al., 1997), which indicates the possibility of an intergenerational pathway for this belief.

Despite meeting the criteria for a mental disorder, many youth stated that they did not have a mental health problem. Detained youth who do not recognize their mental health problems or feel that they can solve such problems independently are unlikely to cooperate with referrals. Youth must first understand that they need mental health services before they will seek them out (Kim and Fendrich, 2002; Lopez, 2003) and stay in treatment (Ortega and Alegria, 2005).

The common barriers that juvenile detainees in this study reported may reflect perceptions about the state of the mental health service system in the United States. Most youth said they know how to access services; however, a substantial minority (about one-third) did not, and nearly one in five felt that it was too difficult to access services. National reports substantiate difficulties in accessing services (U.S. Department of Health and Human Services, 1999, 2000). Fragmented systems of care likely contribute to confusion about where to seek needed services (Goldstrom et al., 2000; U.S. Department of Health and Human Services, 1999). They are often not based on continuity of care or long-term needs (Goldstrom et al., 2000). Moreover, the separation of service sectors for mental health and substance use from general healthcare providers limits the sharing of patient information to coordinate care between providers and often results in multiple "handoffs" of patients for different services (Institute of Medicine, 2006).

African American and Hispanic detainees had received significantly fewer services in the past than non-Hispanic

white youth, which follows similar patterns in the general population and in public sectors of care (Angold et al., 2002; Cuffe et al., 2005; Garland et al., 2005; Hazen et al., 2004; Lopez-Williams et al., 2006). Male detainees also had received significantly fewer services in the past compared with female detainees.

Despite disparities in service use, detainees' attitudes toward services were remarkably similar across gender and race. These findings suggest that individual perceptions and attitudes toward mental health services do not explain the disparities in service use. Instead, racial and ethnic disparities in service use may stem from external factors such as poverty, lack of sufficient minority service providers, and sociocultural barriers (U.S. Department of Health and Human Services, 2001). Disparities in service use between males and females may be due to greater help-seeking behaviors among females than among males (Garland and Zigler, 1994) and the higher likelihood that females will be referred to mental health services (Lopez-Williams et al., 2006).

Nearly three-fourths of youth had received services (including those received in school) before being detained. These rates are significantly higher among detained youth than among youth in the community (Kataoka, Zhang, and Wells, 2002; Leaf et al., 1996; Zahner and Daskalakis, 1997) and are comparable with rates of service use among youth in public service sectors (Garland et al., 2005; Hazen et al., 2004; Pumariega et al., 1999; Rosenblatt, Rosenblatt, and Biggs, 2000).

Moreover, youth who had never received services were more likely to be concerned about what others may think of them, uncertain about where to seek services, and unsure whether they could afford services than youth who had received services. These barriers are also common among untreated youth (Flisher et al., 1997) and adults (Wang, 2006) with mental health disorders in the general population. Youth who had received services in the past were more skeptical about using services in the future than those who had never received services. Youth who received services prior to detention were more likely than untreated youth to believe that problems would go away on their own. To best understand how to successfully deliver treatment, service providers should examine how past experiences influence youth's willingness to accept referrals to treatment.

Study Limitations

The study's findings are drawn from a single site and therefore may pertain only to youth in urban detention centers with a similar demographic composition. In addition, service rates might differ if diagnoses were based on *DSM–IV* (American Psychiatric Association, 1994) instead of *DSM–III–R* (1987) criteria.

Because it was not feasible to interview caretakers, the study's data are subject to the reliability and validity of the youth's self-reporting. Although the self-reporting instrument used may have included services that official records (e.g., nonreimbursed, informal services) did not capture, the turmoil of a recent detention, memory loss, different rates of service use over time, or omissions (Burns, Angold, and Costello, 1992) may affect self-report of use.

The authors asked adolescents who had neither received nor been referred to services in the past to "imagine" perceived barriers if they did have a problem. This type of abstraction may not correspond to how the adolescent would behave if confronted with an actual problem. Also, the Service Utilization and Risk Factors interview only asks about five barriers to services. Many of the participants reported additional barriers to treatment.

Finally, the authors were not able to assess the quality or appropriateness of services, so this study could not determine whether past treatment was appropriate for participants' needs.

Conclusion

Findings from the study highlight areas for future research and point out ways in which clinical services and educational outreach might be improved.

Future Research

The authors recommend three areas for future research:

- **Investigate the characteristics of mental health services that high-risk youth receive and why they are satisfied with these services.** Why does past service use predict poor attitudes toward treatment among high-risk youth? How do characteristics of services—length of treatment, type of treatment, caregiver characteristics—affect perceptions of services?
- **Investigate gender and racial/ethnic differences in service use.** Disparities in service use are well known; however, the mechanisms by which service use varies by gender or race/ethnicity are less clear. The present study suggests that disparities are unlikely to originate from differences in perceived barriers to service use among youth.
- **Study the role of social networks in youth's attitudes toward services.** As youth rarely are capable of seeking services on their own and may be resistant to seeking help (Boldero and Fallon, 1995; Samargia, Saewyc, and Elliott, 2006), researchers must work to understand the influence of social networks on service use. Social interactions may be the most important mechanism through which people recognize their problems and seek mental health services (Pescosolido, Gardner, and Lubell, 1998). Understanding how parents, extended family members, and other influential members of social networks facilitate or limit treatment-seeking behaviors will help service providers tailor outreach services to make them more acceptable to youth.

Implications for Clinical Services

The study's findings have implications for clinical services. First, mental health staff must engage youth in the referral process. Findings from this study highlight the importance of understanding youth's past experiences with mental health services before referring them to new services. These past experiences may contribute to youth's negative perceptions of future services and decrease their willingness to seek help in the future. Candid exploration of past experiences allows youth to express negative perceptions and choose service options that will maximize their likelihood of engaging in treatment.

Second, the mental health and juvenile justice systems must provide educational outreach. To close the gap between service need and service delivery, these systems must collaborate to educate high-risk youth and their families about the nature of mental health problems, the myths of such problems and the stigma they carry, and available treatment options. Furthermore, education can improve juvenile detainees' understanding of how to navigate the complex mental health system.

Despite the pervasive need for mental health services, findings from this study suggest that detained youth do not perceive the mental health system as an important or accessible resource. Improving service delivery to these high-risk youth must include finding ways to inspire their confidence.

For More Information

This bulletin was adapted from Abram, K.M., Paskar, L.D., Washburn, J.J., and Teplin, L.A. 2008. Perceived barriers to mental health services among youths in detention. *Journal of the American Academy of Child and Adolescent Psychiatry* 47(3):301–308.

Endnote

1. The racial/ethnic and gender disparities in perceived barriers were only among those youth who volunteered a barrier that was not listed in the survey; unfortunately, these disparities cannot be interpreted more broadly because not all participants were asked about these barriers.

Psychiatric Disorders in Youth After Detention

Highlights

This bulletin examines the results of the Northwestern Juvenile Project—a longitudinal study of youth detained at the Cook County Juvenile Temporary Detention Center in Chicago, IL. The authors discuss the findings related to the prevalence and persistence of psychiatric disorders in youth after detention.

Key findings include the following:

- Five years after the first interview, more than 45 percent of male juveniles and nearly 30 percent of female juveniles had one or more psychiatric disorders.
- Substance use disorders were the most common and most likely to persist. Males had higher prevalence rates of substance use disorders over time.
- As compared to African Americans, non-Hispanic whites and Hispanics had higher rates of substance use disorders.
- Females had higher rates of depression over time.

Psychiatric Disorders in Youth After Detention

Psychiatric disorders are prevalent among incarcerated juveniles (Rohde, Mace, and Seeley, 1997; Timmons-Mitchell et al., 1997; Wasserman et al., 2002), a fact that a 2008 literature review, which concluded that psychiatric disorders are substantially more common in adolescents in detention than among adolescents in the general population, further confirms (Fazel, Doll, and Långström, 2008). The Northwestern Juvenile Project found that at intake to detention, even after excluding the most prevalent disorder found in detained populations—conduct disorder—more than 60 percent of juvenile detainees met the diagnostic criteria for one or more psychiatric disorders (Teplin et al., 2002). Among youth incarcerated for 9 months, Karnik and colleagues (2009) found even higher rates—approximately 90 percent of detainees had a psychiatric disorder other than conduct disorder or oppositional defiant disorder. Using only the lower rate mentioned above (Teplin et al., 2002), an estimated 36,800 of the 61,423 youth held in U.S. correctional facilities each day (Sickmund et al., 2013) have 1 or more psychiatric disorders.

For many of these juveniles, psychiatric disorders will persist as they become young adults because of their continual exposure to numerous risk factors—including maltreatment (Dixon, Howie, and Starling, 2004; Gover, 2004; Wareham and Dembo, 2007), dysfunctional families (Dembo et al., 2007; Dixon, Howie, and Starling, 2004),

ABOUT THIS SERIES

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Topics covered in the series include the prevalence of suicidal thoughts and behaviors among juvenile detainees, posttraumatic stress disorder and trauma within this population, functional impairment after detention (at work, at school, at home, or in the community), psychiatric disorders in youth processed in juvenile or adult court, barriers to mental health services, violent death among delinquent youth, and the prevalence of psychiatric disorders in youth after detention. The bulletins can be accessed from the Office of Juvenile Justice and Delinquency Prevention's (OJJDP's) website, ojjdp.gov.

In addition to the funding that OJJDP provided, the research also was supported by the National Institute on Drug Abuse, the National Institute of Mental Health, the National Institute on Alcohol Abuse and Alcoholism, the Substance Abuse and Mental Health Services Administration (Center for Mental Health Services, Center for Substance Abuse Prevention, and Center for Substance Abuse Treatment), the Centers for Disease Control and Prevention (National Center for Injury Prevention and Control and National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention), the National Institutes of Health Office of Research on Women's Health, the National Institute on Minority Health and Health Disparities, the Office of Rare Diseases, the Office of Behavioral and Social Sciences Research, the U.S. Departments of Labor and Housing and Urban Development, the William T. Grant Foundation, and the Robert Wood Johnson Foundation. The John D. and Catherine T. MacArthur Foundation, the Open Society Foundations, and the Chicago Community Trust provided additional funds.

family substance abuse (Wareham and Dembo, 2007), and brain injury (Perron and Howard, 2008). With few protective factors to offset these risks, many delinquent youth are vulnerable to continued psychiatric morbidity as they age (Wareham and Dembo, 2007).

Despite their importance, few longitudinal studies have examined the prevalence and persistence of psychiatric disorders after youth leave detention. Instead, studies of delinquent youth have focused on the association between psychiatric disorders and criminal recidivism, antisocial behavior, or social functioning (Douglas, Epstein, and Poythress, 2008; Hiscoke et al., 2003; Randall et al., 1999). Harrington and colleagues (2005)—the only longitudinal study of the persistence and prevalence of psychiatric disorders in detained youth—found that 2 years after detention, many mental health problems persisted or worsened. However, their sample excluded females, was 80 percent white, and was too small (n = 97) to permit detailed analyses. Moreover, the study was conducted in the United Kingdom, limiting its applicability when generalized to juvenile detainees in the United States.

The related literature—longitudinal studies of high-risk youth—also provides little information. Youth with histories of detention have been included in studies of high-risk youth: homeless youth (Craig and Hodson, 2000; Meyer et al., 2009), youth living in impoverished or high-crime neighborhoods (Cohen et al., 2007; Fothergill et al., 2008; Mason et al., 2004), and the offspring of parents who have used substances or have psychiatric disorders themselves (Buu et al., 2009; King and Chassin, 2007, 2008; Nigg et al., 2006). Yet, none of these studies distinguished between youth with and without histories of detention.

In sum, the researchers do not know of any large-scale longitudinal study that has examined the prevalence and persistence of psychiatric disorders after youth leave detention. This omission is critical. Among detained juvenile offenders, only 28 percent of youth are in facilities 30 days or more (Snyder and Sickmund, 2006), which greatly limits any efforts to diagnose and treat them; therefore, they may pose problems in the community when they are released and may continue to burden society as they age. Epidemiologic studies are the first step to improving prevention and treatment in correctional facilities and in the community (U.S. Department of Health and Human Services, 2011). Data are also needed to address health disparities, a priority of Healthy People 2020 (U.S. Department of Health and Human Services, 2014) and the Institute of Medicine (Smedley, Stith, and Nelson, 2003). African Americans and Hispanics comprise one-third of the general population (see table 11 in U.S. Census Bureau, 2014) but make up nearly two-thirds of the approximately 500,000 incarcerated youth and young adults (age 24 and younger) (Sickmund et al., 2013; West, 2010).

In this bulletin, the authors examine changes in the prevalence and persistence of disorders during the 5 years after detention, focusing on gender and racial/ethnic differences.

Methods

This section provides a brief overview of the authors' methods. Additional, detailed information on the authors' methods, statistical analysis, and potential bias from attrition can be found in Teplin et al. (2012).

Participants and Sampling Procedures

Participants were part of the Northwestern Juvenile Project, a longitudinal study of 1,829 youth (ages 10–18) arrested and detained between November 20, 1995, and June 14, 1998, at the Cook County Juvenile Temporary Detention Center (CCJTDC) in Chicago, IL. The random sample was stratified by gender, race/ethnicity (African American, non-Hispanic white, Hispanic, or other), age (10–13 years or 14 years and older), and legal status (processed in juvenile or adult court) to obtain enough participants to examine key subgroups (e.g., females, Hispanics, younger children).

Like juvenile detainees nationwide, the majority of CCJTDC detainees are male and most belong to racial/ethnic minority groups (77.9 percent African American, 5.6 percent non-Hispanic white, 16 percent Hispanic, and 0.5 percent other racial/ethnic groups). The age and offense distributions of the CCJTDC detainees are also similar to detained juveniles nationwide (Snyder and Sickmund, 2006).

The authors chose the detention center in Cook County, which includes Chicago and surrounding suburbs, for three reasons:

- Nationwide, most juvenile detainees live in and are detained in urban areas (Pastore and Maguire, 2000).
- Cook County is ethnically diverse and has the third-largest Hispanic population in the United States (U.S. Census Bureau, 2001). Studying this population is important because Hispanics are the largest minority group in the United States (U.S. Census Bureau, 2000).
- The detention center's size (daily census of approximately 650 youth and intake of 20 youth per day) ensured a large enough pool of participants would be available.

Table 1. Sample Characteristics at Baseline, Time 1, and Time 2

Characteristic	Baseline (n = 1,829)		Time 1 (n = 1,659)[1]		Time 2 (n = 1,561)[2]	
	Number	Percent	Number	Percent	Number	Percent
Race/Ethnicity						
African American	1,005	54.9	927	55.9	893	57.2
Non-Hispanic white	296	16.2	267	16.1	242	15.5
Hispanic	524	28.6	461	27.8	423	27.1
Other	4	0.2	4	0.2	3	0.2
Gender						
Male	1,172	64.1	1,054	63.5	993	63.6
Female	657	35.9	605	36.5	568	36.4
Legal Status at Detention						
Processed in adult court	275	15.0	263	15.9	244	15.6
Processed in juvenile court	1,554	85.0	1,396	84.1	1,317	84.4
	Age (years)		Age (years)		Age (years)	
Age						
Mean (*SD*)	14.9 (1.4)		18.1 (1.5)		19.8 (1.5)	
Median	15		18		20	
Range	10–18		13–22		14–24	

SD = standard deviation.

Note: Percentages may not sum to 100 due to rounding.

[1] At time 1, 90.7 percent of the participants were interviewed. Of the remaining participants at baseline, 32 had died, 5 refused participation, 41 were lost to followup, and 92 had followup interviews that were out of range.

[2] At time 2, 85.3 percent of the participants were interviewed. Of the remaining participants at baseline, 50 had died, 25 refused participation, 76 were lost to followup, and 117 had followup interviews that were out of range.

Baseline interviews. All detainees who were awaiting the adjudication or disposition of their case were eligible to participate in the study. Among them, 2,275 detainees were randomly selected; 4.2 percent (34 youth and 62 parents or guardians) refused to participate. There were no significant differences in refusal rates by gender, race/ethnicity, or age. The final sample size was 1,829: 1,172 males and 657 females; 1,005 African Americans, 296 non-Hispanic whites, 524 Hispanics, and 4 of other race/ethnicity; with an age range of 10 to 18 years (a mean of 14.9 years and a median of 15 years) (see table 1). Face-to-face structured interviews were conducted at the detention center in a private area, most within 2 days of intake.

Followup interviews. Participants were interviewed at various followup points. Followup interviews were scheduled at 3 years (time 1) and 4.5 years (time 2) after baseline interviews; two additional interviews were scheduled at 3.5 years and 4 years for a random subsample of 997 participants (600 males and 397 females). The median time between baseline and the time 1 interview was 3 years, with a range of 2.7 to 4.5 years. For simplicity, the time 1 interview is considered to occur approximately 3 years after baseline. The median time between baseline and the time 2 interview was 4.7 years, with a range of 4.3 to 6 years. For simplicity, the time 2 interview is considered to occur approximately 5 years after baseline. All interviews were used to examine gender and racial/ethnic differences and to identify changes over time. Teplin and colleagues (2012) contains more information about the statistical analyses.

Analyses

This section discusses methods used in the study.

Baseline interviews. The researchers used the Diagnostic Interview Schedule for Children (DISC), version 2.3 (Fisher et al., 1993; Shaffer et al., 1996), the most recent English and Spanish versions available at the time. This version, based on the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM–III–R;* American Psychiatric Association [APA], 1987), assesses the presence of disorders in the past 6 months. It is highly structured, contains detailed symptom probes, has acceptable reliability and validity, and requires relatively brief training (Piacentini et al., 1993; Schwab-Stone et al., 1993, 1996; Shaffer et al., 1993, 1996). Because DISC 2.3 did not include posttraumatic stress disorder (PTSD), the researchers used the module from DISC–IV when it

became available 13 months after the study began (Abram et al., 2004). Additional information about baseline diagnostic decisions can be found in other sources (Abram et al., 2003, 2004; Teplin et al., 2002).

Followup interviews. The researchers administered DISC–IV (child and young adult versions), based on *DSM–IV* (APA, 1994), to assess for schizophrenia, mood disorders, anxiety disorders, attention-deficit/hyperactivity disorder, and disruptive behavior disorders in the past year (Shaffer, Fisher, and Lucas, 2003; Shaffer et al., 2000). They defined impairment as moderate impairment in at least one area of functioning (Canino et al., 2004). The researchers present all analyses using the impairment criterion.

To assess substance use disorders and antisocial personality disorder (APD) at followup, researchers administered the Diagnostic Interview Schedule, version IV (DIS–IV) (Compton and Cottler, 2004; Robins et al., 1995). They used DIS–IV to assess substance use disorders because DISC–IV is not sufficiently detailed for the study population. APD was assessed for participants age 18 and older (who are no longer eligible for diagnoses of childhood disruptive behavior disorders). Disorders are assessed for the year prior to the interview. In accordance with the National Comorbidity Survey Replication (Kessler et al., 1994), participants who met criteria for substance use disorder or APD with "partial recovery" were scored as having the disorder.

Comparability of diagnoses over time. The diagnostic measures changed over time for three reasons: (1) the release of the DISC–IV (based on the *DSM–IV* criteria) midstudy, (2) some participants turned 18 years old and were therefore ineligible for childhood disruptive behavior disorders, and (3) the need to use a more comprehensive measure of substance use disorder (DIS–IV) for the followup interviews. Researchers analyzed measurement factors to ensure that they did not affect results.

Findings

This section discusses study findings.

Prevalence

Table 2 reports prevalence rates of disorders at baseline, time 1, and time 2 for males and females. Tables 3 and 4 show prevalence rates of disorders by race/ethnicity for males and females.

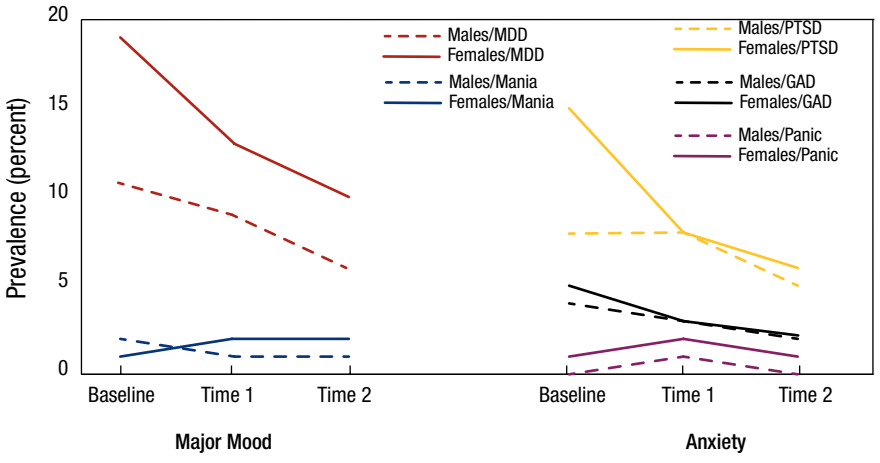
At time 2, more than 45 percent of males and nearly 30 percent of females had a disorder (with impairment). Even excluding disruptive behavior disorders, 37 percent of males and 25 percent of females had a disorder. Among males, 44 percent of African Americans, 50 percent of Hispanics, and 64 percent of non-Hispanic whites had a disorder at time 2. More than one-quarter of African American females and more than one-third of Hispanic and non-Hispanic white females had a disorder.

Mood disorders. Other than mania, the prevalence rates for mood disorders decreased as the participants aged. Over time, females had higher rates of any mood disorder than males. Figure 1 shows prevalence rates of major mood disorders over time by gender. The only significant racial/ethnic difference was for mania, which was more prevalent among minorities over time.

Anxiety disorders. The prevalence of panic disorder increased slightly overall. Figure 1 shows changes in prevalence rates over time by gender. Females had higher rates of any anxiety disorder. Compared with non-Hispanic whites, Hispanics were more likely to have an anxiety disorder and its subcategory, PTSD. Compared with African Americans, Hispanics were more likely to experience panic disorder. In addition, African Americans were more likely than non-Hispanic whites to have PTSD, although non-Hispanic whites were more likely than African Americans to have panic disorder.

Disruptive behavior disorders. The prevalence of any disruptive behavior disorder decreased over time, but the rate of this decrease depended on gender. Males and females did not have significantly different rates of disruptive behavior disorder at baseline, but the prevalence of these disorders decreased faster among females than

Figure 1. Past-Year Prevalence of Major Mood and Anxiety Disorders



MDD = major depression, PTSD = posttraumatic stress disorder, GAD = generalized anxiety disorder.

Table 2. Prevalence of Disorder at Baseline, Time 1, and Time 2 for Males and Females

Disorder	Males (Percent)			Females (Percent)		
	Baseline	Time 1	Time 2	Baseline	Time 1	Time 2
Any Disorder[1]	61.8	51.7	46.5	65.3	42.9	29.0
Any Disorder Except Behavioral[1]	60.2	45.1	36.9	62.9	38.6	25.3
Schizophrenia[2]	—	0.2	0.1	—	0.2	0.0
Any Mood Disorder	15.8	14.9	8.8	22.8	17.0	11.9
Any major mood disorder	12.7	9.5	6.4	19.9	13.2	10.4
Mania	2.0	0.5	0.7	1.2	1.6	1.5
Major depression	11.0	9.1	6.4	18.9	12.7	10.2
Hypomania	2.1	6.3	2.1	0.3	4.1	0.8
Dysthymia	9.9	1.1	1.0	12.5	1.5	0.7
Any Anxiety Disorder[1]	10.8	9.8	7.7	18.9	12.4	8.1
Generalized anxiety disorder	3.8	2.6	1.9	5.1	3.3	2.1
Panic disorder	0.1	1.4	0.5	1.0	2.3	0.9
Posttraumatic stress disorder[1]	7.9	7.6	5.4	14.6	7.9	5.8
Attention-Deficit/Hyperactivity Disorder (<18 years)[3]	11.2	6.5	4.2	16.4	9.7	0.0
Any Disruptive Behavior Disorder[4]	29.5	21.9	22.1	34.6	16.6	7.3
Conduct disorder (<18 years)[3]	24.3	20.5	9.3	28.5	13.5	—
Oppositional defiant disorder (<18 years)[3]	12.6	15.7	10.0	15.1	9.1	4.0
Antisocial personality disorder (≥18 years)[5]	NA	20.4	22.2	NA	15.4	7.2
Any Substance Use Disorder	45.7	29.4	28.0	41.7	18.0	13.5
Alcohol disorder	19.9	15.6	17.1	20.0	7.8	6.0
Drug disorder	42.3	22.0	18.8	38.4	12.7	9.2

NA = Not applicable. — = Data not available.

Note: Descriptive statistics are weighted to adjust for sampling design and reflect the demographic characteristics of the Cook County Juvenile Temporary Detention Center. The sample consisted of 1,172, 1,054, and 993 males and 657, 605, and 568 females at baseline, time 1, and time 2, respectively. Prevalence rates are for disorders assessed with impairment criteria except for hypomania, which has no impairment criteria for diagnosis.

[1] Assessed at baseline on participants who were interviewed after the DISC–IV posttraumatic stress disorder module became available (541 males).

[2] Not assessed at baseline.

[3] Assessed for participants younger than age 18 (1,172 males at baseline, 350 males and 148 females at time 1, and 96 males and 21 females at time 2). The authors do not estimate prevalence rates for cells with fewer than 20 participants.

[4] For participants younger than age 18, any disruptive behavior disorder is defined as having conduct disorder or oppositional defiant disorder. For participants age 18 and older, it is defined as having antisocial personality disorder.

[5] Not applicable at baseline because the sample consisted only of juveniles. Assessed for participants age 18 and older at time 1 and time 2 (704 and 897 males, and 457 and 547 females, respectively).

Table 3. Prevalence of Disorder at Baseline, Time 1, and Time 2, by Race/Ethnicity in Males

Disorder	African American (Percent)			Hispanic (Percent)			Non-Hispanic White (Percent)		
	Baseline	Time 1	Time 2	Baseline	Time 1	Time 2	Baseline	Time 1	Time 2
Any Disorder[1]	59.7	49.6	44.3	65.6	56.6	49.8	79.4	64.3	63.9
Any Disorder Except Behavioral[1]	58.8	43.8	34.2	62.5	47.9	41.9	72.7	52.6	56.2
Schizophrenia[2]	—	0.0	0.0	—	0.9	0.4	—	0.6	0.7
Any Mood Disorder	15.4	15.3	9.0	18.9	13.5	7.5	12.3	11.3	7.3
Any major mood disorder	12.4	9.3	6.7	15.4	10.5	5.8	9.5	8.4	4.6
Mania	2.3	0.2	0.5	1.3	2.0	1.7	0.0	0.6	0.0
Major depression	10.5	9.1	6.7	14.6	9.2	5.8	9.5	7.6	4.6
Hypomania	1.9	6.9	2.1	3.4	4.3	2.0	1.0	3.3	3.3
Dysthymia	9.7	1.1	1.0	11.3	0.9	0.0	8.4	0.9	0.7
Any Anxiety Disorder[1]	9.1	8.7	8.0	18.6	16.1	6.8	9.8	7.8	6.0
Generalized anxiety disorder	3.7	2.7	2.2	5.0	2.4	0.5	2.0	1.7	0.8
Panic disorder	0.0	0.8	0.1	0.3	4.0	1.6	0.5	3.0	2.3
Posttraumatic stress disorder[1]	6.2	6.7	5.6	16.0	13.1	5.6	7.0	3.8	2.6
Attention-Deficit/Hyperactivity Disorder (<18 years)[3]	11.6	5.0	4.4	8.1	8.2	3.8	16.1	13.8	—
Any Disruptive Behavior Disorder[4]	26.7	19.9	21.2	35.5	26.9	22.8	52.8	34.6	31.1
Conduct disorder (<18 years)[3]	20.6	15.3	8.2	33.3	43.7	18.4	51.6	32.8	—
Oppositional defiant disorder (<18 years)[3]	12.6	16.3	11.0	12.2	13.4	6.9	16.3	15.6	—
Antisocial personality disorder (≥18 years)[5]	NA	18.9	21.3	NA	22.4	22.9	NA	33.0	31.7
Any Substance Use Disorder	44.2	26.4	25.4	49.7	38.2	34.2	58.0	41.5	46.9
Alcohol disorder	19.8	14.5	15.7	20.2	17.9	19.9	23.2	25.3	27.9
Drug disorder	41.5	19.3	16.7	43.2	30.4	23.5	54.6	31.5	33.8

NA = Not applicable. — = Data not available.

Note: Descriptive statistics are weighted to adjust for sampling design and reflect the demographic characteristics of the Cook County Juvenile Temporary Detention Center. Because some participants were interviewed more often than others, the authors used a subset of interviews to summarize prevalence rates at baseline, time 1, and time 2. The sample consisted of 575 African American, 207 non-Hispanic white, and 387 Hispanic males at baseline; 526 African American, 184 non-Hispanic white, and 341 Hispanic males at time 1; and 505 African American, 171 non-Hispanic white, and 315 Hispanic males at time 2. Three males who identified as "other" race/ethnicity are excluded from the table. Prevalence rates are for disorders assessed with impairment criteria except for hypomania, which has no impairment criteria for diagnosis.

[1] Assessed at baseline on participants who were interviewed after the DISC–IV posttraumatic stress disorder module became available (251 African American, 107 non-Hispanic white, and 182 Hispanic males).

[2] Not assessed at baseline.

[3] Assessed for participants younger than age 18 (575 African American, 207 non-Hispanic white, and 387 Hispanic males at baseline; 200 African American, 40 non-Hispanic white, and 108 Hispanic males at time 1; and 59 African American, 10 non-Hispanic white, and 27 Hispanic males at time 2). The authors do not present prevalence rates for cells with fewer than 20 participants.

[4] For participants younger than age 18, any disruptive behavior disorder is defined as having conduct disorder or oppositional defiant disorder. For participants age 18 and older, it is defined as having antisocial personality disorder.

[5] Assessed for participants age 18 and older at time 1 and time 2 (326 African American, 144 non-Hispanic white, and 233 Hispanic males at time 1; 446 African American, 161 non-Hispanic white, and 288 Hispanic males at time 2). Not applicable at baseline because the sample consisted only of juveniles.

Table 4. Prevalence of Disorder at Baseline, Time 1, and Time 2, by Race/Ethnicity in Females

Disorder	African American (Percent)			Hispanic (Percent)			Non-Hispanic White (Percent)		
	Baseline	Time 1	Time 2	Baseline	Time 1	Time 2	Baseline	Time 1	Time 2
Any Disorder[1]	60.5	38.6	27.8	73.8	49.0	35.0	73.7	54.0	34.8
Any Disorder Except Behavioral[1]	57.4	33.7	24.0	68.3	45.0	28.6	67.3	52.5	34.8
Schizophrenia[2]	—	0.3	0.0	—	0.0	0.0	—	0.0	0.0
Any Mood Disorder	20.4	17.2	11.9	24.2	18.3	14.6	23.4	16.9	10.7
Any major mood disorder	17.7	12.6	10.6	20.3	16.7	12.2	20.1	13.8	8.6
Mania	1.2	2.0	1.3	1.4	0.7	2.7	1.1	0.0	1.4
Major depression	16.7	12.0	10.6	19.7	16.5	11.2	19.0	13.8	8.4
Hypomania[3]	0.2	4.3	0.5	0.7	2.6	1.8	0.0	6.0	1.4
Dysthymia	11.3	1.8	0.5	15.8	0.8	0.9	17.9	1.3	1.5
Any Anxiety Disorder[1]	14.2	12.9	8.2	27.1	16.1	10.7	8.6	4.6	5.3
Generalized anxiety disorder	4.7	3.1	2.3	8.5	5.6	3.3	3.3	1.5	0.0
Panic disorder	0.7	2.2	0.6	2.1	4.6	2.2	1.1	0.0	1.8
Posttraumatic stress disorder[1]	10.6	8.8	6.1	16.8	7.6	7.6	8.6	3.6	2.8
Attention-Deficit/Hyperactivity Disorder (<18 years)[3]	15.8	9.7	—	20.5	3.7	—	16.6	—	—
Any Disruptive Behavior Disorder[4]	27.7	14.3	5.8	44.9	19.2	14.5	54.4	13.8	8.7
Conduct disorder (<18 years)[3]	22.0	13.8	—	35.9	7.5	—	49.9	—	—
Oppositional defiant disorder (<18 years)[3]	13.7	10.1	—	21.0	6.0	—	17.8	—	—
Antisocial personality disorder (≥18 years)[5]	NA	12.0	6.0	NA	20.4	14.1	NA	11.6	7.2
Any Substance Use Disorder	36.3	12.9	12.1	45.8	20.5	14.8	59.6	35.8	23.7
Alcohol disorder	15.3	5.7	6.0	25.7	12.9	7.3	30.1	15.6	5.6
Drug disorder	33.0	8.9	6.8	41.7	11.7	13.9	56.7	25.6	20.9

NA = Not applicable. — = Data not available.

Note: Descriptive statistics are weighted to adjust for sampling design and reflect the demographic characteristics of the Cook County Juvenile Temporary Detention Center. Because some participants were interviewed more often than others, the authors used a subset of interviews to summarize prevalence rates at baseline, time 1, and time 2. The sample consisted of 430 African American, 89 non-Hispanic white, and 137 Hispanic females at baseline; 401 African American, 83 non-Hispanic white, and 120 Hispanic females at time 1; and 388 African American, 71 non-Hispanic white, and 108 Hispanic females at time 2. One female who identified as "other" race/ethnicity is excluded from the table. Prevalence rates are for disorders assessed with impairment criteria except for hypomania, which has no impairment criteria for diagnosis.

[1] Assessed at baseline on participants who were interviewed after the DISC–IV posttraumatic stress disorder module became available (249 African American, 48 non-Hispanic white, and 76 Hispanic females).

[2] Not assessed at baseline.

[3] Assessed for participants younger than age 18 (430 African American, 89 non-Hispanic white, and 137 Hispanic females at baseline; 101 African American, 15 non-Hispanic white, and 32 Hispanic females at time 1; and 15 African American, 2 non-Hispanic white, and 4 Hispanic females at time 2). The authors do not estimate prevalence rates for cells with fewer than 20 participants.

[4] For participants younger than age 18, any disruptive behavior disorder is defined as having conduct disorder or oppositional defiant disorder. For participants age 18 and older, it is defined as having antisocial personality disorder.

[5] Assessed for participants age 18 and older at time 1 and time 2 (300 African American, 68 non-Hispanic white, and 88 Hispanic females at time 1; 373 African American, 69 non-Hispanic white, and 104 Hispanic females at time 2). Not applicable at baseline because the sample consisted only of juveniles.

among males. Figure 2 shows these differences over time. Three years after baseline, males were more likely to have a disruptive disorder; at 5 years, the disparity was even greater. Figure 2 shows that non-Hispanic whites had the highest rates of disruptive behavior disorder over time, followed by Hispanics.

Substance use disorders. Substance use disorders were the most prevalent disorders found in this juvenile population. The prevalence of substance use disorders generally decreased over time, but the rate of decrease depended on gender. Figure 2 illustrates gender and racial/ethnic differences over time. At baseline, compared with females, males had about one-third greater odds of having any substance use disorder and its subcategory, drug use disorder. Rates for alcohol use disorder were not significantly different. By the followup interviews, however, the disparities between males and females increased substantially because prevalence rates decreased faster for females than for males. Three years after baseline, compared with females, males were more likely to have a substance use disorder and its subcategories, drug use disorder and alcohol use disorder. Five years after baseline, the disparity was even larger, with males even more likely than females to have these disorders. Although the prevalence rates of most disorders decreased for males and females alike, 3 years after baseline, rates of alcohol use disorder were no longer decreasing among males.

Even after adjusting for time spent in correctional facilities, substance use disorders were more common among non-Hispanic whites and Hispanics than among African Americans. Compared with African Americans, non-Hispanic whites were more likely to have a substance use disorder and its subcategories, drug use disorder and alcohol use disorder. Hispanics also were more likely than African Americans to have a substance use disorder.

Substance use disorders among participants living in the community at time 2. Because substance use is restricted in jails and prisons, the researchers examined rates of substance use disorders only among participants who had lived in the community the entire year before time 2 (345 males and 479 females). These prevalence rates, and the demographic differences, were substantially similar to those in the entire sample.

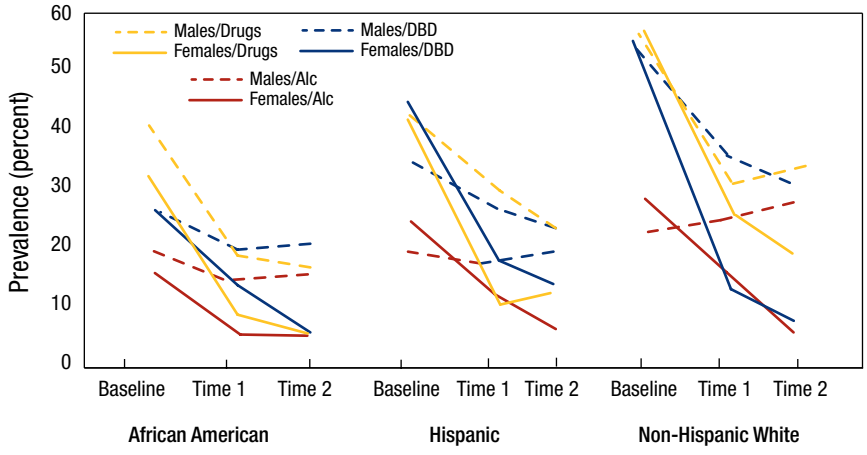
Persistence

To assess persistence of disorders in diagnosed youth, the authors examined the proportion that still had the disorder at time 1 or time 2 (see table 5). For most disorders, rates of persistence were higher at time 1 than at time 2.

Gender differences. Approximately one in five participants (regardless of gender) had a mood disorder that persisted to time 2. Substance use disorders were among the most persistent disorders for both males and females, but were significantly more likely to persist among males than females. The existence of any disruptive behavior disorder was also among the most persistent disorders in males and, at time 2, was significantly more likely to persist in males than in females.

Racial/ethnic differences. There were no significant racial/ethnic differences in the persistence of disorders among males; however, there were several significant differences among females. At time 1, any substance use disorder and its subcategory, alcohol use disorder, were more likely to persist among non-Hispanic whites and Hispanics than among African Americans. At time 2, drug use disorders were also more likely to persist among non-Hispanic whites than among African Americans.

Figure 2. Past-Year Prevalence of Substance Use and Disruptive Behavior Disorders



Alc = alcohol disorder, DBD = disruptive behavior disorder.

Table 5. Persistence of Disorders From Baseline to Time 1 and From Baseline to Time 2, by Gender

Disorder	Males (Percent)			Females (Percent)		
	Disorder Present at Baseline (*n*)	Percent Persisting		Disorder Present at Baseline (*n*)	Percent Persisting	
		Time 1	Time 2		Time 1	Time 2
Any Disorder[1]	335	52.1	48.7	233	54.0	34.9
Any Mood Disorder	163	28.0	18.9	144	30.4	20.9
Any major mood disorder	127	18.8	17.3	124	25.9	19.2
Mania	16	*	*	8	*	*
Major depression	116	20.0	15.7	118	25.3	17.9
Hypomania	16	*	*	2	*	*
Dysthymia	98	1.6	0.0	87	3.8	3.9
Any Anxiety Disorder[1]	50	6.3	14.8	58	19.3	17.3
Generalized anxiety disorder	34	18.8	0.0	35	9.4	10.4
Panic disorder	3	*	*	7	*	*
Posttraumatic stress disorder[1]	37	5.8	4.0	42	4.5	5.4
Any Disruptive Behavior Disorder	388	36.6	31.1	230	30.7	10.5
Any Substance Use Disorder	517	38.0	34.3	266	30.5	18.2
Alcohol disorder	219	30.4	29.3	127	16.2	12.3
Drug disorder	482	28.4	23.1	246	22.6	13.6

*Rates of persistence are not presented for disorders with fewer than 20 cases at baseline.

Note: Rates of persistence are weighted to adjust for sampling design and reflect the demographic characteristics of the Cook County Juvenile Temporary Detention Center. Persistence is presented for disorders assessed with impairment criteria except for hypomania, which has no impairment criteria for diagnosis. The authors do not present rates of persistence for disorders specific to juveniles or adults (attention-deficit/hyperactivity disorder, conduct disorder, oppositional defiant disorder, or antisocial personality disorder).

[1]Assessed at baseline on participants who were interviewed after the DISC–IV posttraumatic stress disorder module became available (541 males and 374 females).

Discussion of Findings

Although the prevalence rates of most psychiatric disorders declined over time, a substantial proportion of delinquent youth continue to have disorders as they age. For some youth, detention may coincide with a period of crisis that subsequently abates. Many youth, however, continue to struggle: 5 years after detention, when participants were ages 14 to 24 years, nearly 50 percent of males and nearly 30 percent of females had one or more psychiatric disorders, with their associated impairments.

Substance use and disruptive behavior disorders continued to be the most common disorders. For many delinquent youth (especially males), externalizing disorders were not limited to adolescence. These disorders (such as conduct disorder and attention-deficit/hyperactivity disorder), which show up in the youth's outward behavior, often continue into adulthood. Five years after baseline, males had two to three times the odds of having substance use and disruptive behavior disorders compared with females, a disparity that increased for males over time. Males were also more likely than females to persist with substance use disorders and disruptive behavior disorder.

The observed gender differences in externalizing disorders are consistent with those in the general population, where males are as many as 10 times more likely than females to continue antisocial behavior from childhood into adulthood (Moffitt et al., 2002). Males may fare worse than females for a number of reasons. First, delinquent males are less likely to receive mental health and substance abuse services than females, which may exacerbate these differences (Teplin et al., 2005). Second, they may have fewer opportunities to assume age-appropriate social roles (e.g., jobs, postsecondary schooling)—all turning points that might reduce problem behaviors (Sampson and Laub, 1992). Third, males are incarcerated more frequently and for longer periods of time than females, thus decreasing the amount of time available for building a stable life (Massoglia and Uggen, 2010). Finally, early entry into adult social roles, such as parenthood, may be associated with worse outcomes for males than for females (Hope, Wilder, and Watt, 2003; Kreager, Matsueda, and Erosheva, 2010; Thornberry et al., 2000).

As in the general population, females had higher rates of internalizing disorders (e.g., depression, panic disorder) than males. The persistence of mood disorders (about 20 percent) was similar for both genders.

Rates of substance use disorders and disruptive behavior disorders were lower in African Americans than in non-Hispanic whites. These findings may reflect underlying racial/ethnic disparities in the legal system (Minton, 2011; Sickmund, Sladky, and Kang, 2014; West, 2010) and the different pathways by which non-Hispanic whites and racial/ethnic minorities enter the juvenile detention system. The researchers found racial/ethnic differences in substance use disorders even after taking into account that African Americans spend more time in correctional facilities, where access to alcohol and drugs is restricted (Sickmund, Sladky, and Kang, 2014).

These findings add to the growing debate about how the "war on drugs" has affected the disproportionate incarceration of African Americans. The study findings are consistent with the views of many researchers—that disproportionate minority confinement for drug offenses is due, in part, to disparate enforcement of drug laws in African American communities rather than higher rates of drug use or dealing (Beckett, Nyrop, and Pfingst, 2006; Kakade et al., 2012; Moore and Elkavich, 2008).

Differences in the instruments used and in the sample's demographics limit meaningful comparisons to most general population studies. The National Comorbidity Survey Replication (NCS–R) provides data that are most comparable to the time 2 interview. Although NCS–R used different (and often less stringent) criteria for impairment and did not assess the same disorders (e.g., antisocial personality disorder), it provides *DSM–IV* diagnoses for a sample of similar ages (18–24 years) (Harvard Medical School, 2005a, 2005b). The most marked discrepancies between the study findings and NCS–R were for drug use disorders, regardless of gender and race/ethnicity. For example, about 20 percent of males in the study had a drug use disorder, compared with about 7 percent in NCS–R; nearly 14 percent of Hispanic females and nearly 25 percent of Hispanic males had a drug use disorder, compared with less than 5 percent of Hispanics in NCS–R.

Changes in the prevalence of a disorder over time mirror those in the general population for most disorders. As summarized in the recent literature review by Costello, Copeland, and Angold (2011), many disorders in the general population decrease from adolescence to young adulthood except for panic disorders and substance use disorders, which increase (Jaffee et al., 2002; Kessler and Walters, 1998; Moffitt et al., 2007); findings on depression have been equivocal (Jaffee et al., 2002; Kessler and Walters, 1998; Moffitt et al., 2007). As mentioned previously, the youth studied here are most notably different from the general population regarding substance use disorders and the decreased rates over time. Perhaps substance abuse peaks earlier in delinquent youth, coinciding with the general course of delinquent behavior (Hirschi and Gottfredson, 1983; Moffitt,

1993). In contrast, youth in the general population may experience events that increase the likelihood of substance abuse as they age (Arnett, 2005; White and Jackson, 2004), including living in college dormitories, freedom from social controls, and delays in assuming adult responsibilities such as parenting—all events that delinquent youth are less likely to experience (Berzin and De Marco, 2010).

In terms of persistence, the most recent comparable investigation (Copeland et al., 2009) conducted in the United States using a sample of similar age and DSM-based criteria (albeit different measures) found lower rates of persistence of depression and disruptive behavior disorders than in the study sample. (Persistence of substance use disorders cannot be compared because the two studies' definitions of this disorder differed; Copeland and colleagues used more liberal criteria to identify impairment and included nicotine use.)

Study Limitations

The data reported in this bulletin are subject to the limitations of self-reporting. Moreover, it was not feasible to study more than one jurisdiction and the prevalence of psychiatric disorders may vary across jurisdictions (Fazel and Danesh, 2002; Fazel, Doll, and Långström, 2008; Wasserman et al., 2010), limiting whether and how much the results can be generalized to apply to other areas of the country. Researchers do not know if psychiatric disorders increase the likelihood of arrest and detention, or vice versa. Findings might have been marginally different if identical measures and time frames had been used at the baseline and followup interviews. Rates would likely have been higher if the juveniles' caretakers had been available for interviews at baseline (Teplin et al., 2002). When researchers conducted the followup interviews, it was not possible to interview many of the previous caretakers because the participants were older than age 17 or no longer living with a caretaker. Although retention rates were high, participants who missed interviews might be more likely to have had disorders than those who were located and thereby interviewed. The study findings also do not take into account mental health services that these youth and young adults might have received. Despite these limitations, the findings have implications for future research and mental health policy.

Directions for Future Research

Retain incarcerated persons in longitudinal studies of psychiatric disorders. Most large-scale longitudinal studies of the general population (such as the National Epidemiologic Survey on Alcohol and Related Conditions (Bridget Grant, National Institute on Alcohol Abuse and Alcoholism, personal communication, August 13, 2010)) do not retain persons who become incarcerated by the time followup is conducted or they reinterview too few subjects to allow for a proper analysis (such as the Epidemiologic Catchment Area Study; William Eaton, Johns Hopkins University, personal communication, August 11, 2010). Thus, these samples are biased; they systematically exclude persons who, as this study suggests, are likely to have psychiatric disorders and poor outcomes. Excluding incarcerated persons will bias prevalence rates, especially for African American males. At any given time, nearly one in nine African American males ages 25 to 34 are incarcerated (West, 2010). To address health disparities, researchers must include the correctional population, which was estimated to be 1.5 million people in 2012 (Carson and Golinelli, 2013).

Add variables on incarceration history to general population studies. Although many studies examine the prevalence of psychiatric disorders in incarcerated populations, few focus on the effect of incarceration on psychiatric disorders. The researchers suggest that epidemiologic surveys of the general population include the following variables: number of incarcerations, age at time of incarceration, length of incarcerations, and experiences in community corrections (parole, probation, and community supervision). This strategy would generate information regarding how disproportionate confinement

of racial/ethnic minorities affects health disparities in psychiatric disorders and the outcomes of these disorders.

Include females in longitudinal studies of delinquents. Gender differences observed in the study underscore the fact that findings for males may not generalize to females. Yet, most longitudinal studies of delinquents exclude females or sample too few to analyze gender differences. Future studies must include females and collect data on pregnancy, childbirth, and childrearing. This will provide the requisite empirical foundation for improving gender-specific mental health services, which is especially important because females now make up an increasing proportion of juvenile arrests (29 percent) (Puzzanchera, 2013).

Examine variables that affect trajectories of disorder in high-risk youth. Few studies of high-risk youth examine the trajectories of disorders; still fewer examine how potentially modifiable risk and protective factors predict trajectories of disorder. Future studies should investigate how social, cognitive, and biological factors interact to affect these trajectories. For example, advances in neuroscience research provide unique opportunities for investigating how developmental differences in emotion regulation interact with "turning points" to alter these trajectories (Drabant et al., 2009; Feder, Nestler, and Charney, 2009; Wager et al., 2008).

Conclusion

Although prevalence rates of most psychiatric disorders decline as youth age, the study results show that disorders persist in a significant proportion of delinquent youth. To bolster youth's chances of success upon reentry, the authors offer the following recommendations for mental health policy.

Focus on delinquent males. In recent years, innovative programs that the Office of Juvenile Justice and Delinquency Prevention has funded—such as the Girls Study Group (Zahn et al., 2008), GIRLS LINK (Schaffner, 2002), and Girl Scouts in Detention Centers—addressed the needs of delinquent females (Office of Juvenile Justice and Delinquency Prevention, 1998, 2010; Sherman, 2005). The mental health system must now improve services for males, who account for 71 percent of juvenile arrests and 85 percent of youth in correctional facilities (Puzzanchera, 2013; Sickmund et al., 2013). The study findings demonstrate that interventions for substance use and disruptive behavior disorders are especially needed. Comprehensive interventions, such as functional family therapy (Gordon et al., 1988), multidimensional treatment foster care (Chamberlain, Leve, and DeGarmo, 2007), and multisystemic therapy (Henggeler et al., 2002) can be effective. Continued development and dissemination of these programs can further reduce illegal behaviors and provide cost-effective alternatives to incarceration (Aos et al., 2001).

Assess and treat substance use disorders in correctional facilities and after release. Regardless of gender or race/ethnicity, alcohol and drug use disorders were among the most common and persistent disorders; the need for services far exceeds their availability. Approximately one-half of youth in juvenile correctional facilities (Mulvey, Schubert, and Chung, 2007; Sedlak and McPherson, 2010) and approximately three-quarters of youth in adult jails and prisons who need substance abuse treatment do not receive it (Mulvey, Schubert, and Chung, 2007). Incarcerated adults fare much worse—a study published in the *Journal of the American Medical Association* concluded that 80 to 85 percent of adult prisoners who needed treatment for drug abuse did not receive it (Chandler, Fletcher, and Volkow, 2009). When individuals reenter their communities after release, services may be difficult to obtain. The Substance Abuse and Mental Health Services Administration reports, for example, that fewer than 10 percent of juveniles and adults with an alcohol use problem received specialty services in the past year (Office of Applied Studies, 2010).

Despite the promise of the Patient Protection and Affordable Care Act and the healthcare reform it will bring, the law may not improve mental health services for persons such as those who participated in this study, who may frequently cycle through correctional facilities (Congressional Budget Office, 2012). Incarceration

disrupts community treatment and Medicaid benefits (Freudenberg et al., 2008). Therefore, services must be improved both in correctional facilities and in the community, where the majority of detainees will eventually return.

For More Information

This bulletin was adapted from Teplin, L.A., Welty, L.J., Abram, K.M., Dulcan, M.K., and Washburn, J.J. 2012. Prevalence and persistence of psychiatric disorders in youth after detention: A prospective longitudinal study. *Archives of General Psychiatry* 69(10):1031–1043.

Mindful
Continuing Education

"This course was developed from the public domain documents: Detained Youth Processed in Juvenile and Adult Court: Psychiatric Disorders and Mental Health Needs, Perceived Barriers to Mental Health Services Among Detained Youth, Psychiatric Disorders in Youth After Detention – U.S Department of Justice, Office of Juvenile Justice and Delinquency Prevention (OJJDP, 2015)."