

AARIN

Arizona Arrestee Reporting Information Network

**Co-Occurring Mental Health and Substance
Use Disorders Among Juvenile Detainees
in Maricopa County, Arizona**

February 2009



Co-occurring Mental Health and Substance Use Disorders Among Recently Booked Juvenile Detainees

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Background

The prevalence of co-occurring substance use (or misuse) and psychiatric disorders, particularly among the arrestee population, has been well documented.¹ Research on co-occurring disorders indicates that the effect of being dually diagnosed with substance misuse and mental health disorders can exacerbate either of the existing conditions or can manifest new ones.² Compared with other arrestees, the co-occurring disordered arrestee presents a complicated and expensive problem for the criminal justice system, demanding vital resources in a disproportional manner.³ Further complicating the problem is the prevalence, and subsequent impact of co-occurring disorders among the juvenile detainee population. Early onset alcohol and substance abuse had been linked to increases in both seriousness of offending and rates of recidivism.⁴

Understanding the prevalence and particular characteristics of juvenile detainees in Maricopa County with co-occurring disorders is an important part of assessing demands on behavioral health and substance use treatment resources. Additionally, examining some of the current defining characteristics of this population relative to arrestees not dually diagnosed can serve as an indicator of future demand. The AARIN research platform, its core instrument and the Co-occurring Disorder Addendum, is intended to inform practitioners and policy makers to this end.

Methodology used in present study

In the present study, researchers used interview data obtained from 290 recently booked juvenile male and female detainees at two detention centers in Maricopa County, Arizona as part of the Arizona Arrestee Reporting Information Network (AARIN). The Maricopa County Board of Supervisors sponsored research at Arizona State University and established AARIN in January 2007 to monitor drug use trends, treatment needs, and at-risk behavior among recently booked arrestees and detainees in Maricopa County. Each calendar quarter, professionally trained local staff conducted voluntary and anonymous interviews with adult males and females and juvenile boys and girls who had been arrested or detained within the past 48 hours.

The interviews included the core instrument for the AARIN project, as well as a detailed 35-question Co-occurring Disorder Addendum.⁵ The Co-occurring Disorder Addendum was originally designed and used as part of the National Institute of Justice's Arrestee Drug Abuse Monitoring (ADAM) Program, and thus had been used in a similar data collection setting with an arrestee population, using the same sampling strategy. The Co-occurring Disorder Addendum included questions about medical problems, treatment, and medications; psychiatric diagnoses, treatment, medications, and hospitalizations; and psychiatric symptoms, as well as questions related to diagnostic criteria for substance abuse and dependence. Additionally, we used several indicators from the core instrument including such socio-demographic, substance use, and crime-related variables as age, race/ethnicity, educational attainment, employment status, current housing arrangement, prior arrests, recent incarceration, and the severity and type of current arrest. The juvenile version of the addendum excluded two questions related to attempted suicide(s) and suicidal ideation, but was otherwise identical to the adult version.

Analysis for this report relied on our juvenile sample from 2007, specifically limited to quarters two, three, and four during which the Co-occurring Disorder Addendum was administered.

Initially, 626 juvenile detainees were approached for participation, of whom 344 were available, eligible, and agreed to be interviewed, 54 did not provide valid urine samples, leaving 290 cases for analysis. (For a complete description of methodology, see Rodriguez, 2008.⁶)

Definition of dual diagnosis and co-occurring disorders in the present study

Co-occurring disorder and *dual diagnosis* each can be loosely defined as a condition when an individual presents with both a mental illness and a substance abuse or substance dependence disorder. For the purposes of this report, we use the terms co-occurring disorder and dual diagnosis interchangeably. We do not use other commonly used mental health terms associated with mental illnesses and dual diagnosis; specifically, we do not use the term serious mental illness (SMI) to describe the sample due to the limitation of the Co-occurring Disorder Addendum as a diagnostic tool.

The dual diagnosis instrument used in this study was comprised of two parts, the first specific to substance use and the second to mental health. In the following section, we detail the structure of each part and of the analysis used to classify respondents by the presence or absence of substance abuse/dependency and a mental health problem. Following the details for each part, we discuss the method of classification used to categorize a respondent as having a co-occurring disorder.

Substance abuse and substance dependence. The first part of the Co-occurring Disorder Addendum included 18 substance abuse/dependence items: four designated to assess substance abuse; ten to assess substance dependence; and four additional items related to intravenous drug use, prior substance abuse/dependence diagnosis, and family history of substance misuse. The diagnostic criteria from the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, Fourth Revision (DSM-IV) for substance abuse and dependence provided the outline for the substance abuse and dependence screening questions.

Per DSM-IV guidelines, an affirmative response to one of four questions related to substance abuse would classify the respondent as a substance abuser, and three or more affirmative responses to ten questions related to the criteria for substance dependence would classify the respondent as dependent. Based on the self-reported data for these 14 items, each respondent was classified as satisfying the criteria for substance abuse, substance dependence, or neither. The remaining four items were used for comparative analysis only, and were not included as part of the substance abuse/dependence classification process.

The DSM-IV describes substance abuse and substance dependence as separate and distinct conditions;⁷ substance dependence represents a higher level of impairment than substance abuse. For the analyses conducted for this report, respondents were classified into one of two substance misuse categories. Respondents who did not satisfy either substance abuse or dependence criteria ($n=103$, 35.5%) were assigned to the non-risk group, described as not at risk for substance misuse. Respondents who satisfied the substance abuse or dependence criteria ($n=187$, 64.5%) were combined and assigned to the substance misuse risk category.

Mental health disorders. The second part of the Co-occurring Disorder Addendum focused on mental health problems. Specifically, the instrument included four items related to the

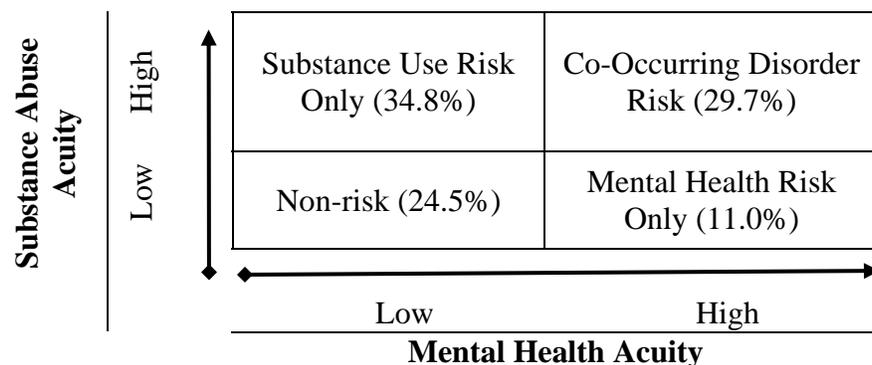
respondent’s history of professional mental health assistance, nine items related to psychiatric symptoms, and one item related to family history of mental illness. The first four items concerned the respondent’s history of professional help, asking whether the respondent had ever been (a) diagnosed by a mental health professional with a mental illness or emotional problem; (b) treated for a mental health problem; (c) prescribed medication for a mental health, emotional, or psychiatric problem; and (d) hospitalized for a mental health problem.

Respondents were assigned to one of two categories for mental health risk based on their responses to these four items. Respondents who answered “no” to all four items ($n=172$, 59.3%) were classified as not having any mental health problem. Respondents answering yes to any one of the four items ($n=118$, 40.7%) were classified as at risk for a mental health problem. Any respondent answering yes to one of the above questions was also asked whether he or she had experienced the problem within the past 6 months and within the past 30 days.

Additionally, respondents were asked about other psychiatric symptoms that they might have experienced. Presence of those psychiatric symptoms was indicative of a possible presence of various common mental illnesses or disorders. Although probative of psychiatric symptoms indicative of a variety of mental illnesses, the instrument was not designed nor intended to be used as a diagnostic tool for mental illness. We emphasize that our assignment of a respondent to the group having a mental health problem was not a clinically based diagnosis; it was based on a likelihood of a mental health problems given a self-reported history of professional mental health assistance.

Co-occurring disorder criteria. Researchers used the two independent substance abuse/dependence and mental health problem classifications to determine eligibility for the possible presence of a co-occurring disorder. Using the model of co-occurring disorder matrix of mental and addiction disorders developed by Richard Ries,⁸ respondents were assigned to one of four quadrants based on their relative risk for substance abuse/dependence and mental health problems (see Exhibit 1). Respondents classified as not at risk for substance abuse/dependence and not at risk for a mental health problem were assigned to the non-risk quadrant. Respondents categorized as at risk for either substance abuse/dependence or a mental health problem, but not both, were assigned to the appropriate singular disorder risk quadrant. Respondents assigned to the fourth quadrant were those classified as at risk for both substance abuse/dependence and mental health problems, i.e., those at risk for a co-occurring disorder.

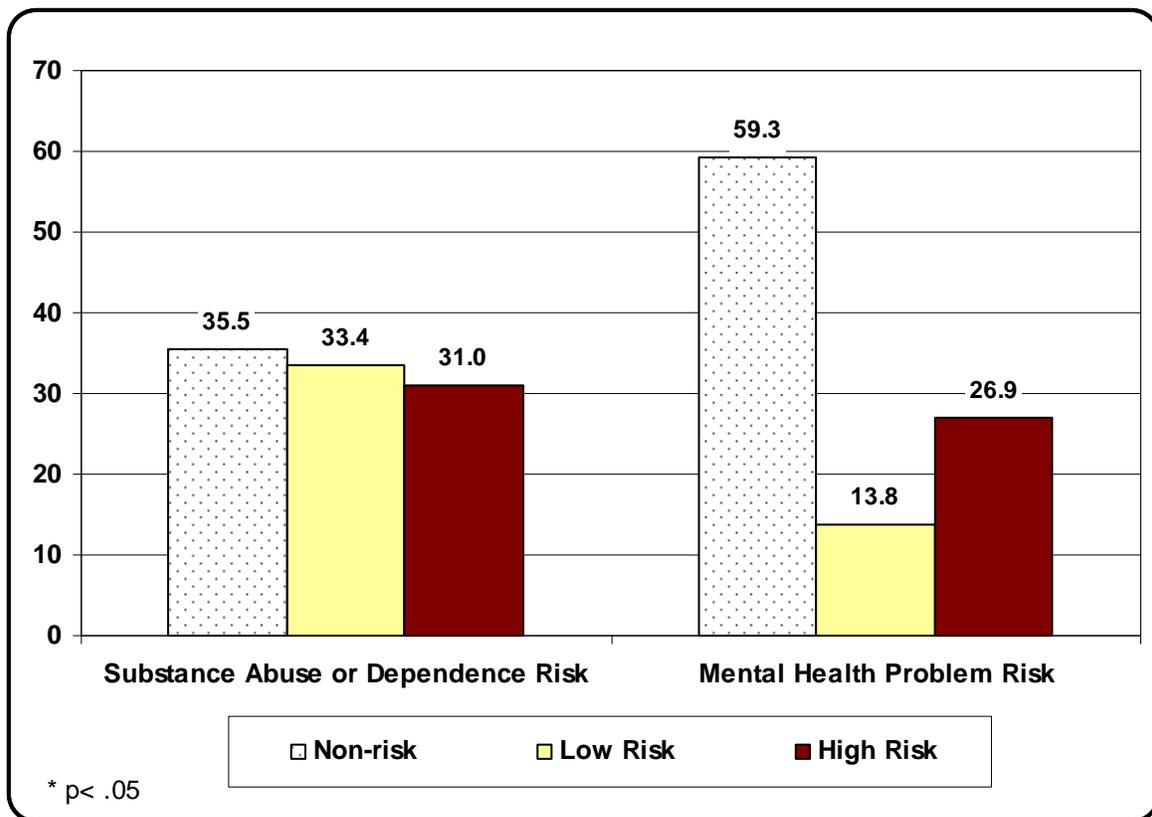
Exhibit 1: Co-occurring Disorder Quadrant Matrix ($n=290$)



Proportion of detainees at risk for substance abuse or dependence and mental health problems

Exhibit 2 shows the proportion of respondents who qualified as being at risk for substance abuse or dependence, and not at risk for substance misuse. The exhibit also shows the proportion of respondents who satisfied the criteria for being at no, low, or high risk for a mental health disorder. We found that 33.4% of respondents abused a substance and an additional 31.0% were dependent on a substance. Thus, 64.4% of all respondents satisfied criteria for a serious substance misuse problem. Additionally, Exhibit 2 shows that 13.8% of respondents reported being at low risk for a mental health disorder and 26.9% reported being at high risk for a mental health disorder, a total of 40.7% of all respondents. The above findings indicated that for both mental health and substance abuse/dependence problems, there are a large number of juvenile detainees who report serious substance misuse or mental health problems.

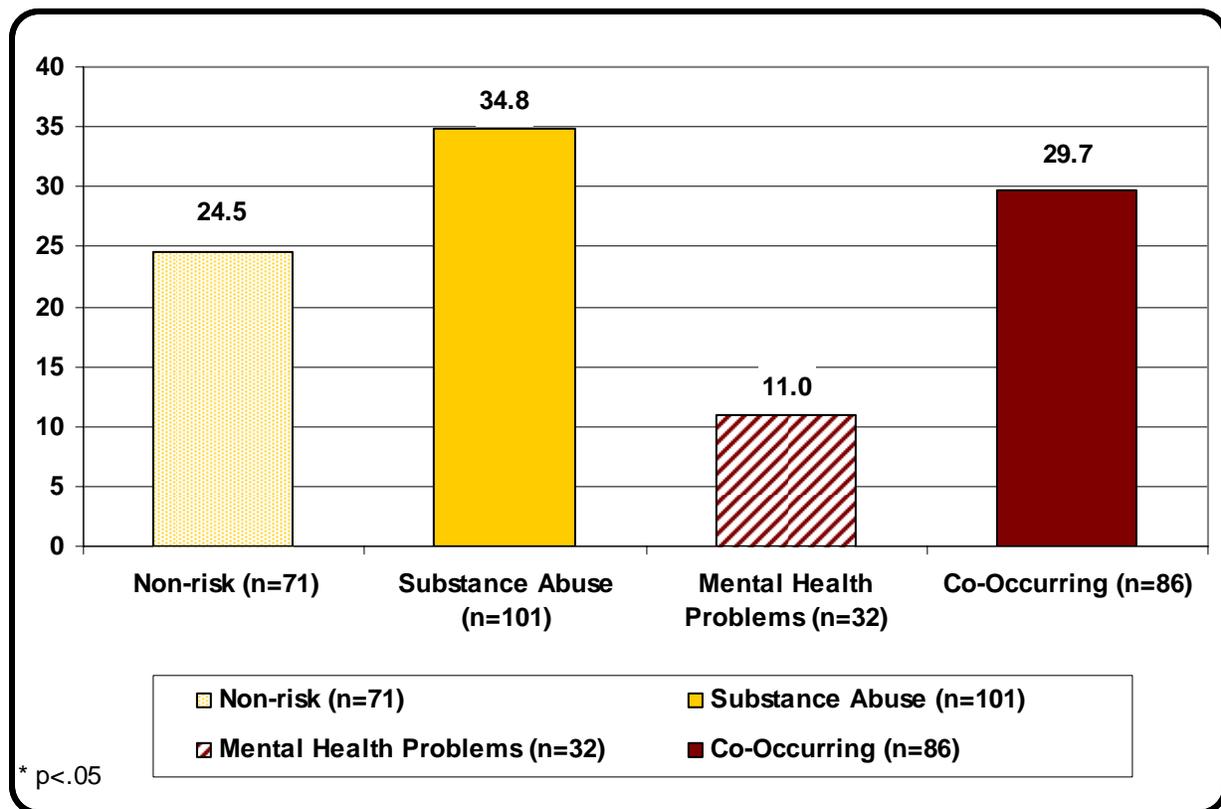
Exhibit 2: Proportion of Detainees at Risk for Substance Abuse or Dependence and Mental Health Problems



Proportion of detainees with co-occurring substance use and mental health problems

Exhibit 3 presents the distribution of the sample into the four co-occurring disorder risk categories. About one-fourth of the sample detainees (24.5%) were not at risk for either substance abuse/dependence or mental health problems, 34.8% were at risk for substance abuse/dependence only, 11.0% were at risk for mental health problems only, and 29.7% were at risk for a co-occurring disorder.

Exhibit 3: Distribution of AARIN Sample by Co-occurring Disorder Categories



Demographic characteristics of AARIN sample by co-occurring disorder category

Exhibit 4 displays the demographic characteristics of respondents by co-occurring disorder risk category. Analysis of differences between the groups by sex did not reveal any significant differences.

Further analysis indicated significant differences between the groups in ethnic background. For example, although White respondents comprised about 27% of the sample, they represented 43% of co-occurring detainees. The analysis also revealed that Hispanic respondents were the most likely to report neither a substance abuse problem nor a mental health problem (56.3%) compared with Whites (15.5%), African Americans (14.1%), and those from an Other ethnic group (14.1%). The Other ethnic category includes 39 respondents who described themselves as Asian or Pacific Islander, Native Hawaiian, Native American, or other. Due to the small number of respondents in each group, they were collapsed for analysis.

Educational status was significantly different across groups. The majority of respondents reported that they still attended school (56.2%), followed by respondents who had dropped-out of school (25.9%). Respondents who were at risk for co-occurring disorders were disproportionately represented by those who had dropped-out of school (33.7%), or had been expelled or suspended (15.1% co-occurring, 9.0% of sample).

Housing and income were also significantly different across groups. Co-occurring respondents were significantly more likely to have been homeless or to have had no fixed residence in the past 30 days. Specifically, 8.1% of co-occurring detainees reported having no fixed residence compared with 2.8% of non-risk respondents, 3.0% of substance abuse only respondents, and 6.3% of mental health only respondents.

Co-occurring respondents reported significantly higher rates of an illegal income source (25.6%) as their main source of income in the past 30 days, compared to 7.9% of those in the substance abuse only group, 3.1% of those in the mental health only group, and 2.8% of those in the non-risk group.

Exhibit 4: Demographic Characteristics of AARIN Sample by Co-occurring Disorder

	Co-occurring Disorder Category					Total
	Non-risk	Substance Abuse	Mental Health	Co-occurring		
<i>n</i> =	71	101	32	86	290	
	%	%	%	%	%	
Sex						
Male	85.9	81.2	81.3	79.1	81.7	
Female	14.1	18.8	18.8	20.9	18.3	
Age						
Mean	15.3 years	15.8 years	14.8 years	15.7 years	15.5 years	
SD	1.41	1.19	1.40	1.16	1.30	
Race *						
White	15.5	16.8	40.6	43.0	26.9	
African-American	14.1	6.9	12.5	8.1	9.7	
Hispanic / Latino	56.3	61.4	34.4	37.2	50.0	
Other	14.1	14.9	12.5	11.6	13.4	
Education *						
Still Attends School	69.0	50.5	81.3	43.0	56.2	
Suspended or Expelled	2.8	9.9	3.1	15.1	9.0	
Dropped-out	19.7	27.7	12.5	33.7	25.9	
Other	8.5	11.9	3.1	8.1	9.0	
Housing *						
Private residence	95.8	96.0	93.8	87.2	93.1	
Public or group housing	0.0	0.0	0.0	4.7	1.4	
Hospital or care facility	1.4	1.0	0.0	0.0	0.7	
Incarcerated	0.0	0.0	0.0	0.0	0.0	
No fixed residence / Other	2.8	3.0	6.3	8.1	4.8	
Main Source of Income *						
None	28.2	24.8	46.9	18.6	26.2	
Working - full or part-time	26.8	37.6	6.3	23.3	27.2	
Other Legal Source	42.3	29.7	43.8	32.6	35.2	
Illegal Source	2.8	7.9	3.1	25.6	11.4	

* $p \leq .05$

Criminal justice system involvement by co-occurring disorder category

Our analysis indicated that co-occurring disorder status was significantly related to the respondent's criminal justice system involvement. Almost 77% of co-occurring respondents reported having been detained within the past 12 months, averaging 1.9 detentions during that period, compared with 46.5% of non-risk respondents, who averaged less than half the number of detentions (0.88) over the prior 12 months. Respondents in the substance abuse and mental health problem only categories were also more likely to have been detained than those in the non-risk group (66.3 and 59.4% respectively). The analysis indicated that detainees in the co-occurring category were the most likely to have been incarcerated within the past 12 months, with more than 53% reporting that they had spent time in jail or a detention center.

Exhibit 5: Criminal Justice System Involvement by Co-occurring Disorder Category

	Co-occurring Category				
	Non-risk	Substance Abuse	Mental Health	Co-occurring	Total
<i>n</i> =	71	101	32	86	290
	%	%	%	%	%
Detained (past 12 months) *					
None	53.5	33.7	40.6	23.3	36.2
1 to 2	39.4	54.5	46.9	48.8	48.3
3 to 5	5.6	11.9	9.4	25.6	14.1
6 or more	1.4	0.0	3.1	2.3	1.4
Mean	0.86	1.15	1.06	1.88	1.29
SD	1.29	1.15	1.46	1.79	1.48
Incarcerated (past 12 months)					
None	63.4	43.6	50.0	36.0	46.9
1 to 2	32.4	48.5	37.5	47.7	43.1
3 to 5	4.2	7.9	6.3	10.5	7.6
6 or more	0.0	0.0	6.3	5.8	2.4
Mean	0.59	0.89	1.25	1.48	1.03
SD	0.92	1.09	2.14	1.81	1.48
Most Serious Current Offense *					
Violent	32.4	17.8	37.5	17.4	23.4
Drug-Related	2.8	8.9	3.1	9.3	6.9
Property	21.1	20.8	18.8	16.3	19.3
Status	0.0	1.0	0.0	0.0	0.3
Miscellaneous	43.7	51.5	40.6	57.0	50.0

* $p \leq .05$

Gangs, guns, and victimization by co-occurring disorder category

Exhibit 6 displays analyses of the relationship between co-occurring disorder risk category and gangs, guns, and victimization. Analysis revealed that gang affiliation, prior victimization, and gun possession were significantly related to the co-occurring disorder categories. For example, fewer than 16% of respondents in the non-risk and mental health only groups reported any gang involvement, compared to 43% of co-occurring respondents. Likewise, more than 30% of those in the co-occurring group had possessed a gun within the past 12 months compared with about 21% of those in the substance abuse only group, and about 9% of those in the non-risk and mental health only groups.

Analysis also revealed significant differences in frequency of violent victimization across the groups. The co-occurring group experienced victimization more frequently in every category analyzed. Respondents were asked whether they had been victimized in the past 12 months for seven different types of violent victimization: threatened with a gun, shot at, shot, threatened with a weapon (other than a gun), injured with a weapon (other than a gun), assaulted or attacked without a weapon, and robbed. Co-occurring disorder respondents reported the highest rates of victimization in every category, some at alarmingly high rates. Specifically, respondents at risk for a co-occurring disorder were nearly twice as likely to have been injured with a weapon.

Exhibit 6: Gangs, Guns, and Victimization of Respondents by Co-occurring Disorder

	Co-occurring Category				Total
	Non-risk	Substance Abuse	Mental Health	Co-occurring	
<i>n</i> =	71	101	32	86	290
	%	%	%	%	%
Gang Membership Status *					
Non-Gang Member	84.5	65.3	84.4	57.0	69.7
Gang Associate	7.0	12.9	0.0	20.9	12.4
Current Gang Member	0.0	3.0	3.1	4.7	2.8
Former Gang Member	8.5	18.8	12.5	17.4	15.2
Firearms *					
Possessed gun in past 12 months	8.5	20.8	9.4	30.2	19.3
Victimized in past 12 months					
Threatened with a gun *	8.5	37.6	12.5	34.9	26.9
Shot at *	14.1	23.8	18.8	29.1	22.4
Shot	2.8	2.0	0.0	3.5	2.4
Threatened with a weapon *	7.0	34.7	12.5	44.2	28.3
Injured with a weapon *	2.8	13.9	12.5	24.4	14.1
Assaulted w/o a weapon *	28.2	39.6	40.6	52.3	40.7
Robbed *	5.6	17.8	6.3	25.6	15.9
Any *	43.7	61.4	65.6	74.4	61.4

* $p \leq .05$

Psychiatric symptoms of detainees by co-occurring disorder category

Respondents were asked whether they had experienced any of a variety of psychiatric symptoms. The frequencies with which respondents reported experiencing each of these symptoms are presented in Exhibit 7, by co-occurring disorder risk category. We questioned respondents about symptoms typically contained within psychometric screening instruments, diagnostic interviews, and mental health assessments for determining the presence and type of a mental health problem. We therefore expected those respondents classified as having either a mental health problem independent of substance use or a co-occurring disorder to have higher rates of psychiatric symptoms.

Remarkable differences were seen in the rates of disorganized thought, paranoia, and depression. Co-occurring respondents feeling depressed or hopeless 60.5% of the time, and nearly 20% thought someone was trying to kill them.

Exhibit 7: Psychiatric Symptoms of Respondents by Co-occurring Disorder Category

	Co-occurring Category				Total
	Non-risk	Substance Abuse	Mental Health	Co-occurring	
<i>n</i> =	71	101	32	86	290
	%	%	%	%	%
Do you think people are watching, spying, or following you? *	9.9	16.8	21.9	29.1	19.3
Do you think people are trying to kill you? *	2.8	6.9	6.3	19.8	9.7
Do your thoughts go so fast you are unable to think clearly or plan activities? *	14.1	34.7	40.6	51.2	35.2
Do people tell you that they can't understand you, even though it makes sense to you? *	21.1	34.7	68.8	44.2	37.9
Are you hearing or seeing things that people say they can't see or hear? *	2.8	6.9	25.0	15.1	10.3
Do your emotions/feelings make it hard for you to do normal day to day activities that you need or want to do? *	11.3	20.8	50.0	45.3	29.0
Do you feel depressed and hopeless, thinking that your life will not improve? *	18.3	34.7	46.9	60.5	39.7

* $p \leq .05$

Substance abuse and public health factors by co-occurring disorder category

As seen in Exhibit 8, the last series of analyses looked at the substance abuse treatment and intravenous (IV) drug use history of respondents by co-occurring disorder status. Specifically, we examined the rates at which respondents had ever (a) sought help for a substance use problem, (b) received treatment or detoxification for a substance use problem, (c) received outpatient care for substance use, and (d) used needles to shoot drugs.

Comparing the substance abuse only group with the co-occurring group, analysis showed significant differences across substance treatment variables and intravenous drug use. Specifically, 9.3% of co-occurring respondents reported having used needles to shoot drugs – no other category of respondents reported ever having used needles to use drugs. Almost 47% of the co-occurring group had sought help for substance use problems, compared with fewer than 18% of respondents in the substance abuse group. Similarly, analyses revealed that co-occurring detainees were significantly more likely to have received prior outpatient care, treatment, or detoxification for substance use (39.5%) than those in all other groups – notably just 21.8% for substance abuse respondents.

Exhibit 8: Substance Abuse and Public Health Factors by Co-occurring Disorder

	Co-occurring Category				Total
	Non-risk	Substance Abuse	Mental Health	Co-occurring	
<i>n</i> =	71	101	32	86	290
	%	%	%	%	%
Have you ever used needles to shoot drugs? *	0.0	0.0	0.0	9.3	2.8
Have you ever gone to anyone for help because of your drinking or drug abuse? *	1.4	17.8	0.0	46.5	20.3
Have you ever received treatment for alcohol or drug abuse, or for detoxification? *	1.4	21.8	6.3	39.5	20.3
Have you ever received outpatient care for alcohol or drug abuse? *	1.4	11.9	3.1	26.7	12.8

* $p \leq .05$

Policy implications

Using data collected from 290 juvenile respondents, this report provides insight into the nature and extent of co-occurring disorder problems among recently booked detainees in Maricopa County, Arizona. The findings suggest that the proportion of detainees with a co-occurring disorder is sufficiently large to justify attention and that certain socio-demographic and criminal justice characteristics of this subpopulation may require innovative strategies to adequately address the challenges.

We identified two important indicators that describe the extent of co-occurring disorder problems in the criminal justice system. First, we found that county jail intake facilities frequently deal with detainees with co-occurring substance use and mental health problems; 28.4% of our respondents satisfied criteria for a co-occurring disorder. Notably, of the 40.7% of the respondents who were categorized as having a mental health problem, the vast majority (72.9%) also satisfied the criteria for a co-occurring disorder. This finding suggests that the majority of those within the criminal justice system who are identified as having a mental health problem need to receive treatment for substance misuse along with treatment for mental health problems.

Second, co-occurring respondents were significantly more likely to be recidivists. On average, an arrestee at risk for a co-occurring disorder was arrested, booked, and incarcerated significantly more often than other arrestees, thus demanding more resources from local criminal justice agencies. Moreover, further examination of the problem suggested that the co-occurring disorder population has a disproportionate impact on the criminal justice system beyond mere frequency of interaction. For instance, co-occurring disorder arrestees were found to be at greater risk for homelessness and were more likely to have been suspended, expelled, or dropped-out of school, all of which further complicates the criminal justice systems capacity to effectively manage this subpopulation.

These findings combined suggest that employing an effective treatment strategy with this subpopulation might have a significant impact on reducing criminal justice expenses. Diversion programming specifically designed for the co-occurring disorder detainee subpopulation could have a far-reaching economic impact on the criminal justice system by reducing the number of times these individuals are booked and processed through the system.⁹

In summary, the scope and nature of detainees at risk for a co-occurring disorder and the impact they have on the criminal justice system at each stage requires the examination, development, and implementation of appropriate strategies to more quickly identify arrestees at risk, to intervene with appropriate and sufficient services to serve justice, and to provide meaningful alternatives to recidivism within this special population.

Endnotes

¹ Abram, Karen M. (1990, August), The problem of co-occurring disorders among jail detainees: Antisocial disorder, alcoholism, drug abuse, and depression,” *Law and Human Behavior*, 14(4), 333-345; Abram, Karen M., and Teplin, Linda A. (1991, October), Co-occurring disorders among mentally ill jail detainees: Implications for public policy, *American Psychologist*, 46(10), 1036-1045; Cowell, Alexander J., Broner, Nahama, and Dupont, Randolph (2004, August), The cost-effectiveness of criminal justice diversion programs for people with serious mental illness co-occurring with substance abuse,” *Journal of Contemporary Criminal Justice*, 20(3), 292-315; Hartwell, Stephanie (2004, March), Triple stigma: Persons with mental illness and substance abuse problems in the criminal justice system, *Criminal Justice Policy Review*, 15(1), 84-99; and Laudet, Alexandre B., Magura, Stephen, Vogel, Howard S., and Knight, Edward L. (2004), Perceived reasons for substance misuse among persons with a psychiatric disorder,” *American Journal of Orthopsychiatry* 74(3), 365-375.

² Abram, Karen M. (1990, August), The problem of co-occurring disorders among jail detainees: Antisocial disorder, alcoholism, drug abuse, and depression,” *Law and Human Behavior*, 14(4), 333-345; Abram, Karen M., and Teplin, Linda A. (1991, October), Co-occurring disorders among mentally ill jail detainees: Implications for public policy, *American Psychologist*, 46(10), 1036-1045; Belenko, Steven, Lang, Michelle A., and O’Connor, Lisa A. (2003, February), Self-reported psychiatric treatment needs among felony drug offenders, *Journal of Contemporary Criminal Justice* 19(1), 9-29; Borum, Randy, Swanson, Jeffrey, Swartz, Marvin, and Hiday, Virginia (1997, August), Substance abuse, violent behavior, and police encounters among persons with severe mental disorder, *Journal of Contemporary Criminal Justice* 13(3), 236-250; and Shafer, Michael S., Arthur, Brian, and Franczak, Michael J. (2004), An analysis of post-booking jail diversion programming for persons with co-occurring disorders, *Behavioral Sciences and the Law* 22, 771-785.

³ Cowell, Alexander J., Broner, Nahama, and Dupont, Randolph (2004, August), “The cost-effectiveness of criminal justice diversion programs for people with serious mental illness co-occurring with substance abuse,” *Journal of Contemporary Criminal Justice*, 20(3), 292-315; and Shafer, Michael S., Arthur, Brian, and Franczak, Michael J. (2004), An analysis of post-booking jail diversion programming for persons with co-occurring disorders, *Behavioral Sciences and the Law* 22, 771-785.

⁴ Belenko, Steven & Richard Dembo (2003), “Treating adolescent substance abuse problems in the juvenile drug court,” *International Journal of Law and Psychiatry*, 26(2003) 87-110; David H. Huizinga, Scott Menard & Delbert S. Elliott (1989). “delinquency and drug use: Temporal and developmental patterns,” *Justice Quarterly* 6(3), 419-455; Jonathan G. Tubman, Andres G. Gil, and Eric F. Wagner (2004), “Co-occurring substance use and delinquent behavior during early adolescence: Emerging relations and implications for intervention strategies,” *Criminal Justice and Behavior*, 31(4), 463-488; and John W. Welte, Grace M. Barnes, Joseph H. Hoffman, William F. Wieczorek, and Lening Zhang (2005), “Substance involvement and the trajectory of criminal offending in young males,” *The American journal of Drug and Alcohol Abuse*, 31:267-284.

⁵ Sonia A. Alemagno, Elizabeth Shaffer-King, Peggy Tonkin, and Rachel Hammel, *Characteristics of Arrestees at Risk for Co-Existing Substance Abuse and Mental Disorder* (Washington DC: U.S. Department of Justice, 2004).

⁶ Rodriguez, Nancy (2008), *Arizona arrestee reporting information network: AARIN annual adult report 2007*, Phoenix, AZ: Arizona State University.)

⁶ American Psychiatric Association (1994), *Diagnostic and statistical manual of mental disorders: DSM-IV*, Washington DC: American Psychiatric Association, 181-183.

⁸ Ries, Richard K. (2004), *The co-occurring matrix for mental and addictions disorders*, Washington DC: National Institute on Drug Abuse, retrieved from <http://www.nida.nih.gov/whatsnew/meetings/ccc/plenary1.html>, updated February 2005; and Ries, Richard K. (1993), The dually diagnosed patient with psychotic symptoms, *Journal of Addictive Diseases* 12(3), 103-122.

⁹ Shafer, Michael S., Arthur, Brian, and Franczak, Michael J. (2004), An analysis of post-booking jail diversion programming for persons with co-occurring disorders, *Behavioral Sciences and the Law* 22, 771-785.

About the Center for Violence Prevention and Community Safety

Arizona State University, in order to deepen its commitment to the communities of Arizona and to society as a whole, has set a new standard for research universities, as modeled by the New American University. Accordingly, ASU is measured not by whom we exclude, but by whom we include.

The University is pursuing research that considers the public good and is assuming a greater responsibility to our communities for economic, social, and cultural vitality. Social embeddedness – university-wide, interactive, and mutually-supportive partnerships with Arizona communities – is at the core of our development as a New American University.

Toward the goal of social embeddedness, in response to the growing need of our communities to improve the public's safety and well-being, in July 2005 ASU established the Center for Violence Prevention and Community Safety. The Center's mission is to generate, share, and apply quality research and knowledge to create "best practice" standards.

Specifically, the Center evaluates policies and programs; analyzes and evaluates patterns and causes of violence; develops strategies and programs; develops a clearinghouse of research reports and "best practice" models; educates, trains, and provides technical assistance; and facilitates the development and construction of databases.

For more information about the Center for Violence Prevention and Community Safety, please contact us using the information provided below.

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